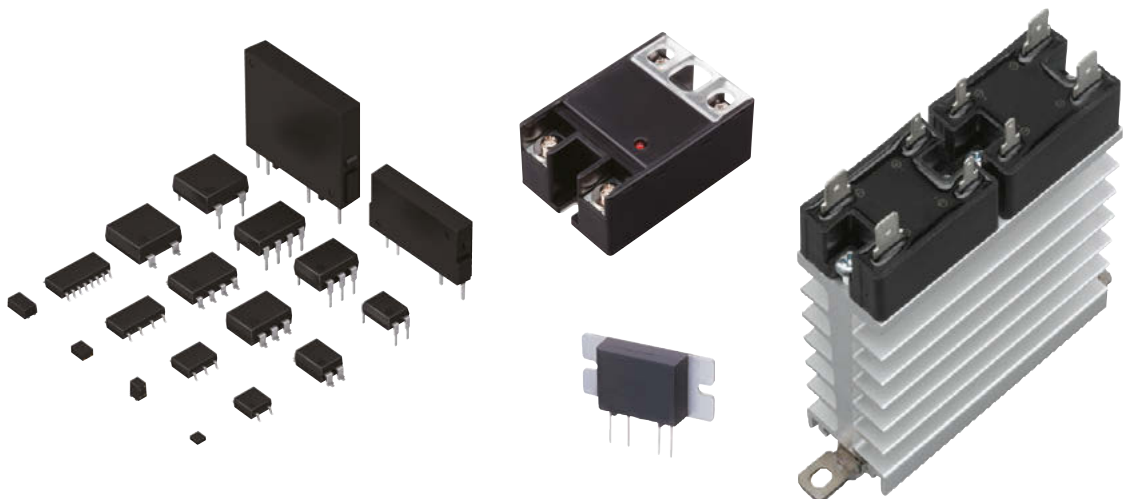


PhotoMOS[®] Phototriac Coupler Solid State Relays

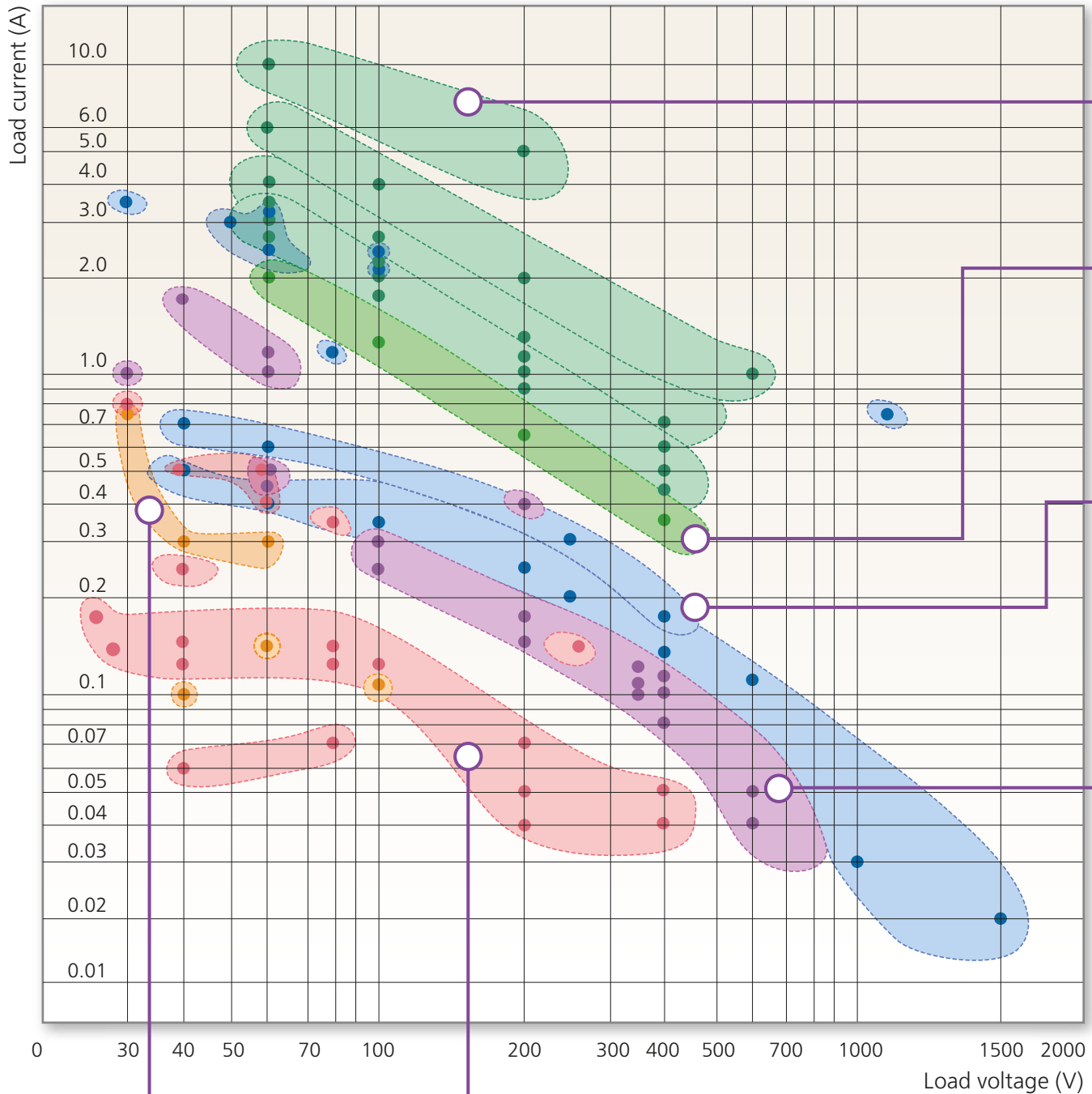
SELECTION GUIDE

IN Better Solution



■ INDEX

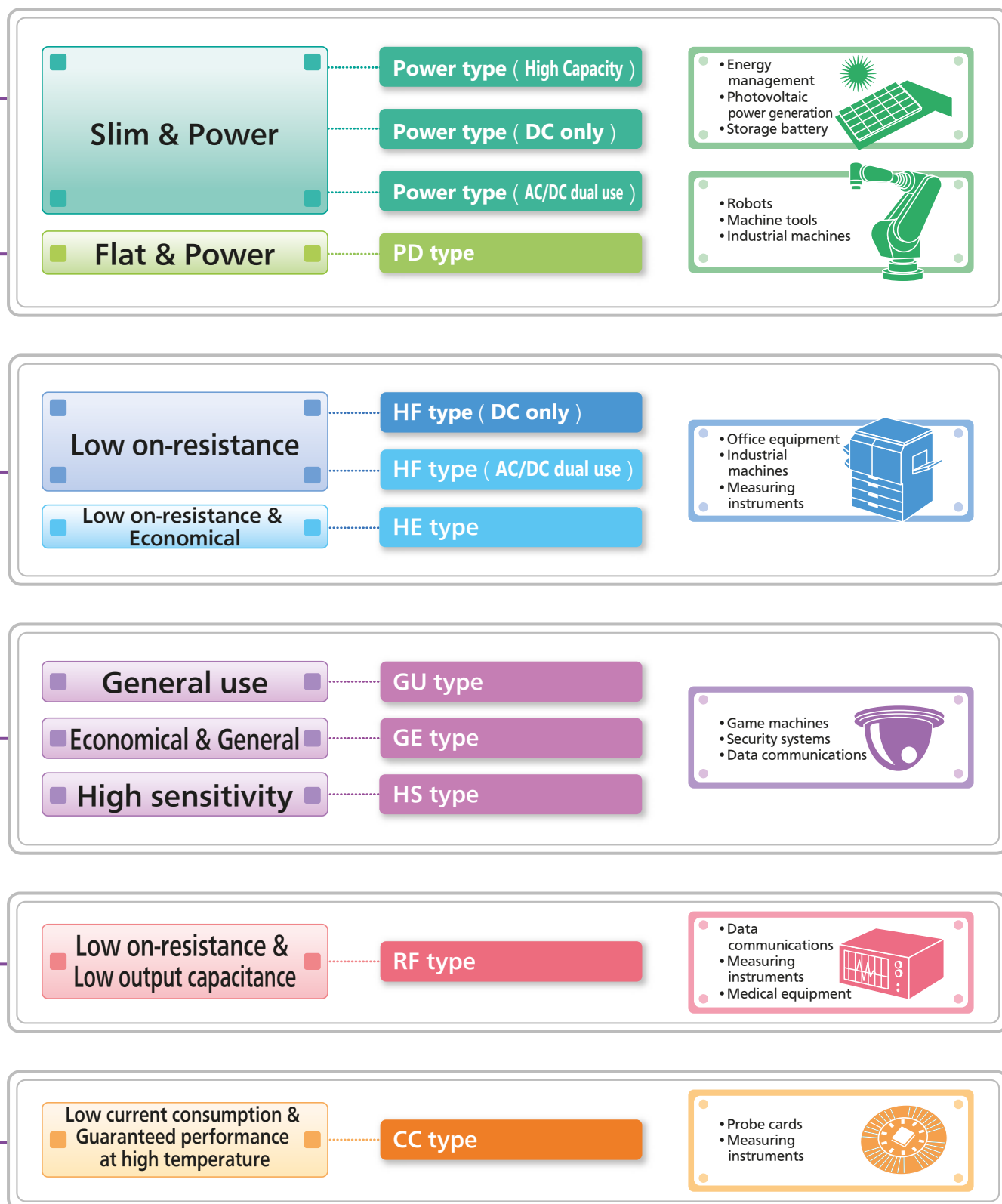
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*About automotive applications | If you are considering to use PhotoMOS® for automotive applications, please contact your local Panasonic Corporation technical representative.

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PhotoMOS[®] support various core industries



●PD : Power DIP
 ●HF : High Functioned
 ●HE : High functioned and Economical

●RF : Radio Frequency
 ●GU : General Use
 ●GE : General use and Economical

●HS : High Sensitivity
 ●CC : Capacitor Coupled

PhotoMOS[®] Quick Reference

Output configuration	Load voltage (V)	Continuous load current (A)	On resistance Typ. (Ω)	Package						
				TSOP	VSSOP	SON	SSOP	SOP4	SOP6	SOP8
1 Form A	20	0.18	2.8		AQY221N5TY		AQY221N5VY			
	25	0.15	5.5		AQY221N3TY	AQY221N3MY	AQY221N3VY			
	30	0.75	0.2	AQY2C1R6PX						
		0.8	0.18		AQY221R6TY					
		1	0.18				AQY221R6VY			
		1	0.25							
		3.5	0.035							
	40	0.1	10.5	AQY2C1R3PX						
		0.12	9.5		AQY221N2TY	AQY221N2MY	AQY221N2VY	AQY221N2S		
		0.25	0.75~0.8		AQY221R2TY	AQY221R2MY	AQY221R2VY	AQY221R2S		
		0.3	0.8	AQY2C1R2PX						
		0.5	0.55				AQY221R4VY			
		0.5	0.6							
		0.7	0.3							
		1.6	0.1					AQY211G2S		
	50	3	0.04						AQV252G2S	
	60	0.3	0.9	AQY2C2R2PX						
		0.4	0.74~0.8		AQY222R2TY		AQY222R2VY			
		0.5	0.55							
		0.5	0.8~0.85					AQY212S AQY222R1S AQY232S	AQV212S	
		0.55	0.83~0.85							
		0.6	0.37							
		1	0.34					AQY212GS		
		1.1	0.34							
		1.25	0.2					AQY212G2S		
		2	0.11							
		2.5	0.08							
		2.7	0.066							
		3	0.11							
		3.3	0.033						AQV252G3S	
		3.5	0.033							
		3.6	0.033							
		4	0.05							
		6	0.015							
		10	0.008							
	80	0.12	10.5				AQY225R2VY			
		0.15	10.5					AQY225R2S		
		0.35	0.8					AQY225R1S		
		1.25	0.09						AQV255GS	
	100	0.12	8.8~9	AQY2C5R3PX	AQY225R3TY		AQY225R3VY			
		0.25	2.3					AQY215S		
		0.3	2.3						AQV215S	
		0.32	2.3							
		0.35	1.8							
		1.3	0.23							
		1.8	0.18							
		2	0.23							
		2.2	0.07						AQV255G3S	
		2.3	0.09							
		2.4	0.07							
		2.6	0.081							
		4	0.035							

* DC load type

Output configuration	Load voltage (V)	Continuous load current (A)	On resistance Typ. (Ω)	Package					
				SOP16	DIP4	DIP6	DIP8	PowerDIP4	SIL4
1 Form A	20	0.18	2.8						
	25	0.15	5.5						
	30	0.75	0.2						
		0.8	0.18						
		1	0.18						
		1	0.25		AQY211EH				
	40	3.5	0.035			AQV251G			
		0.1	10.5						
		0.12	9.5						
		0.25	0.75~0.8						
		0.3	0.8						
		0.5	0.55						
		0.5	0.6			AQV251 AQV201			
		0.7	0.3			AQV101 [※]			
		1.6	0.1						
	50	3	0.04						
	60	0.3	0.9						
		0.4	0.74~0.8			AQV252 AQV202			
		0.5	0.55			AQV112KL [※]			
		0.5	0.8~0.85						
		0.55	0.83~0.85		AQY212EH	AQV212			
		0.6	0.37			AQV102 [※]			
		1	0.34						
		1.1	0.34		AQY212GH				
		1.25	0.2						
		2	0.11					AQY272	
		2.5	0.08			AQV252G			
		2.7	0.066						AQZ202D
		3	0.11						AQZ202
		3.3	0.033						
		3.5	0.033			AQV252G3			
		3.6	0.033						AQZ102D [※]
		4	0.05						AQZ102 [※]
		6	0.015						AQZ202G
		10	0.008						AQZ192 [※]
	80	0.12	10.5						
		0.15	10.5						
		0.35	0.8						
		1.25	0.09						
	100	0.12	8.8~9						
		0.25	2.3						
		0.3	2.3						
		0.32	2.3			AQV215			
		0.35	1.8			AQV255			
		1.3	0.23					AQY275	
		1.8	0.18						AQZ205D
		2	0.23						AQZ205
		2.2	0.07						
		2.3	0.09						AQZ105D [※]
		2.4	0.07			AQV255G3			
		2.6	0.081						AQZ105 [※]
		4	0.035						AQZ205G

PhotoMOS® Quick Reference

Output configuration	Load voltage (V)	Continuous load current (A)	On resistance Typ. (Ω)	Package						
				TSON	VSSOP	SON	SSOP	SOP4	SOP6	SOP8
1 Form A	200	0.05	30						AQV227NS	
		0.07	30							
		0.16	11						AQV217S	
		0.18	11							
		0.25	2.6							
		0.4	1.8					AQY217GS		
		0.65	0.7							
		0.9	0.64							
		1	0.7							
		1.1	0.33							
		1.3	0.34							
		2	0.18							
		5	0.031							
	250	0.2	5.5							
		0.3	2.7							
	350	0.12	17~20					AQY210S AQY210LS AQY230S		
		0.12	23~23.5					AQY210KS	AQV210S	
		0.13	18~23							
	400	0.04	70						AQV224NS	
		0.05	70							
		0.1	25~30					AQY214S AQY234S	AQV214S	
		0.12	26~30							
		0.15	12.4							
		0.18	6.3							
		0.35	2.1							
		0.45	2.4							
		0.5	2.1							
		0.6	1.23							
		0.7	1.06							
	600	0.04	70						AQV216S	
		0.05	52							
		0.05	70							
		0.13	20							
		1	0.52							
	1000	0.03	85							
	1200	0.75	1							
	1500	0.02	315~345							

* DC load type

Output configuration	Load voltage (V)	Continuous load current (A)	On resistance Typ. (Ω)	Package					
				SOP16	DIP4	DIP6	DIP8	PowerDIP4	SIL4
1 Form A	200	0.05	30						
		0.07	30			AQV227N			
		0.16	11						
		0.18	11			AQV217			
		0.25	2.6			AQV257			
		0.4	1.8						
		0.65	0.7					AQY277	
		0.9	0.64						AQZ207D
		1	0.7						AQZ207
		1.1	0.33						AQZ107D [※]
		1.3	0.34						AQZ107 [※]
		2	0.18						AQZ207G
		5	0.031						AQZ197 [※]
	250	0.2	5.5			AQV253 AQV253H AQV203			
		0.3	2.7			AQV103 [※]			
	350	0.12	17~20		AQY210HL				
		0.12	23~23.5						
		0.13	18~23		AQY210EH	AQV210 AQV210EH			
	400	0.04	70						
		0.05	70			AQV224N			
		0.1	25~30						
		0.12	26~30		AQY214EH	AQV214 AQV214EH AQV214H AQV234			
		0.15	12.4			AQV204 AQV254 AQV254H			
		0.18	6.3			AQV104 [※]			
		0.35	2.1					AQY274	
		0.45	2.4						AQZ204D
		0.5	2.1						AQZ204
		0.6	1.23						AQZ104D [※]
		0.7	1.06						AQZ104 [※]
	600	0.04	70						
		0.05	52		AQY216EH				
		0.05	70			AQV216			
		0.13	20			AQV256H			
		1	0.52						AQZ206G2
	1000	0.03	85			AQV259			
	1200	0.75	1			AQV209G			
	1500	0.02	315~345			AQV258 AQV258H5			

PhotoMOS® Quick Reference

Output configuration	Load voltage (V)	Continuous load current (A)	On resistance Typ. (Ω)	Package						
				TSOP	VSSOP	SON	SSOP	SOP4	SOP6	SOP8
2 Form A	60	0.4	0.83							AQW212S
		0.5	0.83							
	100	0.3	2.3							
	200	0.04	30							AQW227NS
		0.05	30							
		0.16	11							
	250	0.14	11							AQW223R2S
	350	0.1	16							AQW210S
		0.12	18~23							
	400	0.04	70							
		0.08	30							AQW214S
		0.1	26~30							
	600	0.12	10.2							
		0.04	52							
4 Form A	40	0.06	9.5							
		0.16	0.8							
	80	0.07	10.5							
1 Form B	60	0.15	4	AQY4C2PX						
		0.5	1					AQY412S		
		0.55	1							
	250	0.2	5.5							
	350	0.12	18					AQY410S		
		0.13	18							
	400	0.1	26					AQY414S	AQV414S	
		0.12	25.2~26							
2 Form B	400	0.15	10.5							
		0.5	2.8							
		0.08	26							AQW414S
1 Form A & 1 Form B	60	0.1	26							
		0.12	11							
	350	0.45	1							AQW612S
		0.5	1							
	400	0.1	18							AQW610S
		0.12	18							
	400	0.1	26~27							
		0.12	11							

* DC load type

Output configuration	Load voltage (V)	Continuous load current (A)	On resistance Typ. (Ω)	Package					
				SOP16	DIP4	DIP6	DIP8	PowerDIP4	SIL4
2 Form A	60	0.4	0.83						
		0.5	0.83				AQW212 AQW212EH		
	100	0.3	2.3				AQW215		
	200	0.04	30						
		0.05	30				AQW227N		
		0.16	11				AQW217		
	250	0.14	11						
	350	0.1	16						
		0.12	18~23				AQW210 AQW210EH		
	400	0.04	70				AQW224N		
		0.08	30						
		0.1	26~30				AQW214 AQW214EH		
	600	0.12	10.2				AQW254		
		0.04	52				AQW216EH		
		0.04	70				AQW216		
4 Form A	40	0.06	9.5	AQS221N2S					
		0.16	0.8	AQS221R2S					
	80	0.07	10.5	AQS225R2S					
1 Form B	60	0.15	4						
		0.5	1						
		0.55	1		AQY412EH	AQV412EH			
	250	0.2	5.5			AQV453			
	350	0.12	18						
		0.13	18		AQY410EH	AQV410EH			
	400	0.1	26						
		0.12	25.2~26		AQY414EH	AQV414 AQV414EH			
		0.15	10.5			AQV454 AQV454H			
2 Form B	400	0.5	2.8						AQZ404
		0.08	26						
		0.1	26				AQW414 AQW414EH		
1 Form A & 1 Form B	60	0.12	11				AQW454		
		0.45	1						
	350	0.5	1				AQW612EH		
		0.1	18						
	400	0.12	18				AQW610EH		
		0.1	26~27				AQW614 AQW614EH		
		0.12	11				AQW654		

Channel configuration

- S** : 4 channels (16-pin)
V : 1 channels (6-pin)
W : 4 channels (8-pin)
Y : 1 channels (4-pin)
Z : 1 channels (SIL4-pin)

Output configuration

- 1** : 1 Form A (DC)
2 : 1 Form A (AC/DC)
4 : 1 Form B (AC/DC)
5 : 2 Form B (AC/DC)
6 : 1a1b (AC/DC)
2 Form A (AC/DC)
A = Normally open B = Normally closed

Type

- 0** : HF type Low on-resistance
Power type Slim and power
1 : GU type Wide variation
GE type General use and Economical
2 : RF type Low on-resistance and low output capacitance
3 : HS type High sensitivity
5 : HE type Low on-resistance & Economical
7 : PD type Flat and power
9 : Power High Capacity type Slim and power
C : CC type Capacitor coupled isolation type

Load voltage

- 0** : 350 V
1 : ~ 40 V
2 : 50 ~ 60 V
3 : 250 V
4 : 400 V
5 : 80 ~ 100 V
6 : 600 V
7 : 200 V
8 : 1500 V
9 : 1000 V

AQ Y 2 2 1 D E H L V Y

Driving method

- Nil** : Current-sensitive CC type
D : Power type voltage-sensitive

Feature

- Nil** : Standard
E : Economical
G/G* : High capacity
N : Low on-resistance
N* : Low C×R (Low Cout type)
R* : Low C×R (Low Ron type)

I/O isolation voltage

- Nil** : Standard
H/H* : High insulation (DIP: 5,000 V)

A number is entered in the "*" part.
Valid only for combinations of products listed in the catalog
(see "TYPES" in this catalog).
Please contact our sales representative regarding combinations with products not listed in this catalog.

Current limit function

- Nil** : Non
K : With short circuit protection (Latching)
KL : With short circuit protection (Non-latching)
L : With current limiting

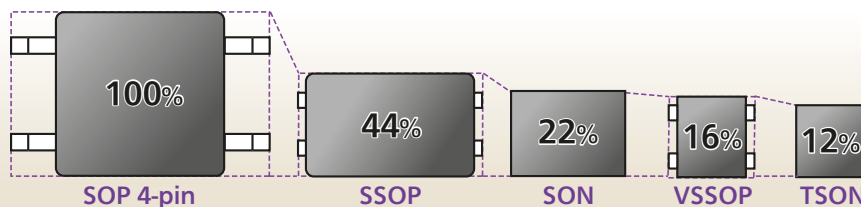
Package

- Nil** : DIP (Through hole terminal)
A : DIP (Surface mount terminal)
M : SON
S : SOP
T : VSSOP
V : SSOP
P : TSON

Packing style

- Nil** : Tube (DIP/SOP/SIL)
X : Tape and reel (DIP/SOP: 1000 pcs., TSON: 3500 pcs.)
1X : Tape and reel (TSON: 1000 pcs.)
Y : Tape and reel (VSSOP: 1000 pcs., SSOP/SON: 3500 pcs.)
1Y : Tape and reel (SSOP/SON: 1000 pcs.)

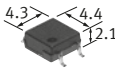
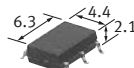
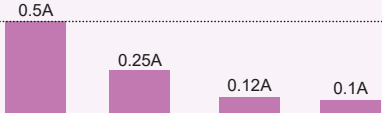
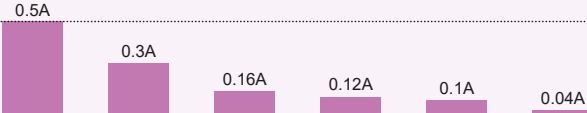
! Package size (Comparison with SOP 4-pin)



PhotoMOS® Selector Chart

GU General use & wide variation

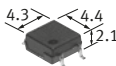
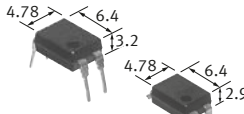
GU **GE** **CC** **RF** **HE** **HF** **HS** **PD** **Power**

Product name			GU SOP									
Contact configuration			1 Form A				1 Form A					
Number of terminals			4pin				6pin					
Appearance configuration *Standoff height included												
mm												
Features			Miniature SOP4-pin type of 60V/100V/350V/400V load voltage				Miniature SOP6-pin type of 60 to 600V load voltage					
Part No.			AQY212S	AQY215S	AQY210S	AQY214S	AQV212S	AQV215S	AQV217S	AQV210S	AQV214S	AQV216S
Output	Load voltage		AC/DC				AC/DC					
		Peak AC	60V	100V	350V	400V	60V	100V	200V	350V	400V	600V
		DC	60V	100V	350V	400V	60V	100V	200V	350V	400V	600V
	Continuous load current *6-pin type: in case of A connection	1A										
		0.5A										
	Peak load current		1.5A	0.75A	0.3A	0.24A	1.5A	0.9A	0.48A	0.3A	0.3A	0.12A
	Power dissipation		300mW				450mW					
	On resistance *6-pin type: in case of A connection	Typ.	0.83Ω	2.3Ω	17Ω	25Ω	0.83Ω	2.3Ω	11Ω	23Ω	30Ω	70Ω
		Max.	2.5 Ω	4.0Ω	25Ω	35Ω	2.5 Ω	4.0Ω	15Ω	35Ω	50Ω	120Ω
	Output capacitance (Typ.)		80pF	140pF	45pF		80pF	110pF	70pF	45pF		
	Off state leakage current (Max.)		1μA				1μA					
Input	LED forward current		50mA				50mA					
	LED reverse voltage		5V				5V					
	Peak forward current		1A				1A					
	Power dissipation		75mW				75mW					
	LED operate current	Typ.	0.9 mA				0.7 mA					
		Max.	3 mA				3 mA					
	LED turn off current	Min.	0.4 mA				0.4 mA					
		Typ.	0.85mA				0.65mA					
	LED dropout voltage	Typ.	1.25V (1.14V at If = 5mA)				1.25V (1.14V at If = 5mA)					
Max.		1.5V				1.5V						
Turn on time		Typ.	0.65ms	0.6 ms	0.23ms	0.21ms	0.65ms	0.60ms	0.25ms	0.25ms		0.28ms
		Max.	2 ms	2 ms	0.5 ms	0.5 ms	2 ms	2 ms	1 ms	0.5 ms		0.5 ms
Turn off time		Typ.	0.08ms		0.04ms		0.08ms	0.06ms	0.05ms			0.04ms
		Max.	0.2 ms		0.2 ms		0.2 ms	0.2 ms	0.2 ms			0.2 ms
Total power dissipation			350mW				500mW					
I/O isolation voltage			1,500Vrms				1,500Vrms					
I/O capacitance	Typ.	0.8pF				0.8pF						
	Max.	1.5pF				1.5pF						
Initial I/O isolation resistance (Min.)			1,000MΩ				1,000MΩ					
Safety standards			UL, VDE				UL					
Mass (weight) (approx.)			0.084g				0.125g					

PhotoMOS® Selector Chart

GU General use & wide variation

GU **GE** **CC** **RF** **HE** **HF** **HS** **PD** **Power**

Product name			GU SOP High Capacity				GU High Capacity			
Contact configuration			1 Form A				1 Form A			
Number of terminals			4pin				4pin			
Appearance configuration *Standoff height included mm										
Features			Miniature SOP4-pin type with high capacity up to Max. 1.6A in the series				4-pin high capacity of 1.1A, I/O isolation voltage of 5,000V rms			
Part No.			AQY211G2S	AQY212G2S	AQY212GS	AQY217GS	AQY212GH			
Output	Load voltage		AC/DC				AC/DC			
		Peak AC	40V	60V		200V		60V		
		DC	40V	60V		200V		60V		
	Continuous load current		1.5A 1A 0.5A	1.6A 1.25A 1A		0.4A		1.1A		
	Peak load current		4.0A		3.0A		1.2A		3.0A	
	Power dissipation		400mW				500mW			
	On resistance	Typ.	0.1 Ω	0.2Ω	0.34Ω	1.8Ω	0.34Ω			
		Max.	0.15Ω	0.5Ω	0.7 Ω	2.5Ω	0.7 Ω			
	Output capacitance (Typ.)		180pF		150pF		220pF		85pF	
	Off state leakage current (Max.)		1μA				1μA			
Input	LED forward current		50mA				50mA			
	LED reverse voltage		5V				5V			
	Peak forward current		1A				1A			
	Power dissipation		75mW				75mW			
	LED operate current	Typ.	0.9mA	1.1mA		0.75mA		1.1mA		
		Max.	3 mA	3 mA		3 mA		3 mA		
	LED turn off current	Min.	0.2mA	0.3mA		0.2 mA		0.3mA		
		Typ.	0.8mA	1 mA		0.7 mA		1 mA		
	LED dropout voltage	Typ.	1.32V (1.14V at IF = 5mA)				1.32V (1.14V at IF = 5mA)			
		Max.	1.5V				1.5V			
Turn on time		Typ.	1 ms	1.3ms		1.2 ms		1.3ms		
		Max.	3 ms	5 ms		5 ms		5 ms		
Turn off time		Typ.	0.12ms	0.1ms		0.03ms		0.1ms		
		Max.	0.5 ms	0.5ms		0.2 ms		0.5ms		
Total power dissipation			450mW				550mW			
I/O isolation voltage			1,500Vrms				5,000Vrms			
I/O capacitance	Typ.	0.8pF				0.8pF				
	Max.	1.5pF				1.5pF				
Initial I/O isolation resistance (Min.)			1,000MΩ				1,000MΩ			
Safety standards			UL, VDE				UL, VDE			
Mass (weight) (approx.)			0.084g				0.19g			

GU

General use & wide variation

GU

GE

CC

RF

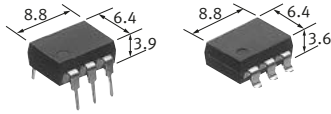
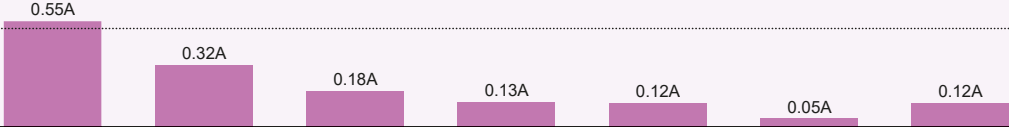
HE

HF

HS

PD

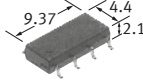
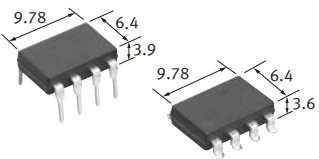
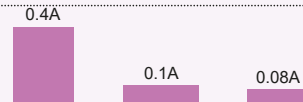
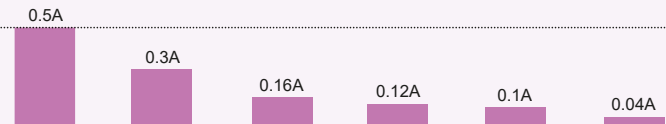
Power

Product name			GU						
Contact configuration			1 Form A						
Number of terminals			6pin						
Appearance configuration <small>*Standoff height included</small>									
mm									
Features			6-pin type for switching low-level analog signal						
Part No.			AQV212	AQV215	AQV217	AQV210	AQV214	AQV216	AQV214H
Output	Load voltage		AC/DC						
		Peak AC	60V	100V	200V	350V	400V	600V	400V
		DC	60V	100V	200V	350V	400V	600V	400V
	Continuous load current <small>*6-pin type: in case of A connection</small>	1A							
		0.5A							
	Peak load current		1.5A	0.96A	0.54A	0.4A	0.3A	0.15A	0.3A
	Power dissipation		500mW						
	On resistance <small>*6-pin type: in case of A connection</small>	Typ.	0.83Ω	2.3Ω	11Ω	23Ω	30Ω	70Ω	30Ω
		Max.	2.5 Ω	4 Ω	15Ω	35Ω	50Ω	120Ω	50Ω
	Output capacitance (Typ.)		80pF	110pF	70pF	45pF			
Off state leakage current (Max.)		1μA							
Input	LED forward current		50mA						
	LED reverse voltage		5V						
	Peak forward current		1A						
	Power dissipation		75mW						
	LED operate current	Typ.	1 mA						1.3mA
		Max.	3 mA						3 mA
	LED turn off current	Min.	0.4 mA						0.4mA
		Typ.	0.79mA						1.2mA
	LED dropout voltage	Typ.	1.25V (1.14V at If = 5mA)						
		Max.	1.5V						
Turn on time		Typ.	0.65ms	0.60ms	0.25ms	0.25ms	0.21ms	0.28ms	0.6 ms
		Max.	2 ms	2 ms	1 ms	0.5 ms	0.5 ms	0.5 ms	0.8 ms
Turn off time		Typ.	0.08ms	0.06ms	0.05ms	0.05ms	0.05ms	0.04ms	0.05ms
		Max.	0.2 ms	0.2 ms	0.2 ms	0.2 ms	0.2 ms	0.2 ms	0.2 ms
Total power dissipation			550mW						
I/O isolation voltage			1,500Vrms						5,000Vrms
I/O capacitance	Typ.	0.8pF							
	Max.	1.5pF							
Initial I/O isolation resistance (Min.)			1,000MΩ						
Safety standards			UL						UL, VDE
Mass (weight) (approx.)			0.453g						

PhotoMOS® Selector Chart

GU General use & wide variation

GU **GE** **CC** **RF** **HE** **HF** **HS** **PD** **Power**

Product name			GU SOP			GU						
Contact configuration			2 Form A			2 Form A						
Number of terminals			8pin			8pin						
Appearance configuration <small>*Standoff height included</small> mm												
Features			Miniature SOP8-pin type of 60V/350V/400V load voltage			Compact DIP8-pin type of 60V to 600V load voltage						
Part No.			AQW212S	AQW210S	AQW214S	AQW212	AQW215	AQW217	AQW210	AQW214	AQW216	
Output	Load voltage		AC/DC			AC/DC						
		Peak AC	60V	350V	400V	60V	100V	200V	350V	400V	600V	
		DC	60V	350V	400V	60V	100V	200V	350V	400V	600V	
	Continuous load current	1A										
		0.5A										
	Peak load current		1.5A	0.3A	0.24A	1.5A	0.9A	0.48A	0.36A	0.3A	0.12A	
	Power dissipation		600mW			800mW						
	On resistance	Typ.	0.83Ω	16Ω	30Ω	0.83Ω	2.3Ω	11Ω	23Ω	30Ω	70Ω	
		Max.	2.5 Ω	35Ω	50Ω	2.5 Ω	4 Ω	15Ω	35Ω	50Ω	120Ω	
	Output capacitance (Typ.)		80pF	45pF			80pF	110pF	70pF	45pF		
	Off state leakage current (Max.)		1μA			1μA						
Input	LED forward current		50mA			50mA						
	LED reverse voltage		5V			5V						
	Peak forward current		1A			1A						
	Power dissipation		75mW			75mW						
	LED operate current	Typ.	0.9mA			0.9mA						
		Max.	3 mA			3 mA						
	LED turn off current	Min.	0.4mA			0.4mA						
		Typ.	0.8mA			0.8mA						
	LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)			1.25V (1.14V at I _F = 5mA)						
Max.		1.5V			1.5V							
Turn on time		Typ.	0.65ms	0.23ms	0.21ms	0.65ms	0.60ms	0.25ms	0.25ms	0.31ms	0.28ms	
		Max.	2 ms	0.5 ms	0.5 ms	2 ms	2 ms	1.0 ms	0.5 ms	0.5 ms	0.5 ms	
Turn off time		Typ.	0.08ms	0.04ms		0.08ms	0.06ms	0.05ms			0.04ms	
		Max.	0.2 ms	0.2 ms		0.2 ms	0.2 ms	0.2 ms			0.2 ms	
Total power dissipation			650mW			850mW						
I/O isolation voltage			1,500Vrms			1,500Vrms						
I/O capacitance	Typ.	0.8pF			0.8pF							
	Max.	1.5pF			1.5pF							
Initial I/O isolation resistance (Min.)			1,000MΩ			1,000MΩ						
Safety standards			UL, VDE			UL						
Mass (weight) (approx.)			0.195g			0.5g						

GU

General use & wide variation

GU

GE

CC

RF

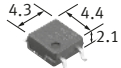
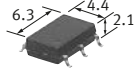
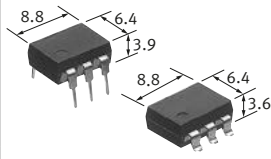


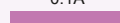
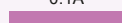
HE

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HS

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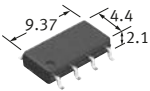
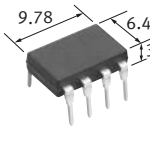
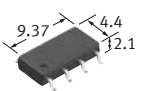
Power

Product name			GU SOP				GU			
Contact configuration			1 Form B			1 Form B		1 Form B		
Number of terminals			4pin			6pin		6pin		
Appearance configuration *Standoff height included										
mm										
Features			Normally closed SOP4-pin type of 60V/350V/400V load voltage			Normally closed SOP6-pin type of 400V load voltage		Normally closed 6-pin type of 400V load voltage		
Part No.			AQY412S	AQY410S	AQY414S	AQV414S		AQV414		
Output	Load voltage		AC/DC			AC/DC		AC/DC		
		Peak AC	60V	350V	400V	400V		400V		
		DC	60V	350V	400V	400V		400V		
	Continuous load current *6-pin type: in case of A connection		1A							
			0.5A							
										
	Peak load current		1.5A	0.3A	0.24A	0.3A		0.3A		
	Power dissipation		300mW			450mW		500mW		
	On resistance *6-pin type: in case of A connection		Typ.	1Ω	18Ω	26Ω	26Ω		26Ω	
			Max.	2.5Ω	25Ω	35Ω	50Ω		50Ω	
Output capacitance (Typ.)		500pF	110pF	100pF	100pF		100pF			
Off state leakage current (Max.)		1μA			1μA		1μA			
Input	LED forward current		50mA			50mA		50mA		
	LED reverse voltage		5V			5V		5V		
	Peak forward current		1A			1A		1A		
	Power dissipation		75mW			75mW		75mW		
	LED operate current	Typ.	0.9 mA			0.6 mA		1 mA		
		Max.	3 mA			3 mA		3 mA		
	LED turn off current	Min.	0.4 mA			0.4 mA		0.4 mA		
		Typ.	0.85mA			0.55mA		0.95mA		
	LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)			1.25V (1.14V at I _F = 5mA)		1.25V (1.14V at I _F = 5mA)		
		Max.	1.5V			1.5V		1.5V		
Turn on time		Typ.	0.9 ms	0.52ms	0.47ms	0.47ms		0.47ms		
		Max.	3 ms	1 ms	1 ms	1 ms		1 ms		
Turn off time		Typ.	0.21ms	0.23ms	0.28ms	0.28ms		0.28ms		
		Max.	1 ms	1 ms	1 ms	1 ms		1 ms		
Total power dissipation			350mW			500mW		550mW		
I/O isolation voltage			1,500Vrms			1,500Vrms		1,500Vrms		
I/O capacitance		Typ.	0.8pF			0.8pF		0.8pF		
		Max.	1.5pF			1.5pF		1.5pF		
Initial I/O isolation resistance (Min.)			1,000MΩ			1,000MΩ		1,000MΩ		
Safety standards			UL, VDE			UL		UL		
Mass (weight) (approx.)			0.084g			0.125g		0.453g		

PhotoMOS® Selector Chart

GU General use & wide variation

GU **GE** **CC** **RF** **HE** **HF** **HS** **PD** **Power**

Product name			GU SOP	GU	GU SOP		
Contact configuration			2 Form B	2 Form B	1 Form A & 1 Form B		
Number of terminals			8pin	8pin	8pin		
Appearance configuration <small>*Standoff height included</small>							
mm							
Features			Normally closed SOP8-pin type of 400V load voltage	Normally closed DIP8-pin type of 400V load voltage	Both N.O. and N.C. contacts incorporated in a small SOP8-pin package		
Part No.			AQW414S	AQW414	AQW612S	AQW610S	
Output	Load voltage		AC/DC	AC/DC	AC/DC		
		Peak AC	400V	400V	60V	350V	
		DC	400V	400V	60V	350V	
	Continuous load current		1A				
			0.5A		0.45A		
	Peak load current		0.08A	0.1A	1.5A	0.1A	
	Power dissipation		0.24A	0.3A	1.5A	0.3A	
	On resistance		Typ.	26Ω	26Ω	1 Ω	18Ω
			Max.	50Ω	50Ω	2.5Ω	25Ω
	Output capacitance (Typ.)		100pF	100pF	80pF (N.O.) , 500pF (N.C.)	45pF (N.O.) , 100pF (N.C.)	
Off state leakage current (Max.)		1μA	1μA	1μA			
Input	LED forward current		50mA	50mA	50mA		
	LED reverse voltage		5V	5V	5V		
	Peak forward current		1A	1A	1A		
	Power dissipation		75mW	75mW	75mW		
	LED operate current	Typ.	0.9mA	0.7 mA	0.9mA		
		Max.	3 mA	3 mA	3 mA		
	LED turn off current	Min.	0.4mA	0.4 mA	0.4mA		
		Typ.	0.8mA	0.64mA	0.8mA		
LED dropout voltage	Typ.	1.25V (1.14V at If = 5mA)	1.25V (1.14V at If = 5mA)	1.25V (1.14V at If = 5mA)			
	Max.	1.5V	1.5V	1.5V			
Turn on time		Typ.	0.43ms	0.46ms	0.65ms (N.O.) , 0.9ms (N.C.)	0.28ms (N.O.) , 0.52ms (N.C.)	
		Max.	1 ms	1 ms	3ms	1ms	
Turn off time		Typ.	0.3 ms	0.40ms	0.08ms (N.O.) , 0.2ms (N.C.)	0.04ms (N.O.) , 0.23ms (N.C.)	
		Max.	1 ms	1 ms	1ms	1ms	
Total power dissipation		650mW	850mW	650mW			
I/O isolation voltage		1,500Vrms	1,500Vrms	1,500Vrms			
I/O capacitance	Typ.	0.8pF	0.8pF	0.8pF			
	Max.	1.5pF	1.5pF	1.5pF			
Initial I/O isolation resistance (Min.)		1,000MΩ	1,000MΩ	1,000MΩ			
Safety standards		UL, VDE	UL	UL, VDE			
Mass (weight) (approx.)		0.195g	0.5g	0.195g			

GU

General use & wide variation

GU

GE

CC

RF

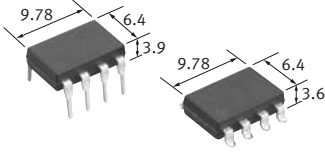
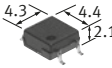
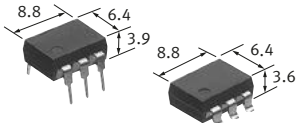
HE

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HS

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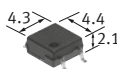
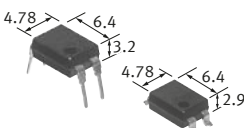
Power

Product name			GU	GU SOP Short Circuit Protection (Latch type)	GU Short Circuit Protection (Non-latch type)
Contact configuration			1 Form A & 1 Form B	1 Form A	1 Form A
Number of terminals			8pin	4pin	6pin
Appearance configuration <small>*Standoff height included</small> mm					
Features			Both N.O. and N.C. contacts incorporated in a DIP8-pin package	Small SOP4-pin type with short circuit protecting (Latch type)	Short circuit protection (Non-latch type) only for DC load
Part No.			AQW614	AQY210KS	AQV112KL
Output	Load voltage		AC/DC	AC/DC	DC
		Peak AC	400V	350V	—
		DC	400V	350V	7 to 60V
	Continuous load current		1A		
			0.5A		0.5A
			0.1A	0.12A	
	Peak load current		0.3A	0.2A (Cut off current [Typ.])	—
	Power dissipation		800mW	400mW	500mW
	On resistance	Typ.	27Ω	23.5Ω	0.55Ω
		Max.	50Ω	35 Ω	2 Ω
Output capacitance (Typ.)		45pF (N.O.) , 100pF (N.C.)	42pF	300pF	
Off state leakage current (Max.)		1μA	1μA	1μA	
Input	LED forward current		50mA	50mA	50mA
	LED reverse voltage		5V	5V	5V
	Peak forward current		1A	1A	1A
	Power dissipation		75mW	75mW	75mW
	LED operate current	Typ.	0.9mA	1.1mA	0.8mA
		Max.	3 mA	3 mA	10 mA
	LED turn off current	Min.	0.4mA	0.3mA	0.3mA
		Typ.	0.8mA	1 mA	0.7mA
	LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)	1.13V (1.32V at I _F = 50mA)	1.17V (1.35V at I _F = 50mA)
		Max.	1.5V	1.5V	1.5V
Turn on time		Typ.	0.28ms (N.O.) , 0.43ms (N.C.)	0.7 ms	2.0ms
		Max.	1ms	2.0 ms	5.0ms
Turn off time		Typ.	0.04ms (N.O.) , 0.3ms (N.C.)	0.07ms	0.1ms
		Max.	1ms	1 ms	1 ms
Total power dissipation			850mW	450mW	550mW
I/O isolation voltage			1,500Vrms	1,500Vrms	1,500Vrms
I/O capacitance	Typ.	0.8pF	0.8pF	0.8pF	
	Max.	1.5pF	1.5pF	1.5pF	
Initial I/O isolation resistance (Min.)			1,000MΩ	1,000MΩ	1,000MΩ
Safety standards			UL	UL, VDE	UL, VDE
Mass (weight) (approx.)			0.5g	0.084g	0.453g

PhotoMOS® Selector Chart

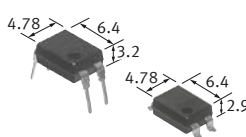
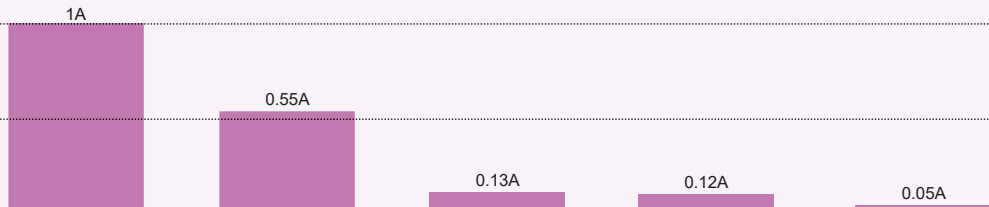
GU General use & wide variation

GU GE CC RF HE HF HS PD Power

Product name			GU SOP Current Limiting	GU Current Limiting
Contact configuration			1 Form A	1 Form A
Number of terminals			4pin	4pin
Appearance configuration *Standoff height included				
mm				
Features			Miniature SOP4-pin type with current limiting	DIP4-pin type with current limiting and high insulation
Part No.			AQY210LS	AQY210HL
Output	Load voltage		AC/DC	AC/DC
		Peak AC	350V	350V
		DC	350V	350V
	Continuous load current		1A	
			0.5A	
			0.12A	0.12A
	Peak load current		0.18A (Output Limit Current [Typ.])	0.18A (Output Limit Current [Typ.])
	Power dissipation		400mW	500mW
	On resistance	Typ.	20Ω	20Ω
		Max.	25Ω	25Ω
	Output capacitance (Typ.)		45pF	45pF
	Off state leakage current (Max.)		1μA	1μA
	Input	LED forward current		50mA
LED reverse voltage		5V	5V	
Peak forward current		1A	1A	
Power dissipation		75mW	75mW	
LED operate current		Typ.	1.2mA	1.2mA
		Max.	3 mA	3 mA
LED turn off current		Min.	0.4mA	0.4mA
		Typ.	1.1mA	1.1mA
LED dropout voltage		Typ.	1.25V (1.14V at If = 5mA)	1.25V (1.14V at If = 5mA)
		Max.	1.5V	1.5V
Turn on time		Typ.	0.5 ms	0.5 ms
		Max.	2 ms	2 ms
Turn off time		Typ.	0.08ms	0.08ms
		Max.	1 ms	1 ms
Total power dissipation		450mW	550mW	
I/O isolation voltage		1,500Vrms	5,000Vrms	
I/O capacitance	Typ.	0.8pF	0.8pF	
	Max.	1.5pF	1.5pF	
Initial I/O isolation resistance (Min.)		1,000MΩ	1,000MΩ	
Safety standards		UL, VDE	UL, VDE	
Mass (weight) (approx.)		0.084g	0.19g	

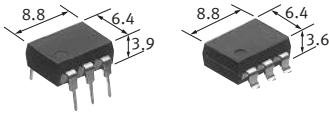
GE General use and Economical

 GU **GE** CC RF HE HF HS PD Power

Product name			GE				
Contact configuration			1 Form A				
Number of terminals			4pin				
Appearance configuration *Standoff height included							
mm							
Features			DIP4-pin type with high insulation				
Part No.			AQY211EH	AQY212EH	AQY210EH	AQY214EH	AQY216EH
Output	Load voltage		AC/DC				
		Peak AC	30V	60V	350V	400V	600V
		DC	30V	60V	350V	400V	600V
	Continuous load current	1A					
		0.5A					
	Peak load current		3A	1.5A	0.4A	0.3A	0.15A
	Power dissipation		500mW				
	On resistance	Typ.	0.25Ω	0.85Ω	18Ω	26Ω	52Ω
		Max.	0.5 Ω	2.5 Ω	25Ω	35Ω	120Ω
	Output capacitance (Typ.)		240pF	80pF	45pF		35pF
	Off state leakage current (Max.)		1μA				
Input	LED forward current		50mA				
	LED reverse voltage		5V				
	Peak forward current		1A				
	Power dissipation		75mW				
	LED operate current	Typ.	1.2mA				
		Max.	3 mA				
	LED turn off current	Min.	0.4mA				
		Typ.	1.1mA				
LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)					
	Max.	1.5V					
Turn on time		Typ.	1.5ms	1 ms	0.5ms		
		Max.	5 ms	4 ms	2 ms		
Turn off time		Typ.	0.1ms	0.05ms	0.08ms		0.04ms
		Max.	1 ms	1 ms	1 ms		1 ms
Total power dissipation			550mW				
I/O isolation voltage			5,000Vrms				
I/O capacitance	Typ.	0.8pF					
	Max.	1.5pF					
Initial I/O isolation resistance (Min.)			1,000MΩ				
Safety standards			UL	UL, VDE			
Mass (weight) (approx.)			0.19g				

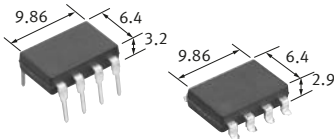
PhotoMOS® Selector Chart

GE	General use and Economical	GU	GE	CC	RF	HE	HF	HS	PD	Power
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Product name			GE														
Contact configuration			1 Form A														
Number of terminals			6pin														
Appearance configuration *Standoff height included																	
mm																	
Features			DIP6-pin type with high insulation														
Part No.			AQV210EH					AQV214EH									
Output	Load voltage		AC/DC														
		Peak AC	350V					400V									
		DC	350V					400V									
	Continuous load current *6-pin type: in case of A connection		1A														
			0.5A														
			0.13A							0.12A							
	Peak load current		0.4A										0.3A				
	Power dissipation		500mW														
	On resistance *6-pin type: in case of A connection		Typ.	23Ω					30Ω								
			Max.	35Ω					50Ω								
Output capacitance (Typ.)		45pF															
Off state leakage current (Max.)		1μA															
Input	LED forward current		50mA														
	LED reverse voltage		5V														
	Peak forward current		1A														
	Power dissipation		75mW														
	LED operate current		Typ.	1.6mA													
			Max.	3 mA													
	LED turn off current		Min.	0.4mA													
			Typ.	1.5mA													
	LED dropout voltage		Typ.	1.25V (1.14V at If = 5mA)													
			Max.	1.5V													
Turn on time		Typ.	0.7 ms														
		Max.	2 ms														
Turn off time		Typ.	0.05ms														
		Max.	1 ms														
Total power dissipation		550mW															
I/O isolation voltage		5,000Vrms															
I/O capacitance		Typ.	0.8pF														
		Max.	1.5pF														
Initial I/O isolation resistance (Min.)		1,000MΩ															
Safety standards		UL, VDE															
Mass (weight) (approx.)		0.453g															

GE General use and Economical

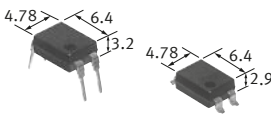
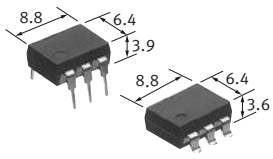
 GU **GE** CC RF HE HF HS PD Power

Product name			GE			
Contact configuration			2 Form A			
Number of terminals			8pin			
Appearance configuration *Standoff height included						
mm						
Features			DIP8-pin type with high insulation			
Part No.			AQW212EH	AQW210EH	AQW214EH	AQW216EH
Output	Load voltage		AC/DC			
		Peak AC	60V	350V	400V	600V
		DC	60V	350V	400V	600V
	Continuous load current	1A				
		0.5A	0.5A	0.12A	0.1A	0.04A
	Peak load current		1.5A	0.36A	0.3A	0.12A
	Power dissipation		800mW			
	On resistance	Typ.	0.83Ω	18Ω	26Ω	52Ω
		Max.	2.5 Ω	25Ω	35Ω	120Ω
	Output capacitance (Typ.)		80pF	45pF		35pF
	Off state leakage current (Max.)		1μA			
Input	LED forward current		50mA			
	LED reverse voltage		5V			
	Peak forward current		1A			
	Power dissipation		75mW			
	LED operate current	Typ.	1.2mA			
		Max.	3 mA			
	LED turn off current	Min.	0.4mA			
		Typ.	1.1mA			
	LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)			
Max.		1.5V				
Turn on time		Typ.	1.0ms	0.5ms		
		Max.	4.0ms	2 ms		
Turn off time		Typ.	0.08ms			0.04ms
		Max.	1 ms			1 ms
Total power dissipation			850mW			
I/O isolation voltage			5,000Vrms			
I/O capacitance	Typ.	0.8pF				
	Max.	1.5pF				
Initial I/O isolation resistance (Min.)			1,000MΩ			
Safety standards			UL, VDE			
Mass (weight) (approx.)			0.4g			

PhotoMOS® Selector Chart

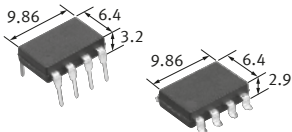
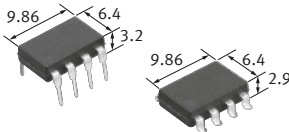
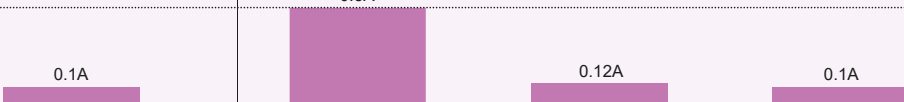
GE General use and Economical

GU **GE** CC RF HE HF HS PD Power

Product name			GE					
Contact configuration			1 Form B			1 Form B		
Number of terminals			4pin			6pin		
Appearance configuration								
mm								
Features			Normally closed type with high insulation			Normally closed type with high insulation		
Part No.			AQY412EH	AQY410EH	AQY414EH	AQV412EH	AQV410EH	AQV414EH
Output	Load voltage		AC/DC			AC/DC		
		Peak AC	60V	350V	400V	60V	350V	400V
		DC	60V	350V	400V	60V	350V	400V
	Continuous load current	1A						
		0.5A	0.55A	0.13A	0.12A	0.55A	0.13A	0.12A
	Peak load current		1.5A	0.4A	0.3A	1.5A	0.4A	0.3A
	Power dissipation		500mW			500mW		
	On resistance	Typ.	1 Ω	18Ω	26Ω	1 Ω	18Ω	25.2Ω
		Max.	2.5Ω	25Ω	35Ω	2.5Ω	35Ω	50 Ω
	Output capacitance (Typ.)		500pF	110pF	100pF	500pF	110pF	100pF
Off state leakage current (Max.)		10μA			10μA			
Input	LED forward current		50mA			50mA		
	LED reverse voltage		5V			5V		
	Peak forward current		1A			1A		
	Power dissipation		75mW			75mW		
	LED operate current	Typ.	1.4mA			1.9mA		
		Max.	3 mA			3 mA		
	LED turn off current	Min.	0.4mA			0.4mA		
		Typ.	1.3mA			1.8mA		
LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)			1.25V (1.14V at I _F = 5mA)			
	Max.	1.5V			1.5V			
Turn on time		Typ.	3 ms	1 ms	0.8ms	3ms	1.5ms	1.3ms
		Max.	10 ms	3 ms	3 ms	8ms	3 ms	3 ms
Turn off time		Typ.	0.2ms	0.3ms	0.2ms	0.3ms		
		Max.	1 ms	1 ms	1 ms	1.5ms		
Total power dissipation		550mW			550mW			
I/O isolation voltage		5,000Vrms			5,000Vrms			
I/O capacitance	Typ.	0.8pF			0.8pF			
	Max.	1.5pF			1.5pF			
Initial I/O isolation resistance (Min.)		1,000MΩ			1,000MΩ			
Safety standards		UL, VDE			UL, VDE			
Mass (weight) (approx.)		0.19g			0.453g			

GE General use and Economical

 GU **GE** CC RF HE HF HS PD Power

Product name			GE				
Contact configuration			2 Form B	1 Form A & 1 Form B			
Number of terminals			8pin	8pin			
Appearance configuration <small>*Standoff height included</small> mm							
Features			Normally closed type with high insulation	Both N.O. and N.C. contacts incorporated in a compact DIP8-pin high insulation			
Part No.			AQW414EH	AQW612EH	AQW610EH	AQW614EH	
Output	Load voltage		AC/DC	AC/DC			
		Peak AC	400V	60V	350V	400V	
		DC	400V	60V	350V	400V	
	Continuous load current	1A					
		0.5A					
	Peak load current		0.3A	1.5A	0.36A	0.3A	
	Power dissipation		800mW	800mW			
	On resistance	Typ.	26Ω	1 Ω	18Ω	26Ω	
		Max.	35Ω	2.5Ω	25Ω	35Ω	
	Output capacitance (Typ.)		100pF	80pF (N.O.) , 500pF (N.C.)	45pF (N.O.) , 100pF (N.C.)		
Off state leakage current (Max.)		10μA	1μA (N.O.) , 10μA (N.C.)				
Input	LED forward current		50mA	50mA			
	LED reverse voltage		5V	5V			
	Peak forward current		1A	1A			
	Power dissipation		75mW	75mW			
	LED operate current	Typ.	1.3mA	1.4mA			
		Max.	3 mA	3 mA			
	LED turn off current	Min.	0.4mA	0.4mA			
		Typ.	1.2mA	1.3mA			
LED dropout voltage	Typ.	1.25V (1.14V at IF = 5mA)	1.25V (1.14V at IF = 5mA)				
	Max.	1.5V	1.5V				
Turn on time		Typ.	0.8ms	1ms (N.O.) , 3ms (N.C.)	0.5ms (N.O.) , 1ms (N.C.)	0.5ms (N.O.) , 0.8ms (N.C.)	
		Max.	3 ms	4ms (N.O.) , 10ms (N.C.)	3ms	3ms	
Turn off time		Typ.	0.2ms	0.05ms (N.O.) , 0.2ms (N.C.)	0.08ms (N.O.) , 0.3ms (N.C.)	0.08ms (N.O.) , 0.2ms (N.C.)	
		Max.	1 ms	1ms	1ms	1ms	
Total power dissipation			850mW	850mW			
I/O isolation voltage			5,000Vrms	5,000Vrms			
I/O capacitance	Typ.	0.8pF	0.8pF				
	Max.	1.5pF	1.5pF				
Initial I/O isolation resistance (Min.)			1,000MΩ	1,000MΩ			
Safety standards			UL, VDE	UL, VDE			
Mass (weight) (approx.)			0.4g	0.4g			

PhotoMOS® Selector Chart


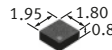

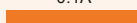


CC Capacitor Coupled isolation

GU GE **CC** RF HE HF HS PD Power

Product name			CC TSON Low C × R	
Contact configuration			1 Form A	
Number of terminals			4pin	
Appearance configuration *Standoff height included 				

CC Capacitor Coupled isolation

 GU GE **CC** RF HE HF HS PD Power

Product name			CC TSON Low C × R			CC TSON	
Contact configuration			1 Form A			1 Form B	
Number of terminals			4pin			4pin	
Appearance configuration <small>*Standoff height included</small> <div>mm</div>							
Features			Super miniature TSON package, Capacitor Coupled isolation type			Normally closed, ultra-miniature TSON type using capacitive isolation technology	
Part No.			AQY2C2R2PX	AQY2C1R3PX	AQY2C5R3PX	AQY4C2PX	
Output	Load voltage		AC/DC			AC/DC	
		Peak AC	60V	40V	100V	60V	
		DC	60V	40V	100V	60V	
	Continuous load current	1A					
		0.5A					
							
	Peak load current		0.9A	0.3A	0.3A	0.4A	
	Power dissipation		250mW			250mW	
	On resistance	Typ.	0.9Ω (VIN = 5V)	10.5Ω (VIN = 5V)	9Ω (VIN = 5V)	4Ω (VIN = 0V)	
		Max.	1.5Ω (VIN = 5V)	15 Ω (VIN = 5V)	14Ω (VIN = 5V)	8Ω (VIN = 0V)	
Output capacitance (Typ.)		27pF	1.2pF	5.8pF	70pF		
Off state leakage current (Max.)		10nA			10nA		
Input	Input voltage		5.5V			5.5V	
	Input reverse voltage		0.2V			0.2V	
	Power dissipation		1.2mW			1.2mW	
	Operate voltage	Typ.	1.7V	2.2V	2.0V	1.6V	
		Max.	2.5V	2.5V	2.5V	2.5V	
	Turn off voltage	Min.	0.5V	0.5V	0.5V	0.5V	
		Typ.	1.4V	1.5V	1.5V	1.4V	
	Input current	Typ.	0.09mA (VIN = 5V)			0.09mA (VIN = 5V)	
Max.		0.2 mA (VIN = 5V)			0.2 mA (VIN = 5V)		
Turn on time		Typ.	0.08ms (VIN = 5V)	0.01ms (VIN = 5V)	0.03ms (VIN = 5V)	0.06ms (VIN = 5V)	
		Max.	0.5 ms (VIN = 5V)	0.1 ms (VIN = 5V)	0.2 ms (VIN = 5V)	0.5 ms (VIN = 5V)	
Turn off time		Typ.	0.1 ms (VIN = 5V)	0.02ms (VIN = 5V)	0.04ms (VIN = 5V)	0.5 ms (VIN = 5V)	
		Max.	0.5 ms (VIN = 5V)	0.2 ms (VIN = 5V)	0.5 ms (VIN = 5V)	1.5 ms (VIN = 5V)	
Total power dissipation			250mW			250mW	
I/O isolation voltage			200Vrms			200Vrms	
I/O capacitance	Typ.	1.2pF			1.2pF		
	Max.	3 pF			3 pF		
Initial I/O isolation resistance (Min.)			—			—	
Safety standards			—			—	
Mass (weight) (approx.)			0.007g			0.007g	

PhotoMOS® Selector Chart

RF

Low on-resistance & low output capacitance

GU

GE

CC

RF


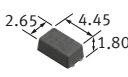
HE

HF



HS

PD

Power

Product name			RF VSSOP C × R3	RF SSOP C × R3
Contact configuration			1 Form A	1 Form A
Number of terminals			4pin	4pin
Appearance configuration *Standoff height included <div>mm</div>				
Features			C×R3 type, VSSOP package, 20 V load voltage	C×R3 type, SSOP package, 20 V load voltage
Part No.			AQY221N5TY	AQY221N5VY
Output	Load voltage		AC/DC	AC/DC
		Peak AC	20V	20V
		DC	20V	20V
	Continuous load current	1A		
		0.5A		
			0.18A	0.18A
	Peak load current		—	0.3A
	Power dissipation		250mW	250mW
	On resistance	Typ.	2.8Ω	2.8Ω
		Max.	4.5Ω	4.5Ω
	Output capacitance (Typ.)		1.1pF	1.1pF
	Off state leakage current (Max.)		10nA	10nA
Input	LED forward current		50mA	50mA
	LED reverse voltage		5V	5V
	Peak forward current		1A	1A
	Power dissipation		75mW	75mW
	LED operate current	Typ.	0.7mA	0.8mA
		Max.	3 mA	3 mA
	LED turn off current	Min.	0.2mA	0.2mA
		Typ.	0.6mA	0.7mA
	LED dropout voltage	Typ.	1.14V (1.35V at I _F = 50mA)	1.35V (1.14V at I _F = 5mA)
Max.		1.5V	1.5V	
Turn on time		Typ.	0.02ms	0.02ms
		Max.	0.2 ms	0.2 ms
Turn off time		Typ.	0.01ms	0.01ms
		Max.	0.2 ms	0.2 ms
Total power dissipation		300mW	300mW	
I/O isolation voltage		200Vrms	1,500Vrms	
I/O capacitance	Typ.	0.4pF	0.8pF	
	Max.	1.5pF	1.5pF	
Initial I/O isolation resistance (Min.)		—	1,000MΩ	
Safety standards		—	—	
Mass (weight) (approx.)		0.026g	0.064g	

RF Low on-resistance & low output capacitanceGU GE CC **RF** HE HF HS PD Power

Product name			RF VSSOP C × R5		RF VSSOP C × R10		
Contact configuration			1 Form A		1 Form A		
Number of terminals			4pin		4pin		
Appearance configuration *Standoff height included							
mm							
Features			4.6 mm ² mounting area C×R 10: 30 V/40 V load voltage C×R 5: 25 V load voltage				
Part No.			AQY221N3TY		AQY221R6TY	AQY221R2TY	AQY221N2TY
Output	Load voltage		AC/DC		AC/DC		
		Peak AC	25V		30V	40V	
		DC	25V		30V	40V	
	Continuous load current	1A					
		0.5A					
			0.15A		0.8A		
					0.25A		0.12A
	Peak load current		—		1.5A	0.75A	—
	Power dissipation		250mW		250mW		
	On resistance	Typ.	5.5Ω		0.18Ω	0.8 Ω	9.5Ω
		Max.	7.5Ω		0.35Ω	1.25Ω	12.5Ω
Output capacitance (Typ.)		1.1pF		37.5pF	14pF	1.1pF	
Off state leakage current (Max.)		10nA		10nA			
Input	LED forward current		50mA		50mA		
	LED reverse voltage		5V		5V		
	Peak forward current		1A		1A		
	Power dissipation		75mW		75mW		
	LED operate current	Typ.	0.7mA		0.5mA	0.5mA	0.7mA
		Max.	3 mA		3 mA	3 mA	3 mA
	LED turn off current	Min.	0.2mA		0.1mA	0.1mA	0.2mA
		Typ.	0.6mA		0.4mA	0.4mA	0.6mA
	LED dropout voltage	Typ.	1.14V (1.35V at I _F = 50mA)		1.14V (1.35V at I _F = 50mA)		
		Max.	1.5 V		1.5 V		
Turn on time		Typ.	0.01ms		0.1 ms	0.1 ms	0.01ms
		Max.	0.2 ms		0.5 ms	0.5 ms	0.2 ms
Turn off time		Typ.	0.03ms		0.06ms	0.06ms	0.03ms
		Max.	0.2 ms		0.2 ms	0.2 ms	0.2 ms
Total power dissipation			300mW		300mW		
I/O isolation voltage			200Vrms		200Vrms		
I/O capacitance		Typ.	0.4pF		0.4pF		
		Max.	1.5pF		1.5pF		
Initial I/O isolation resistance (Min.)			—		—		
Safety standards			—		—		
Mass (weight) (approx.)			0.026g		0.026g		

PhotoMOS® Selector Chart

RF

Low on-resistance & low output capacitance

GU

GE

CC

RF




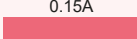

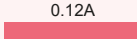
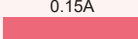
HE

HF

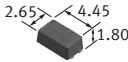
HS

PD

Power

Product name			RF SON C × R5	RF SON C × R10		RF SSOP C × R5
Contact configuration			1 Form A	1 Form A		1 Form A
Number of terminals			4pin	4pin		4pin
Appearance configuration <small>*Standoff height included</small> mm						
Features			Micro-miniature SON package C×R10: 40V load voltage C×R5: 25V load voltage			Miniature SSOP package, 25 V load voltage
Part No.			AQY221N3MY	AQY221R2MY	AQY221N2MY	AQY221N3VY
Output	Load voltage		AC/DC	AC/DC		AC/DC
		Peak AC	25V	40V	40V	25V
		DC	25V	40V	40V	25V
	Continuous load current		1A			
			0.5A			
						
	Peak load current		—	0.75A	—	0.4A
	Power dissipation		250mW	250mW		250mW
	On resistance	Typ.	5.5Ω	0.8 Ω	9.5Ω	5.5Ω
		Max.	7.5Ω	1.25Ω	12.5Ω	7.5Ω
	Output capacitance (Typ.)		1.1pF	14pF	1.1pF	1pF
	Off state leakage current (Max.)		10nA	10nA		10nA
Input	LED forward current		50mA	50mA		50mA
	LED reverse voltage		5V	5V		5V
	Peak forward current		1A	1A		1A
	Power dissipation		75mW	75mW		75mW
	LED operate current	Typ.	1 mA	0.8mA	1 mA	1 mA
		Max.	3 mA	3 mA	3 mA	3 mA
	LED turn off current	Min.	0.2mA	0.1mA	0.2mA	0.2mA
		Typ.	0.9mA	0.7mA	0.9mA	0.9mA
	LED dropout voltage	Typ.	1.35V (1.14V at IF = 5mA)	1.35V (1.14V at IF = 5mA)		1.35V (1.14V at IF = 5mA)
Max.		1.5V	1.5V		1.5V	
Turn on time		Typ.	0.02ms	0.2 ms	0.02ms	0.02ms
		Max.	0.2 ms	0.5 ms	0.2 ms	0.2 ms
Turn off time		Typ.	0.02ms	0.04ms	0.02ms	0.02ms
		Max.	0.2 ms	0.2 ms	0.2 ms	0.2 ms
Total power dissipation		300mW	300mW		300mW	
I/O isolation voltage		200Vrms	200Vrms		1,500Vrms	
I/O capacitance	Typ.	0.8pF	0.8pF		0.8pF	
	Max.	1.5pF	1.5pF		1.5pF	
Initial I/O isolation resistance (Min.)		—	—		1,000MΩ	
Safety standards		—	—		—	
Mass (weight) (approx.)		0.024g	0.024g		0.064g	

RF Low on-resistance & low output capacitanceGU GE CC **RF** HE HF HS PD Power

Product name			RF SSOP C × R10			
Contact configuration			1 Form A			
Number of terminals			4pin			
Appearance configuration *Standoff height included						
mm						
Features			Miniature SSOP package, 30 V/40 V load voltage			
Part No.			AQY221R2VY	AQY221R4VY	AQY221N2VY	AQY221R6VY
Output	Load voltage		AC/DC			
		Peak AC	40V	40V	40V	30V
		DC	40V	40V	40V	30V
	Continuous load current	1A				
		0.5A				
			0.25A	0.5A	0.12A	1A
	Peak load current		0.75A	1A	0.3A	1.5A
	Power dissipation		250mW			
	On resistance	Typ.	0.75Ω	0.55Ω	9.5Ω	0.18Ω
		Max.	1.25Ω	1 Ω	12.5Ω	0.35Ω
	Output capacitance (Typ.)		12.5pF	24pF	1pF	37.5pF
	Off state leakage current (Max.)		10nA			
Input	LED forward current		50mA			
	LED reverse voltage		5V			
	Peak forward current		1A			
	Power dissipation		75mW			
	LED operate current	Typ.	0.9mA		1 mA	0.7mA
		Max.	3 mA		3 mA	3 mA
	LED turn off current	Min.	0.1mA		0.2mA	0.1mA
		Typ.	0.8mA		0.9mA	0.6mA
	LED dropout voltage	Typ.	1.35V (1.14V at If = 5mA)			
		Max.	1.5V			
Turn on time		Typ.	0.1ms	0.25ms	0.02ms	0.2 ms
		Max.	0.5ms	0.75ms	0.5 ms	0.5 ms
Turn off time		Typ.	0.08ms		0.02ms	0.07ms
		Max.	0.2 ms		0.2 ms	0.2 ms
Total power dissipation			300mW			
I/O isolation voltage			1,500Vrms			
I/O capacitance		Typ.	0.8pF			
		Max.	1.5pF			
Initial I/O isolation resistance (Min.)			1,000MΩ			
Safety standards			—			
Mass (weight) (approx.)			0.064g			

PhotoMOS® Selector Chart

RF

Low on-resistance & low output capacitance

GU

GE

CC

RF

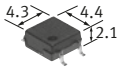
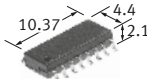
HE

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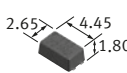




HS

PD

Power

Product name			RF SOP C × R10		RF SOP C × R10	
Contact configuration			1 Form A		4 Form A	
Number of terminals			4pin		16pin	
Appearance configuration *Standoff height included mm						
Features			Miniature SOP4-pin C×R10 40V load voltage		Space-saving C×R type 4 channels in a SOP16-pin package	
Part No.			AQY221R2S		AQY221N2S	
Output	Load voltage		AC/DC		AC/DC	
		Peak AC	40V	40V	40V	40V
		DC	40V	40V	40V	40V
	Continuous load current	1A				
		0.5A				
			0.25A	0.12A	0.16A	0.06A
	Peak load current		0.75A	0.3A	0.2A	0.12A
	Power dissipation		300mW		600mW	
	On resistance	Typ.	0.8 Ω	9.5Ω	0.8 Ω	9.5Ω
		Max.	1.25Ω	12.5Ω	1.25Ω	12.5Ω
Output capacitance (Typ.)		13pF	1pF	13pF	1pF	
Off state leakage current (Max.)		10nA		10nA		
Input	LED forward current		50mA		50mA	
	LED reverse voltage		5V		5V	
	Peak forward current		1A		1A	
	Power dissipation		75mW		75mW	
	LED operate current	Typ.	0.5mA	0.9 mA	0.5mA	0.9 mA
		Max.	3 mA	3 mA	3 mA	3 mA
	LED turn off current	Min.	0.1mA	0.2 mA	0.1mA	0.1 mA
		Typ.	0.4mA	0.85mA	0.4mA	0.85mA
	LED dropout voltage	Typ.	1.25V (1.14V at IF = 5mA)		1.25V (1.14V at IF = 5mA)	
		Max.	1.5V		1.5V	
Turn on time		Typ.	0.1 ms	0.03ms	0.15ms	0.03vms
		Max.	0.5 ms	0.5 ms	0.5 ms	0.2 ms
Turn off time		Typ.	0.06ms	0.03ms	0.06ms	0.03ms
		Max.	0.2 ms	0.2 ms	0.2 ms	0.2 ms
Total power dissipation		350mW		650mW		
I/O isolation voltage		500Vrms	1,500Vrms	500Vrms		
I/O capacitance	Typ.	0.8pF		0.8pF		
	Max.	1.5pF		1.5pF		
Initial I/O isolation resistance (Min.)		1,000MΩ		1,000MΩ		
Safety standards		UL		UL		
Mass (weight) (approx.)		0.084g		0.195g		

RF Low on-resistance & low output capacitanceGU GE CC **RF** HE HF HS PD Power

Product name			RF VSSOP Low C × R		RF SSOP Low C × R			RF SOP Low C × R		
Contact configuration			1 Form A		1 Form A			1 Form A		
Number of terminals			4pin		4pin			4pin		
Appearance configuration *Standoff height included mm										
Features			Low C×R type VSSOP package 60V and 100 V load voltage		Low C×R type SSOP package 60 V, 80 V and 100 V load voltage			Miniature SOP4-pin type Low C×R 60V/80V load voltage		
Part No.			AQY222R2TY	AQY225R3TY	AQY222R2VY	AQY225R2VY	AQY225R3VY	AQY222R1S	AQY225R1S	AQY225R2S
Output	Load voltage		AC/DC		AC/DC			AC/DC		
		Peak AC	60V	100V	60V	80V	100V	60V	80V	80V
		DC	60V	100V	60V	80V	100V	60V	80V	80V
	Continuous load current	1A								
		0.5A								
	Peak load current		1.2A	0.3A	1.2A	0.3A	0.3A	1A	0.7A	0.45A
	Power dissipation		250mW		250mW			300mW		
	On resistance	Typ.	0.8 Ω	8.8Ω	0.8 Ω	10.5Ω	8.8Ω	0.8Ω	0.8Ω	10.5Ω
		Max.	1.25Ω	14 Ω	1.25Ω	15 Ω	14 Ω	1.2Ω	1.2Ω	15 Ω
	Output capacitance (Typ.)		27pF	5.8pF	27pF	4.5pF	5.8pF	24.5pF	37.5pF	4.5pF
Off state leakage current (Max.)		10nA		10nA			10nA			
Input	LED forward current		50mA		50mA			50mA		
	LED reverse voltage		5V		5V			5V		
	Peak forward current		1A		1A			1A		
	Power dissipation		75mW		75mW			75mW		
	LED operate current	Typ.	0.4 mA		0.5 mA			0.5 mA		
		Max.	3 mA		3 mA			3 mA		
	LED turn off current	Min.	0.1 mA		0.1 mA			0.1 mA		
		Typ.	0.35mA		0.45mA			0.45mA		
LED dropout voltage	Typ.	1.14V (1.35V at IF = 50mA)		1.32V (1.14V at IF = 5mA)			1.32V (1.14V at IF = 5mA)			
	Max.	1.5V		1.5V			1.5V			
Turn on time		Typ.	0.12ms	0.04ms	0.15ms	0.05ms		0.15ms	0.25ms	0.05ms
		Max.	0.5 ms	0.5 ms	0.5 ms	0.5 ms		0.5 ms	0.75ms	0.5 ms
Turn off time		Typ.	0.08ms	0.05ms	0.08ms	0.05ms		0.06ms	0.08ms	0.05ms
		Max.	0.2 ms	0.2 ms	0.2 ms	0.2 ms		0.2 ms	0.2 ms	0.2 ms
Total power dissipation			300mW		300mW			350mW		
I/O isolation voltage			200Vrms		1,500Vrms			1,500Vrms		
I/O capacitance	Typ.	0.4pF		0.8pF			0.8pF			
	Max.	1.5pF		1.5pF			1.5pF			
Initial I/O isolation resistance (Min.)			—		1,000MΩ			1,000MΩ		
Safety standards			—		—			UL		
Mass (weight) (approx.)			0.026g		0.064g			0.084g		

PhotoMOS® Selector Chart

RF

Low on-resistance & low output capacitance

GU

GE

CC

RF

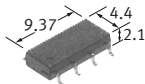
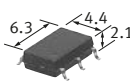
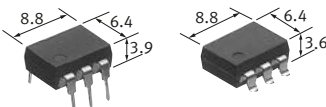
HE

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HS

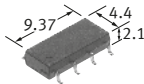
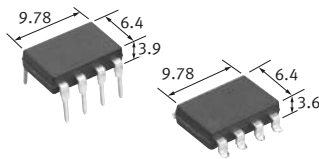
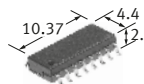




PD

Power

Product name			RF SOP Low C × R	RF SOP Low on-resistance		RF Low on-resistance		
Contact configuration			2 Form A	1 Form A		1 Form A		
Number of terminals			8pin	6pin		6pin		
Appearance configuration <small>*Standoff height included</small> mm								
Features			Miniature SOP8-pin type Low C×R High load voltage of 250V	Miniature SOP6-pin type Low on-resistance 200V/400V load voltage		DIP6-pin type featuring low on-resistance 200V/400V load voltage		
Part No.			AQW223R2S	AQV227NS	AQV224NS	AQV227N	AQV224N	
Output	Load voltage		AC/DC	AC/DC		AC/DC		
		Peak AC	250V	200V	400V	200V	400V	
		DC	250V	200V	400V	200V	400V	
	Continuous load current <small>*6-pin type: in case of A connection</small>		1A					
			0.5A					
			0.14A	0.05A	0.04A	0.07A	0.05A	
	Peak load current		0.42A	0.15A	0.12A	0.21A	0.15A	
	Power dissipation		600mW	450mW		360mW		
	On resistance		Typ.	11Ω	30Ω	70Ω	30Ω	70Ω
	<small>*6-pin type: in case of A connection</small>		Max.	15Ω	50Ω	100Ω	50Ω	100Ω
Output capacitance (Typ.)		33pF		10pF		10pF		
Off state leakage current (Max.)		10nA		10nA		10nA		
Input	LED forward current		50mA	50mA		50mA		
	LED reverse voltage		5V	5V		5V		
	Peak forward current		1A	1A		1A		
	Power dissipation		75mW	75mW		75mW		
	LED operate current	Typ.	0.5 mA	0.7 mA		0.9 mA		
		Max.	3 mA	3 mA		3 mA		
	LED turn off current	Min.	0.1 mA	0.4 mA		0.4 mA		
		Typ.	0.45mA	0.65mA		0.85mA		
	LED dropout voltage	Typ.	1.32V (1.14V at I _F = 5mA)	1.25V (1.14V at I _F = 5mA)		1.25V (1.14V at I _F = 5mA)		
Max.		1.5V	1.5V		1.5V			
Turn on time		Typ.	0.15ms	0.12ms	0.1ms	0.2 ms		
		Max.	0.5 ms	0.5 ms	0.5ms	0.5 ms		
Turn off time		Typ.	0.05ms	0.05ms		0.08ms		
		Max.	0.2 ms	0.2 ms		0.2 ms		
Total power dissipation			650mW	500mW		410mW		
I/O isolation voltage			1,500Vrms	1,500Vrms		1,500Vrms		
I/O capacitance		Typ.	0.8pF	0.8pF		0.8pF		
		Max.	1.5pF	1.5pF		1.5pF		
Initial I/O isolation resistance (Min.)			1,000MΩ	1,000MΩ		1,000MΩ		
Safety standards			UL	UL		UL		
Mass (weight) (approx.)			0.195g	0.125g		0.453g		

RF Low on-resistance & low output capacitance

 GU GE CC **RF** HE HF HS PD Power

Product name			RF SOP Low on-resistance	RF Low on-resistance		RF SOP Low C × R
Contact configuration			2 Form A	2 Form A		4 Form A
Number of terminals			8pin	8pin		16pin
Appearance configuration <small>*Standoff height included</small> mm						
Features			Miniature SOP8-pin type Low on-resistance 200V load voltage	DIP8-pin type featuring low on-resistance 200V/400V load voltage		Space-saving SOP16-pin type Low on-resistance 80V load voltage
Part No.			AQW227NS	AQW227N	AQW224N	AQS225R2S
Output	Load voltage		AC/DC	AC/DC		AC/DC
		Peak AC	200V	200V	400V	80V
		DC	200V	200V	400V	80V
	Continuous load current	1A				
		0.5A				
						
	Peak load current		0.15A	0.15A	0.12A	0.2A
	Power dissipation		600mW	800mW		600mW
	On resistance	Typ.	30Ω	30Ω	70 Ω	10.5Ω
		Max.	50Ω	50Ω	100Ω	15 Ω
	Output capacitance (Typ.)		10pF	10pF		4.5pF
Off state leakage current (Max.)		10nA	10nA		10nA	
Input	LED forward current		50mA	50mA		50mA
	LED reverse voltage		5V	5V		5V
	Peak forward current		1A	1A		1A
	Power dissipation		75mW	75mW		75mW
	LED operate current	Typ.	0.7 mA	0.9mA		0.9 mA
		Max.	3 mA	3 mA		3 mA
	LED turn off current	Min.	0.4 mA	0.4mA		0.3 mA
		Typ.	0.65mA	0.8mA		0.85mA
	LED dropout voltage	Typ.	1.25V (1.14V at If = 5mA)	1.25V (1.14V at If = 5mA)		1.25V (1.14V at If = 5mA)
		Max.	1.5V	1.5V		1.5V
Turn on time		Typ.	0.25ms	0.2 ms		0.04ms
		Max.	0.5 ms	0.5 ms		0.3 ms
Turn off time		Typ.	0.08ms	0.08ms		0.07ms
		Max.	0.2 ms	0.2 ms		0.2 ms
Total power dissipation			650mW	850mW		650mW
I/O isolation voltage			1,500Vrms	1,500Vrms		1,500Vrms
I/O capacitance	Typ.	0.8pF	0.8pF		0.8pF	
	Max.	1.5pF	1.5pF		1.5pF	
Initial I/O isolation resistance (Min.)			1,000MΩ	1,000MΩ		1,000MΩ
Safety standards			UL	UL		UL
Mass (weight) (approx.)			0.195g	0.5g		0.195g

PhotoMOS® Selector Chart

HE

Low on-resistance & Economical

GU

GE

CC

RF

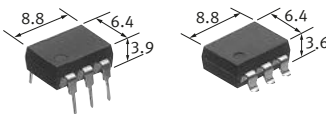
HE

HF

HS

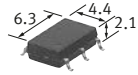
PD

Power

Product name			HE										
Contact configuration			1 Form A										
Number of terminals			6pin										
Appearance configuration			<div></div>										
mm													
Features			DIP6-pin type with low on-resistance and high insulation										
Part No.			AQV251	AQV252	AQV255	AQV257	AQV253	AQV254	AQV259	AQV258	AQV253H	AQV254H	AQV256H
Output	Load voltage		AC/DC										
		Peak AC	40V	60V	100V	200V	250V	400V	1,000V	1,500V	250V	400V	600V
		DC	40V	60V	100V	200V	250V	400V	1,000V	1,500V	250V	400V	600V
	Continuous load current	1A											
		0.5A	<div><div></div>0.5A</div>	<div><div></div>0.4A</div>	<div><div></div>0.35A</div>	<div><div></div>0.25A</div>	<div><div></div>0.2A</div>	<div><div></div>0.15A</div>	<div><div></div>0.03A</div>	<div><div></div>0.02A</div>	<div><div></div>0.2A</div>	<div><div></div>0.15A</div>	<div><div></div>0.13A</div>
	Peak load current		1.8A	1.5A	1.0A	0.75A	0.6A	0.5A	0.09A	0.06A	0.6A	0.5A	0.4A
	Power dissipation		360mW										
	On resistance	Typ.	0.6Ω	0.74Ω	1.8Ω	2.6Ω	5.5Ω	12.4Ω	85Ω	345Ω	5.5Ω	12.4Ω	20Ω
		Max.	1 Ω	1.4Ω	2.5Ω	4 Ω	8 Ω	16 Ω	200Ω	500Ω	8 Ω	16 Ω	30Ω
	Output capacitance (Typ.)		350pF				170pF			80pF		170pF	
Off state leakage current (Max.)		1μA						10μA		1μA			
Input	LED forward current		50mA										
	LED reverse voltage		5V										
	Peak forward current		1A										
	Power dissipation		75mW										
	LED operate current	Typ.	0.9mA								1.4mA		
		Max.	3 mA								3 mA		
	LED turn off current	Min.	0.4mA								0.4mA		
		Typ.	0.8mA								1.3mA		
	LED dropout voltage	Typ.	1.25V (1.14V at If = 5mA)										
Max.		1.5V											
Turn on time		Typ.	1.7ms	1.4ms	0.9 ms	1.5ms	0.8ms		0.6 ms	0.35ms	2.4 ms	1.8 ms	1.2 ms
		Max.	3 ms	3 ms	2 ms	3 ms	2 ms		1 ms	1 ms	4 ms	3 ms	3 ms
Turn off time		Typ.	0.07ms		0.09ms	0.1ms	0.06ms	0.05ms	0.04ms	0.04ms	0.06ms	0.05ms	0.06ms
		Max.	0.2 ms		0.2 ms	0.2ms	0.2 ms	0.2 ms	0.2 ms	0.2 ms	0.2 ms	0.2 ms	0.2 ms
Total power dissipation			410mW										
I/O isolation voltage			1,500Vrms								5,000Vrms		
I/O capacitance	Typ.	1.3pF											
	Max.	3 pF											
Initial I/O isolation resistance (Min.)			1,000MΩ										
Safety standards			UL							UL, VDE			
Mass (weight) (approx.)			0.453g										

HE Low on-resistance & Economical

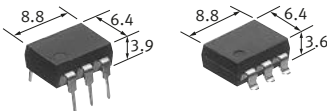
GU GE CC RF HE HF HS PD Power

Product name			HE SOP High Capacity			
Contact configuration			1 Form A			
Number of terminals			6pin			
Appearance configuration <small>*Standoff height included</small>						
mm						
Features			Miniature SOP6-pin type with high capacity up to Max. 3.3A in the series			
Part No.			AQV252G2S	AQV252G3S	AQV255GS	AQV255G3S
Output	Load voltage		AC/DC			
		Peak AC	50V	60V	80V	100V
		DC	50V	60V	80V	100V
	Continuous load current <small>*6-pin type: in case of A connection</small>	3A	3A	3.3A		
		2A				
		1A			1.25A	2.2A
	Peak load current		6A	10A	3A	6.6A
	Power dissipation		450mW			
	On resistance <small>*6-pin type: in case of A connection</small>	Typ.	0.04Ω	0.033Ω	0.09Ω	0.07Ω
		Max.	0.07Ω	0.06 Ω	0.15Ω	0.12Ω
Output capacitance (Typ.)		360pF	510pF	300pF	430pF	
Off state leakage current (Max.)		1μA				
Input	LED forward current		50mA			
	LED reverse voltage		5V			
	Peak forward current		1A			
	Power dissipation		75mW			
	LED operate current	Typ.	0.6mA	0.5mA	0.5mA	0.5mA
		Max.	3 mA	3 mA	3 mA	3 mA
	LED turn off current	Min.	0.2mA	0.2mA	0.2mA	0.2mA
		Typ.	0.5mA	0.4mA	0.4mA	0.4mA
	LED dropout voltage	Typ.	1.32V (1.14V at If = 5mA)			
		Max.	1.5V			
Turn on time	Typ.	1.5 ms	1.8 ms	1.3ms	1.8 ms	
	Max.	5.0 ms	5 ms	5.0ms	5 ms	
Turn off time	Typ.	0.08ms	0.15ms	0.1ms	0.15ms	
	Max.	0.5 ms	0.5 ms	0.5ms	0.5 ms	
Total power dissipation		500mW				
I/O isolation voltage		1,500Vrms				
I/O capacitance	Typ.	0.8pF				
	Max.	1.5pF				
Initial I/O isolation resistance (Min.)		1,000MΩ				
Safety standards		UL, VDE	UL	UL, VDE	UL	
Mass (weight) (approx.)		0.125g				

PhotoMOS® Selector Chart

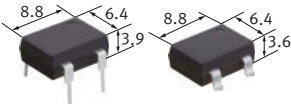
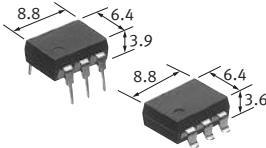


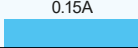

HE Low on-resistance & Economical

GU GE CC RF **HE** HF HS PD Power

Product name			HE High Capacity			
Contact configuration			1 Form A			
Number of terminals			6pin			
Appearance configuration						
*Standoff height included						
mm						
Features			Capable of Max.3.5A high capacity load current control in the series			
Part No.			AQV251G	AQV252G	AQV252G3	AQV255G3
Output	Load voltage		AC/DC			
		Peak AC	30V	60V	60V	100V
		DC	30V	60V	60V	100V
	Continuous load current	3A	3.5A	2.5A	3.5A	2.4A
		2A				
		1A				
	Peak load current		6.0A	6.0A	10A	7.0A
	Power dissipation		600mW			
	On resistance	Typ.	0.035Ω	0.08Ω	0.033Ω	0.07Ω
		Max.	0.08 Ω	0.12Ω	0.06 Ω	0.12Ω
Output capacitance (Typ.)		330pF	240pF	510pF	430pF	
Off state leakage current (Max.)		1μA				
Input	LED forward current		50mA			
	LED reverse voltage		5V			
	Peak forward current		1A			
	Power dissipation		75mW			
	LED operate current	Typ.	0.55mA	0.5mA	0.5mA	0.5mA
		Max.	3 mA	3 mA	3 mA	3 mA
	LED turn off current	Min.	0.2mA			
		Typ.	0.45mA		0.4mA	
	LED dropout voltage	Typ.	1.32V (1.14V at If = 5mA)			
		Max.	1.5V			
Turn on time	Typ.	1.1ms		1.8ms		
	Max.	5ms				
Turn off time	Typ.	0.1ms	0.25ms	0.15ms	0.15ms	
	Max.	0.5ms	0.5 ms	0.5 ms	0.5 ms	
Total power dissipation		650mW				
I/O isolation voltage		1,500Vrms				
I/O capacitance	Typ.	0.8pF				
	Max.	1.5pF				
Initial I/O isolation resistance (Min.)		1,000MΩ				
Safety standards		UL, VDE		UL	UL	
Mass (weight) (approx.)		0.453g				

HE Low on-resistance & Economical

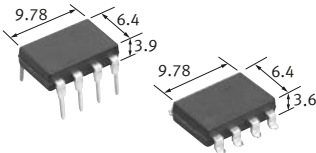
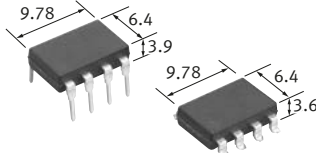
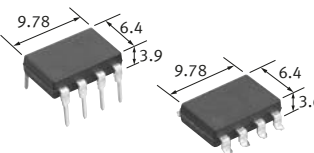
 GU GE CC RF **HE** HF HS PD Power

Product name			HE			
Contact configuration			1 Form A	1 Form B		
Number of terminals			5pin	6pin		
Appearance configuration <small>*Standoff height included</small> mm						
Features			Ideal for industrial battery monitoring system (BMS)	Normally closed DIP6-pin type Low on-resistance with 250V/400V load voltage		
Part No.			AQV258H5	AQV453	AQV454	AQV454H
Output	Load voltage		AC/DC	AC/DC		
		Peak AC	1500V	250V	400V	400V
		DC	1500V	250V	400V	400V
	Continuous load current <small>*6-pin type: in case of A connection</small>		1A			
			0.5A			
						
	Peak load current		0.06A	0.6A	0.5A	
	Power dissipation		360mW	360mW		
	On resistance <small>*6-pin type: in case of A connection</small>	Typ.	315Ω	5.5Ω	11Ω	
		Max.	500Ω	8 Ω	16Ω	
Output capacitance (Typ.)		60pF	350pF	170pF		
Off state leakage current (Max.)		10μA	1μA		10μA	
Input	LED forward current		50mA	50mA		
	LED reverse voltage		5V	5V		
	Peak forward current		1A	1A		
	Power dissipation		75mW	75mW		
	LED operate current	Typ.	1.4mA	1 mA	0.9mA	1.4mA
		Max.	3.0mA	3 mA	3 mA	3 mA
	LED turn off current	Min.	0.2mA	0.4mA	0.4mA	0.4mA
		Typ.	1.3mA	0.9mA	0.8mA	1.3mA
	LED dropout voltage	Typ.	1.32V (1.16V at I _F = 10mA)	1.25V (1.14V at I _F = 5mA)		
Max.		1.5V	1.5V			
Turn on time	Typ.	0.35ms	1.52ms	1.2 ms	1.8 ms	
	Max.	1.0 ms	3 ms	2 ms	3 ms	
Turn off time	Typ.	0.04ms	0.4 ms	0.36ms	0.4 ms	
	Max.	0.2 ms	1 ms	1 ms	1 ms	
Total power dissipation		410mW	410mW			
I/O isolation voltage		5000Vrms	1,500Vrms		5,000Vrms	
I/O capacitance	Typ.	1.3pF	1.3pF			
	Max.	3 pF	3 pF			
Initial I/O isolation resistance (Min.)		1,000MΩ	1,000MΩ			
Safety standards		UL	UL		UL, VDE	
Mass (weight) (approx.)		0.45g	0.453g			

PhotoMOS® Selector Chart

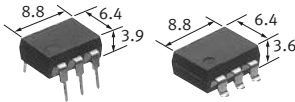
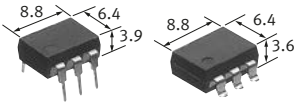
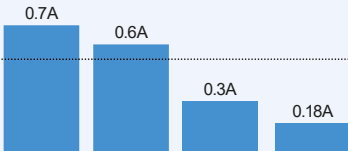
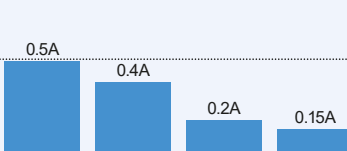
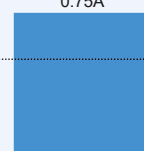
HE Low on-resistance & Economical

GU GE CC RF **HE** HF HS PD Power

Product name			HE		
Contact configuration			2 Form A	2 Form B	1 Form A & 1 Form B
Number of terminals			8pin	8pin	8pin
Appearance configuration *Standoff height included					
mm					
Features			DIP8-pin type featuring low on-resistance with 400V load voltage	Normally closed (2 Form B) DIP6-pin type Low on-resistance with 400V load voltage	Both 1 Form A and 1 Form B contacts incorporated in a compact DIP8-pin with low on-resistance
Part No.			AQW254	AQW454	AQW654
Output	Load voltage		AC/DC	AC/DC	AC/DC
		Peak AC	400V	400V	400V
		DC	400V	400V	400V
	Continuous load current	1A			
		0.5A			
			0.12A	0.12A	0.12A
	Peak load current		0.36A	0.36A	0.36A
	Power dissipation		800mW	800mW	800mW
	On resistance	Typ.	10.2Ω	11Ω	11Ω
		Max.	16 Ω	16Ω	16Ω
	Output capacitance (Typ.)		170pF	170pF	170pF
	Off state leakage current (Max.)		1μA	1μA	1μA
Input	LED forward current		50mA	50mA	50mA
	LED reverse voltage		5V	5V	5V
	Peak forward current		1A	1A	1A
	Power dissipation		75mW	75mW	75mW
	LED operate current	Typ.	0.9mA	0.9mA	0.9mA
		Max.	3 mA	3 mA	3 mA
	LED turn off current	Min.	0.4mA	0.4mA	0.4mA
		Typ.	0.8mA	0.8mA	0.8mA
	LED dropout voltage	Typ.	1.25V (1.14V at If = 5mA)	1.25V (1.14V at If = 5mA)	1.25V (1.14V at If = 5mA)
		Max.	1.5V	1.5V	1.5V
Turn on time		Typ.	0.8 ms	1.2 ms	0.8ms (N.O.) , 1.2ms (N.C.)
		Max.	2 ms	2 ms	2ms
Turn off time		Typ.	0.04ms	0.36ms	0.04ms (N.O.) , 0.36ms (N.C.)
		Max.	0.2 ms	1 ms	1ms
Total power dissipation			850mW	850mW	850mW
I/O isolation voltage			1,500Vrms	1,500Vrms	1,500Vrms
I/O capacitance	Typ.	0.8pF	0.8pF	0.8pF	0.8pF
	Max.	1.5pF	1.5pF	1.5pF	1.5pF
Initial I/O isolation resistance (Min.)			1,000MΩ	1,000MΩ	1,000MΩ
Safety standards			UL	UL	UL
Mass (weight) (approx.)			0.5g	0.5g	0.5g

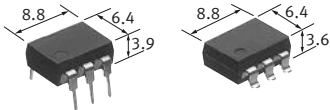
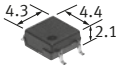
HF Low on-resistance

 GU GE CC RF HE **HF** HS PD Power

Product name			HF								HF High Capacity	
Contact configuration			1 Form A								1 Form A	
Number of terminals			6pin								6pin	
Appearance configuration												
mm												
Features			DIP6-pin type with wide variation Low on-resistance								DIP-6pin type with 1,200 V load voltage and low on resistance (Typ. 1.0Ω)	
Part No.			AQV101	AQV102	AQV103	AQV104	AQV201	AQV202	AQV203	AQV204	AQV209G	
Output	Load voltage		DC				AC/DC				AC/DC	
		Peak AC	—				40V	60V	250V	400V	1,200V	
		DC	40V	60V	250V	400V	40V	60V	250V	400V	1,200V	
	Continuous load current	1A										
		0.5A										
	Peak load current		1.8A	1.5A	0.6A	0.5A	1.8A	1.5A	0.6A	0.5A	2.25A	
	Power dissipation		360mW				360mW				600mW	
	On resistance	Typ.	0.3Ω	0.37Ω	2.7Ω	6.3Ω	0.6Ω	0.74Ω	5.5Ω	12.4Ω	1 Ω	
		Max.	0.5Ω	0.7 Ω	4 Ω	8 Ω	1 Ω	1.4 Ω	8 Ω	16 Ω	2 Ω	
	Output capacitance (Typ.)		600pF		300pF		350pF		170pF		330pF	
Off state leakage current (Max.)		1μA								1μA		
Input	LED forward current		50mA								30mA	
	LED reverse voltage		10V								5V	
	Peak forward current		1A								1A	
	Power dissipation		150mW								120mW	
	LED operate current	Typ.	2.3mA				2.4mA				0.16mA	
		Max.	5 mA				5 mA				3 mA	
	LED turn off current	Min.	0.8mA								0.01mA	
		Typ.	2.2mA								0.05mA	
	LED dropout voltage	Typ.	2.3V								2.95V (3.23V at I _F = 30mA)	
		Max.	3 V								3.4 V	
Turn on time		Typ.	0.23ms	0.22ms	0.13ms	0.09ms	0.38ms	0.41ms	0.21ms	0.18ms	0.5ms	
		Max.	1 ms	1 ms	1 ms	1 ms	1 ms	1 ms	1 ms	1 ms	1 ms	
Turn off time		Typ.	0.07ms			0.08ms			0.07ms		0.05ms	
		Max.	1 ms			1 ms			1 ms		0.5 ms	
Total power dissipation			410mW								650mW	
I/O isolation voltage			1,500Vrms								1,500Vrms	
I/O capacitance	Typ.	1.3pF								1.3pF		
	Max.	3 pF								3 pF		
Initial I/O isolation resistance (Min.)			1,000MΩ								1,000MΩ	
Safety standards			UL								UL	
Mass (weight) (approx.)			0.453g								0.47g	

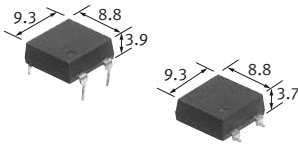
PhotoMOS® Selector Chart

HS	High sensitivity	GU	GE	CC	RF	HE	HF	HS	PD	Power
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Product name			HS	HS SOP				
Contact configuration			1 Form A		1 Form A			
Number of terminals			6pin		4pin			
Appearance configuration								
mm								
Features			DIP6-pin type featuring high sensitivity		Recommended LED forward current 2 mA, High Sensitivity (Low current-consumption) Miniature SOP4-pin Type			
Part No.			AQV234		AQY232S	AQY230S	AQY234S	
Output	Load voltage		AC/DC		AC/DC			
		Peak AC	400V		60V	350V	400V	
		DC	400V		60V	350V	400V	
	Continuous load current		1A					
			0.5A		0.5A			
			0.12A		0.12A			
	Peak load current		0.3A		1.5A	0.3A	0.24A	
	Power dissipation		500mW		300mW			
	On resistance	Typ.	30Ω		0.85Ω	19Ω	27Ω	
		Max.	50Ω		2.5 Ω	25Ω	35Ω	
	Output capacitance (Typ.)		45pF		80pF	32pF	35pF	
Off state leakage current (Max.)		1μA		1μA				
Input	LED forward current		50mA		50mA			
	LED reverse voltage		5V		5V			
	Peak forward current		1A		1A			
	Power dissipation		75mW		75mW			
	LED operate current	Typ.	0.31mA		0.35mA			
		Max.	0.5 mA		0.5 mA			
	LED turn off current	Min.	0.1 mA		0.1 mA			
		Typ.	0.29mA		0.3 mA			
	LED dropout voltage	Typ.	1.25V (1.1V at I _F = 2mA)		1.25V (1.1V at I _F = 2mA)			
		Max.	1.5V		1.5V			
Turn on time		Typ.	0.89ms		1.5 ms	1.2 ms	0.8 ms	
		Max.	2 ms		5 ms	5 ms	5 ms	
Turn off time		Typ.	0.22ms		0.15ms	0.1 ms	0.1 ms	
		Max.	1 ms		2 ms	2 ms	2 ms	
Total power dissipation			550mW		350mW			
I/O isolation voltage			1,500Vrms		1,500Vrms			
I/O capacitance	Typ.	0.8pF		0.8pF				
	Max.	1.5pF		1.5pF				
Initial I/O isolation resistance (Min.)			1,000MΩ		1,000MΩ			
Safety standards			UL		UL, VDE			
Mass (weight) (approx.)			0.453g		0.084g			

PD Flat & power

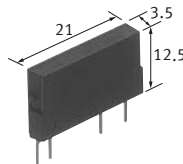
 GU GE CC RF HE HF HS **PD** Power

Product name			PD			
Contact configuration			1 Form A			
Number of terminals			4pin			
Appearance configuration *Standoff height included						
mm						
Features			Flat Power-DIP4-pin type with high capacity up to Max. 2A in the series			
Part No.			AQY272	AQY275	AQY277	AQY274
Output	Load voltage		AC/DC			
		Peak AC	60V	100V	200V	400V
		DC	60V	100V	200V	400V
	Continuous load current	2A	2A	1.3A	0.65A	0.35A
		1A				
		0.5A				
	Peak load current		6A	4A	2A	1A
	Power dissipation		700mW			
	On resistance	Typ.	0.11Ω	0.23Ω	0.7Ω	2.1Ω
		Max.	0.18Ω	0.34Ω	1.1Ω	3.2Ω
Output capacitance (Typ.)		1,400pF		600pF		
Off state leakage current (Max.)		10μA				
Input	LED forward current		50mA			
	LED reverse voltage		5V			
	Peak forward current		1A			
	Power dissipation		75mW			
	LED operate current	Typ.	1 mA			
		Max.	3 mA			
	LED turn off current	Min.	0.4mA			
		Typ.	0.9mA			
	LED dropout voltage	Typ.	1.25V (1.16V at I _F = 10mA)			
Max.		1.5V				
Turn on time		Typ.	2.46ms	2.4 ms	1.12ms	1.65ms
		Max.	5 ms	5 ms	5 ms	5 ms
Turn off time		Typ.	0.22ms	0.21ms	0.1 ms	0.08ms
		Max.	3 ms	3 ms	3 ms	3 ms
Total power dissipation			750mW			
I/O isolation voltage			2,500Vrms			
I/O capacitance		Typ.	0.8pF			
		Max.	1.5pF			
Initial I/O isolation resistance (Min.)			1,000MΩ			
Safety standards			UL, VDE			
Mass (weight) (approx.)			0.62g			

PhotoMOS® Selector Chart

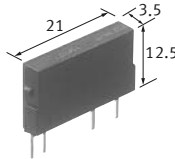
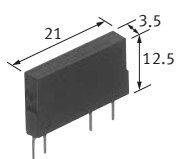
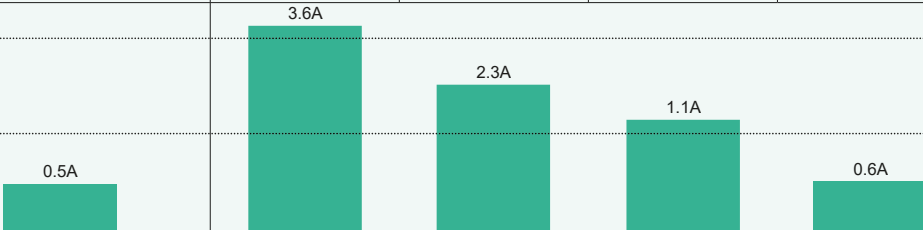
Power Slim & power

GU GE CC RF HE HF HS PD **Power**

Product name			Power								
Contact configuration			1 Form A								
Number of terminals			4pin								
Appearance configuration *Standoff height included											
mm											
Features			Slim type with high capacity up to 4A DC load type also available								
Part No.			AQZ102	AQZ105	AQZ107	AQZ104	AQZ202	AQZ205	AQZ207	AQZ204	
Output	Load voltage		DC				AC/DC				
		Peak AC	—				60V	100V	200V	400V	
		DC	60V	100V	200V	400V	60V	100V	200V	400V	
	Continuous load current		3A	4A	2.6A	1.3A	0.7A	3A	2A	1A	0.5A
	Peak load current		9.0A	6.0A	3.0A	1.5A	9.0A	6.0A	3.0A	1.5A	
	Power dissipation		1.35W				1.6W				
	On resistance	Typ.	0.05Ω	0.081Ω	0.34Ω	1.06Ω	0.11Ω	0.23Ω	0.7Ω	2.1Ω	
		Max.	0.09Ω	0.17 Ω	0.55Ω	1.6 Ω	0.18Ω	0.34Ω	1.1Ω	3.2Ω	
	Output capacitance (Typ.)		1,700pF		900pF		1,400pF		600pF		
	Off state leakage current (Max.)		10μA								
Input	LED forward current		50mA								
	LED reverse voltage		5V								
	Peak forward current		1A								
	Power dissipation		75mW								
	LED operate current	Typ.	1mA								
		Max.	3mA								
	LED turn off current	Min.	0.4mA								
		Typ.	0.9mA								
	LED dropout voltage	Typ.	1.25V (1.16V at IF = 10mA)								
Max.		1.5V									
Turn on time		Typ.	1.66ms	1.89ms	0.83ms	1.01ms	2.46ms	2.4ms	1.12ms	1.65ms	
		Max.	5 ms	5 ms	5 ms	5 ms	5 ms	5 ms	5 ms	5 ms	
Turn off time		Typ.	0.15ms	0.19ms	0.08ms	0.08ms	0.22ms	0.21ms	0.10ms	0.08ms	
		Max.	3 ms	3 ms	3 ms	3 ms	3 ms	3 ms	3 ms	3 ms	
Total power dissipation			1.35W				1.6W				
I/O isolation voltage			2,500Vrms								
I/O capacitance	Typ.	0.8pF									
	Max.	1.5pF									
Initial I/O isolation resistance (Min.)			1,000MΩ								
Safety standards			UL, VDE								
Mass (weight) (approx.)			1.65g								

Power Slim & power

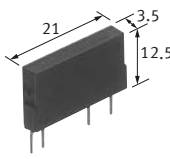
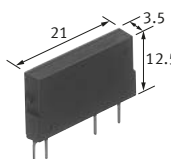
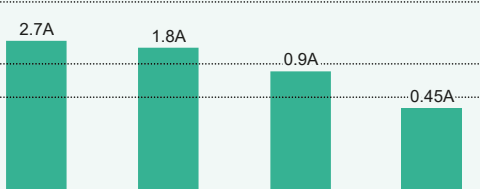
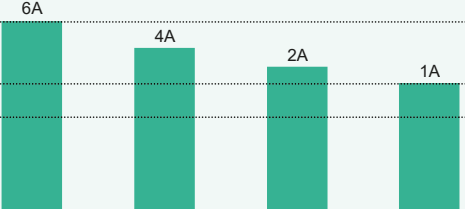
GU GE CC RF HE HF HS PD Power

Product name			Power	Power Voltage-sensitive				
Contact configuration			1 Form B	1 Form A				
Number of terminals			4pin	4pin				
Appearance configuration <small>*Standoff height included</small> mm								
Features			Normally closed type in a slim SIL package Load voltage 400V	Slim and high capacity up to 3.6A Voltage-driven type				
Part No.			AQZ404	AQZ102D	AQZ105D	AQZ107D	AQZ104D	
Output	Load voltage		AC/DC	DC				
		Peak AC	400V	—				
		DC	400V	60V	100V	200V	400V	
	Continuous load current	3A						
		1A						
	Peak load current		1.5A	9A	6A	3A	1.5A	
	Power dissipation		1.6W	1.35W				
	On resistance	Typ.	2.8Ω	0.033Ω	0.09Ω	0.33Ω	1.23Ω	
		Max.	4.0Ω	0.09 Ω	0.17Ω	0.55Ω	1.6 Ω	
	Output capacitance (Typ.)		2,000pF	1,700pF		900pF		
	Off state leakage current (Max.)		10μA	10μA				
Input	LED forward current		50mA	Input voltage: 30V				
	LED reverse voltage		5V	Input reverse voltage: 5V				
	Peak forward current		1A	—				
	Power dissipation		75mW	300mW				
	LED operate current	Typ.	1mA	Operate voltage: 1.4V				
		Max.	3mA	Operate voltage: 4 V				
	LED turn off current	Min.	0.4mA	Turn off voltage: 0.8V				
		Typ.	0.9mA	Turn off voltage: 1.3V				
	LED dropout voltage	Typ.	1.25V (1.16V at If = 10mA)	Input current (Typ.): 6.5mA				
Max.		1.5V						
Turn on time	Typ.	3.9ms	3.3ms	2.2ms	1.5ms	1.2ms		
	Max.	7.5ms	10 ms	10 ms	10 ms	10 ms		
Turn off time	Typ.	0.8ms	0.2ms		0.1ms			
	Max.	3 ms	3 ms		3 ms			
Total power dissipation			1.6W	1.35W				
I/O isolation voltage			2,500Vrms	2,500Vrms				
I/O capacitance	Typ.	0.8pF	0.8pF					
	Max.	1.5pF	1.5pF					
Initial I/O isolation resistance (Min.)			1,000MΩ	1,000MΩ				
Safety standards			UL, VDE	UL, VDE				
Mass (weight) (approx.)			1.65g	1.65g				

PhotoMOS® Selector Chart

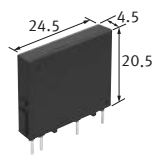


Power Slim & power

GU GE CC RF HE HF HS PD **Power**

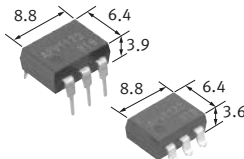

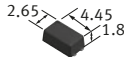
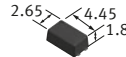
Product name			Power Voltage-sensitive				Power High Capacity			
Contact configuration			1 Form A				1 Form A			
Number of terminals			4pin				4pin			
Appearance configuration *Standoff height included mm										
Features			Slim and high capacity up to 2.7A Voltage-driven type				High capacity up to Max. 6A in the series with a slim SIL package			
Part No.			AQZ202D	AQZ205D	AQZ207D	AQZ204D	AQZ202G	AQZ205G	AQZ207G	AQZ206G2
Output	Load voltage		AC/DC				AC/DC			
		Peak AC	60V	100V	200V	400V	60V	100V	200V	600V
		DC	60V	100V	200V	400V	60V	100V	200V	600V
	Continuous load current	6A								
		1A								
		0.5A								
	Peak load current		9A	6A	3A	1.5A	12A	8A	6A	3A
	Power dissipation		1.6W				1.6W			
	On resistance	Typ.	0.066Ω	0.18Ω	0.64Ω	2.4Ω	0.015Ω	0.035Ω	0.18Ω	0.52Ω
		Max.	0.18 Ω	0.34Ω	1.1 Ω	3.2Ω	0.03 Ω	0.06 Ω	0.35Ω	0.8 Ω
Output capacitance (Typ.)		1,400pF		600pF		1,600pF	1,240pF	700pF	3,000pF	
Off state leakage current (Max.)		10μA				10μA				
Input	LED forward current		Input voltage: 30V				50mA			
	LED reverse voltage		Input reverse voltage: 5V				5V			
	Peak forward current		—				1A			
	Power dissipation		300mW				75mW			
	LED operate current	Typ.	Operate voltage: 1.4V				1mA			
		Max.	Operate voltage: 4 V				3mA			
	LED turn off current	Min.	Turn off voltage: 0.8V				0.4mA			
		Typ.	Turn off voltage: 1.3V				0.9mA			
	LED dropout voltage	Typ.	Input current (Typ.): 6.5mA				1.25V (1.16V at If = 10mA)			
Max.		1.5V								
Turn on time	Typ.	5.8ms	4.2ms	2.7ms	2.3ms	3.8ms	5.0ms	2.5ms	3.0ms	
	Max.	10 ms	10 ms	10 ms	10 ms	10 ms	10 ms	10 ms	10 ms	
Turn off time	Typ.	0.2ms		0.1ms		0.2ms	0.3ms	0.2ms	0.2ms	
	Max.	3 ms		3 ms		3 ms	3 ms	3 ms	3 ms	
Total power dissipation		1.6W				1.6W				
I/O isolation voltage		2,500Vrms				2,500Vrms				
I/O capacitance	Typ.	0.8pF				0.8pF				
	Max.	1.5pF				1.5pF				
Initial I/O isolation resistance (Min.)		1,000MΩ				1,000MΩ				
Safety standards		UL, VDE				UL, VDE				
Mass (weight) (approx.)		1.65g				1.65g				

Power Slim & power

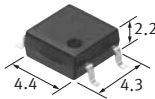
GU GE CC RF HE HF HS PD Power

Product name			Power DC High Capacity	
Contact configuration			1 Form A	
Number of terminals			4pin	
Appearance configuration <small>*Standoff height included</small> mm				
Features			High capacity up to Max. DC10A in the series with a slim SIL package	
Part No.			AQZ192	AQZ197
Output	Load voltage		DC	
		Peak AC	—	
		DC	60V 10A	200V
	Continuous load current	6A		
		1A		
		0.5A		
	Peak load current		30A	15A
	Power dissipation		2W	
	On resistance	Typ.	0.008Ω	0.031Ω
		Max.	0.015Ω	0.05 Ω
Output capacitance (Typ.)		2,100pF	2,600pF	
Off state leakage current (Max.)		10μA		
Input	LED forward current		50mA	
	LED reverse voltage		5V	
	Peak forward current		1A	
	Power dissipation		75mW	
	LED operate current	Typ.	0.7mA	
		Max.	3 mA	
	LED turn off current	Min.	0.2mA	
		Typ.	0.5mA	
	LED dropout voltage	Typ.	1.35V (1.17V at I _F = 10mA)	
		Max.	1.5V	
Turn on time	Typ.	1 ms	0.7 ms	
	Max.	3 ms	3 ms	
Turn off time	Typ.	0.11ms	0.05ms	
	Max.	1 ms	1 ms	
Total power dissipation		2W		
I/O isolation voltage		3,000Vrms		
I/O capacitance	Typ.	1.3pF		
	Max.	3pF		
Initial I/O isolation resistance (Min.)		1,000MΩ		
Safety standards		UL, VDE		
Mass (weight) (approx.)		4.3g		

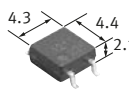
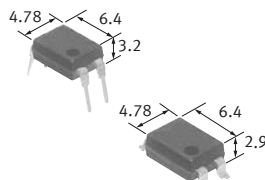
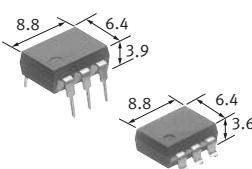
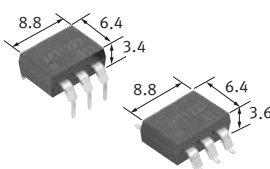
Photovoltaic MOSFET Drivers Selector Chart

Product name			Photovoltaic MOSFET drivers				Photovoltaic MOSFET driver high power type			
Number of terminals			DIP 6pin	SOP 4pin		SSOP 4pin		SSOP 4pin		
Appearance configuration *Standoff height included										
									mm	
Features			Photovoltaic MOSFET drivers of wide variation				MOSFET drivers for high-speed and low on-resistance			
Part No.			APV1122		APV1121S	APV2121S	APV2111VY		APV1111GVY	APV3111GVY
Output	Open voltage	Min.	6 V			5 V			6 V	15 V
		Typ.	8.7V			8.2V			8.5V	18 V
	Short current	Min.	5μA			3μA			25μA	5μA
		Typ.	14μA			8μA			45μA	12μA
Input	LED forward current		50mA				30mA			
	LED reverse voltage		5V				5V			
	Peak forward current		1A				1A			
	Power dissipation		75mW				60mW			
	LED operate current	Typ.	0.6mA			0.85mA			—	
		Max.	3 mA				—			
	LED turn off current	Min.	0.2mA				—			
		Typ.	0.5mA			0.75mA			—	
	LED dropout voltage	Typ.	1.15V				1.47V			
		Max.	1.5 V				1.7 V			
Turn on time		Typ.	0.4ms			0.8ms			0.1 ms	0.4 ms
Turn off time		Typ.	0.1ms				0.1 ms			0.04ms
I/O capacitance	Typ.	0.8pF				0.8pF				
	Max.	1.5pF				1.5pF				
Initial I/O isolation resistance (Min.)			1,000MΩ				1,000MΩ			
I/O isolation voltage			5,000Vrms		2,500Vrms	2,500Vrms	1,500Vrms		1,500Vrms	
Safety standards			UL, VDE			UL		UL		
Mass (weight) (approx.)			0.45g		0.08g		0.06g		0.06g	

PhotoIC Coupler Selector Chart

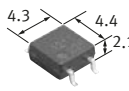
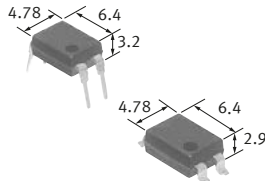
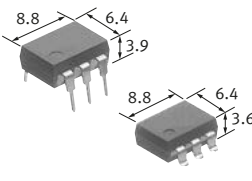
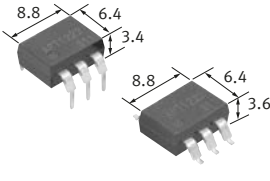
Product name			PhotoIC Coupler				
Transfer rate (Typ.)			20Mbps		50Mbps		
Figure of output			Totem pole output	Open drain output	Totem pole output		
Appearance configuration *Standoff height included mm							
Part No.			APS1241S	APS2241S	APS1551S		
Output	Supply voltage		Recommend: 2.7 to 5.5 V Absolute maximum rating: 6 V			Recommend: 4.5 to 5.5 V Absolute maximum rating: 6 V	
	Output voltage						
	Output current	Max.	10 mA	25 mA	10 mA		
	Power dissipation	Max.	40 mW				
	Low level supply current	Max.	3 mA			5 mA	
	High level supply current	Max.	3 mA			5 mA	
	Low level output voltage	Max.	0.4 V	0.6 V	0.6 V		
	High level output voltage	Min.	4 V	-	4.4 V		
	High level output current	Max.	-	50 μA	-		
Input	LED forward current		25 mA				
	LED reverse voltage		5 V				
	Peak forward current		1 A				
	Threshold input currnt	Max.	4 mA		5 mA		
	LED dropout voltage	Min.	1.45 V				
		Typ.	1.6 V				
		Max.	1.8 V				
	Input capacitation	Typ.	20 pF				
Propagation delay time (H→L)		Max.	55 ns	60 ns	30 ns		
Propagation delay time (L→H)		Max.	55 ns	60 ns	30 ns		
Propagation delay skew		Max.	30 ns	40 ns	16 ns		
Pulse width distortion		Max.	30 ns	35 ns	10 ns		
Output fall time		Typ.	2 ns	1 ns	5 ns		
Output rise time		Typ.	2 ns	18 ns	4 ns		
Common mode transient immunity at low level output		Min.	20 kV/μs			15 kV/μs	
Common mode transient immunity at high level output		Min.	20 kV/μs			15 kV/μs	
I/O isolation voltage			3,750 Vrms				
Ambient temperature (Operating)			-40 to +105°C				
Ambient temperature (Storage)			-40 to +125°C				
I/O capacitance		Typ.	0.5 pF				
Initial I/O isolation resistance		Min.	1,000 MΩ				
Safety standards			UL/C-UL				
Mass (weight) (approx.)			0.08g				

Phototriac Coupler Selector Chart

Product name		APT Phototriac Coupler							
Type		Zero-cross	Random	Zero-cross	Random	Zero-cross	Random	Zero-cross	Random
Number of terminals		SOP 4pin		DIP 4pin		DIP 6pin		Dip 6pin wide	
Type		0.05A		0.1A					
Appearance configuration *Standoff height included									
mm									
Features		Phototriac coupler ideal for triac driver with wide variation							
Part No.		APT1211S	APT1221S	APT1211	APT1221	APT1212	APT1222	APT1212W	APT1222W
Out-put	Repetitive peak OFF-state voltage	600V							
	ON-state RMS current	0.05A		0.1A					
	Non-repetitive surge current	0.6A		1.2A					
	Peak ON-state voltage	Max. 2.5V							
	Peak OFF-state current	Max. 1μA							
	LED forward current	50mA							
	LED reverse voltage	6V							
In-put	Peak forward current	1A							
	LED dropout voltage (If=20mA)	Max. 1.3V							
Trigger LED current		Max. 10mA							
Zero-cross voltage		Max. 50V	—	Max. 50V	—	Max. 50V	—	Max. 50V	—
Turn on time		Max. 0.1ms							
I/O isolation voltage		3,750Vrms		5,000Vrms					
I/O isolation resistance		Min. 50GΩ							
Safety standards		UL/C-UL, VDE*							
Mass (weight) (approx.)		0.08g		0.19g		0.45g		0.45g	

*Normal part number is taken UL/C-UL standards. About VDE standard, please contact our sales representative.

Phototriac Coupler Selector Chart

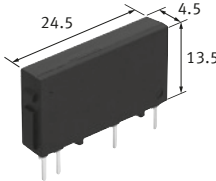
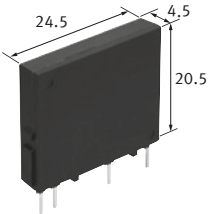
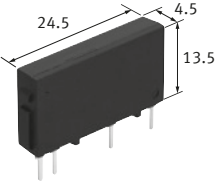
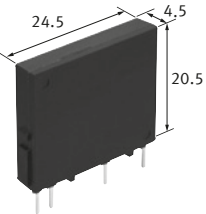
Product name		APT Phototriac Coupler			
Type		Zero-cross (Low zero-cross type)			
Number of terminals		SOP 4pin	DIP 4pin	DIP 6pin	DIP 6pin wide
Type		0.05A	0.1A		
Appearance configuration *Standoff height included mm					
Features		Phototriac coupler ideal for triac driver with wide variation			
Part No.		APT1231S	APT1231	APT1232	APT1232W
Out-put	Repetitive peak OFF-state voltage	600V			
	ON-state RMS current	0.8A			
		0.7A			
		0.6A			
		0.5A			
		0.4A			
		0.3A			
		0.2A			
0.1A	0.05A		0.1A		
Non-repetitive surge current	0.6A	1.2A			
Peak ON-state voltage	Max. 2.0V				
Peak OFF-state current	Max. 1μA				
In-put	LED forward current	50mA			
	LED reverse voltage	6V			
	Peak forward current	1A			
	LED dropout voltage (If=20mA)	Max. 1.3V			
Trigger LED current		Max. 10mA			
Zero-cross voltage		Max. 15V			
Turn on time		Max. 0.1ms			
I/O isolation voltage		3,750Vrms	5,000Vrms		
I/O isolation resistance		Min. 50GΩ			
Safety standards		UL/C-UL, VDE*			
Mass (weight) (approx.)		0.08g	0.19g	0.45g	0.45g

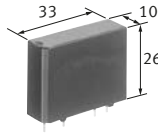
*Normal part number is taken UL/C-UL standards. About VDE standard, please contact our sales representative.

Solid State Relays Selector Chart

Product name		AQ-H Relays							
Type		Zero-cross	Random	Zero-cross	Random	Zero-cross	Random	Zero-cross	Random
Number of terminals		DIP 8pin							
Type		0.3A		0.6A		0.9A		1.2A	
Appearance configuration *Standoff height included									
mm									
Features		Compact DIP type SSR Ideal for AC load control							
Part No.		AQH0213	AQH0223	AQH1213	AQH1223	AQH2213	AQH2223	AQH3213	AQH3223
Out-put	Repetitive peak OFF-state voltage	600V							
	ON-state RNS current	0.3A		0.6A		0.9A		1.2A	
	Non-repetitive surge current	3A		6A		9A		12A	
	Peak ON-state voltage	Max. 2.5V							
	Peak OFF-state current	Max. 100μA							
In-put	LED forward current	50mA							
	LED reverse voltage	6V							
	Peak forward current	1A							
	LED dropout voltage (If=20mA)	Max. 1.3V							
Trigger LED current		Max. 10mA							
Zero-cross voltage		Max. 50V	—	Max. 50V	—	Max. 50V	—	Max. 50V	—
Turn on time		Max. 0.1ms							
I/O isolation voltage		5,000Vrms							
I/O capacitance, Typ.		2.1pF							
I/O isolation resistance		Min. 50GΩ							
Safety standards		UL/C-UL, VDE							
Mass (weight) (approx.)		0.56g							

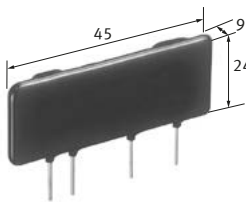
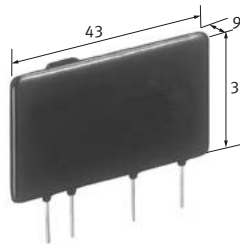
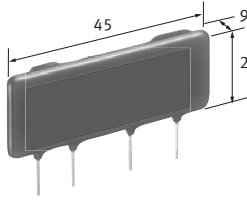
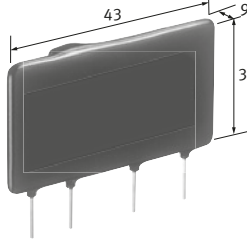
Solid State Relays Selector Chart

Product name			AQ-G Relays											
Type			Zero-cross						Random					
Number of terminals			4pin											
Type			1A			2A			1A			2A		
Appearance configuration *Standoff height included mm														
			Slim type SSR for 1A and 2A control											
Part No.			AQG12105	AQG12112	AQG12124	AQG22105	AQG22112	AQG22124	AQG12205	AQG12212	AQG12224	AQG22205	AQG22212	AQG22224
Load side	Load voltage	AC	75 to 264Vrms											
		DC	—											
	Max. load current	20A												
		15A												
		10A												
		8A												
5A														
Off state leakage current, max.	3A													
	2A				2A						2A			
	1A	1A						1A						
Non-repetitive surge current		8A			30A			8A			30A			
Input side	Control voltage	4 to 6V	9.6 to 14.4V	19.2 to 28.8V	4 to 6V	9.6 to 14.4V	19.2 to 28.8V	4 to 6V	9.6 to 14.4V	19.2 to 28.8V	4 to 6V	9.6 to 14.4V	19.2 to 28.8V	
	Input impedance, approx.	0.3kΩ	0.8kΩ	1.6kΩ	0.3kΩ	0.8kΩ	1.6kΩ	0.3kΩ	0.8kΩ	1.6kΩ	0.3kΩ	0.8kΩ	1.6kΩ	
	Drop-out voltage, min.	1V												
Operate time, max.		1/2 cycle of voltage sine wave + 1ms						1ms						
Release time, max.		1/2 cycle of voltage sine wave + 1ms												
Breakdown voltage		3,000Vrms												
Snubber circuit integrated		●												
LED operation indicator		—												
Safety standards		UL/C-UL, VDE												
Mass (weight) (approx.)		2.7g			4.3g			2.7g			4.3g			

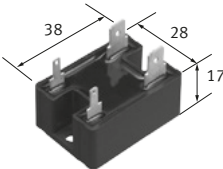
Product name			AQ1 Relays	
Type			Zero-cross*	
Number of terminals			4pin	
Type			3A	10A
<div>Appearance configuration</div> <div>*Standoff height included</div> <div>mm</div>			<div></div>	<div></div>
Features			High capacity up to 3 A/10 A PC board terminal type	
Part No.			AQ1298	AQ1208
Load side	Load voltage	AC	75 to 250Vrms	
		DC	—	—
	Max. load current	20A		
		15A		
		10A		(Heat sink/Panel heat) 10A
		8A		
		5A		
		3A	3A	
2A				
1A				
Off state leakage current, max.		5mA		
Non-repetitive surge current		100A		
Input side	Control voltage		4 to 32V DC	
	Input impedance, approx.		—	
	Drop-out voltage, min.		1.0V	
	Operate time, max.		1/2 cycle of voltage sine wave + 1ms	
Release time, max.		1/2 cycle of voltage sine wave + 1ms		
Breakdown voltage		4,000 Vrms (between input and output) 2,500Vrms (between input, output and case)		
Snubber circuit integrated		●		
LED operation indicator		—		
Safety standards		UL/C-UL, VDE		
Mass (weight) (approx.)		19g	26g	

*Random type is also available by custom order.

Solid State Relays Selector Chart

Product name		AQ8 Relays												
Type		Zero-cross						Random						
Number of terminals		4pin												
Type		2A			3A			2A			3A			
Appearance configuration *Standoff height included mm														
		SIL type with 9 mm thickness, 3,000 V AC high dielectric voltage, controls up to 2 A/3 A												
Part No.	Input terminal distance: 5.08mm	AQ80139	AQ80133	AQ80134	AQ80159	AQ80153	AQ80154	AQ80239	AQ80233	AQ80234	AQ80259	AQ80253	AQ80254	
	Input terminal distance: 7.62mm	AQ81139	AQ81133	AQ81134	AQ81159	AQ81153	AQ81154	AQ81239	AQ81233	AQ81234	AQ81259	AQ81253	AQ81254	
Load side	Load voltage	AC	75 to 250Vrms											
		DC	—											
	Max. load current	20A												
		15A												
		10A												
		8A												
5A														
Off state leakage current, max.	5mA													
	30A			80A			30A			80A				
Input side	Control voltage	4 to 6V	9.6 to 14.4V	21.6 to 26.4V	4 to 6V	9.6 to 14.4V	21.6 to 26.4V	4 to 6V	9.6 to 14.4V	21.6 to 26.4V	4 to 6V	9.6 to 14.4V	21.6 to 26.4V	
	Input impedance, approx.	0.18kΩ	0.55kΩ	1.4kΩ	0.18kΩ	0.55kΩ	1.4kΩ	0.3kΩ	0.8kΩ	1.8kΩ	0.3kΩ	0.8kΩ	1.8kΩ	
	Drop-out voltage, min.	0.5V	1.2V	2.4V	0.5V	1.2V	2.4V	0.5V	1.2V	2.4V	0.5V	1.2V	2.4V	
Operate time, max.		1/2 cycle of voltage sine wave + 1ms						1ms						
Release time, max.		1/2 cycle of voltage sine wave + 1ms												
Breakdown voltage		3,000Vrms												
Snubber circuit integrated		●												
LED operation indicator		—												
Safety standards		UL/C-UL, VDE*												
Mass (weight) (approx.)		6.8g			9.8g			6.8g			9.8g			

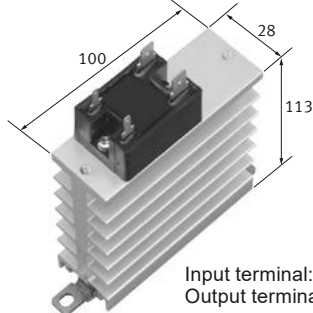
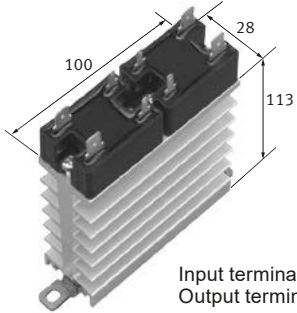
*Normal part number is taken UL/C-UL, standards. About VDE standard, please contact our sales representative. (from April 2022)

Product name			AQ-J Relays								
Type			Zero-cross ^{*1}								
Number of terminals			4								
Type			10A		15A			25A			
Appearance configuration <small>*Standoff height included</small>											
mm			Input terminal: #110 type Output terminal: #250 type								
Features			Load current 10 to 25A Small Tab Terminal SSR								
Part No.			AQJ112V	AQJ119V	AQJ116V	AQJ212V	AQJ219V	AQJ216V	AQJ412V	AQJ419V	AQJ416V
Load side	Load voltage	AC	75 to 264Vrms								
		DC	—								
	Max. load current	40A							*4 (Heat sink) 25A		
		25A									
		20A									
		15A				*3 (Heat sink/Panel heat) 15A					
		10A	*2 (Heat sink/Panel heat) 10A								
		5A									
2A											
1A											
Off state leakage current, max.		5mA									
Non-repetitive surge current		100A			150A			250A			
Input side	Control voltage		4 to 6V	10 to 18V	18 to 28V	4 to 6V	10 to 18V	18 to 28V	4 to 6V	10 to 18V	18 to 28V
	Input impedance, approx.		0.26kΩ	0.8kΩ	1.6kΩ	0.26kΩ	0.8kΩ	1.6kΩ	0.26kΩ	0.8kΩ	1.6kΩ
	Drop-out voltage, min.		1V								
	Operate time, max.		1/2 cycle of voltage sine wave + 1ms								
Release time, max.		1/2 cycle of voltage sine wave + 1ms									
Breakdown voltage		3,000Vrms between input and output 2,500Vrms between input, output and case									
Snubber circuit integrated		●									
LED operation indicator		—									
Safety standards		UL/C-UL, VDE									
Mass (weight) (approx.)		30g									

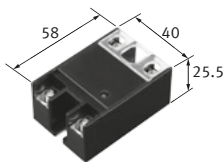
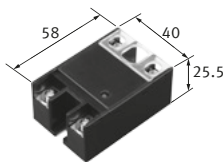
^{*1} Random type is available by custom order. ^{*2} When mounting a standard heat sink (AQP813) or when mounting on 100 × 100 × t1.6 (mm) iron plate

^{*3} When mounting a standard heat sink (AQP813) or when mounting on 200 × 200 × t2 (mm) iron plate ^{*4} When mounting a standard heat sink (AQP815)

Solid State Relays Selector Chart


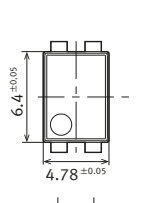
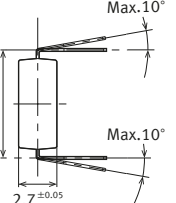

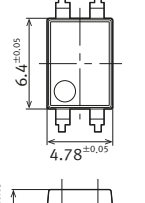
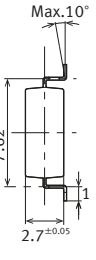
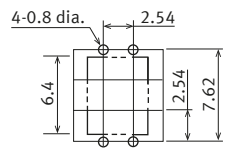
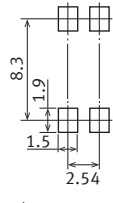

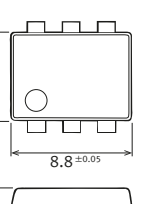
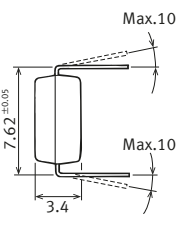

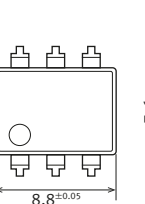
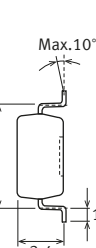
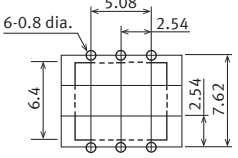
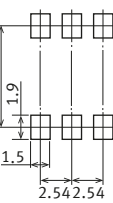

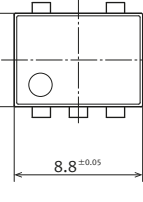
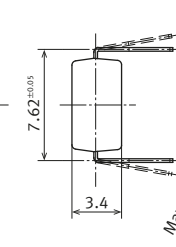

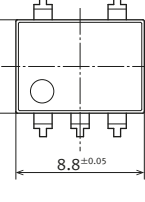
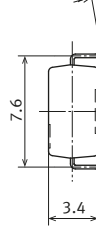
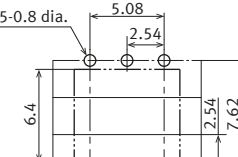
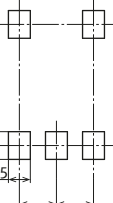
Product name			AQ-J Relays											
Type			Zero-cross*											
Number of terminals			4						4×2					
Type			10A (Output arrangement: 1a)			20A (Output arrangement: 1a)			10A (Output arrangement: 1a × 2)			15A (Output arrangement: 1a × 2)		
Appearance configuration *Standoff height included mm			 Input terminal: #110 type Output terminal: #250 type						 Input terminal: #110 type Output terminal: #250 type					
Features			Load current 10 to 25A Small Tab Terminal SSR											
Part No.			AQJ112VY	AQJ119VY	AQJ116VY	AQJ412VY	AQJ419VY	AQJ416VY	AQJ112VW	AQJ119VW	AQJ116VW	AQJ412VW	AQJ419VW	AQJ416VW
Load side	Load voltage	AC	75 to 264Vrms											
		DC	—											
	Max. load current	40A												
		25A												
		20A				20A						(per 1' Form A) 15A		
15A								(per 1' Form A) 10A						
10A		10A												
Off state leakage current, max.		5mA												
Non-repetitive surge current		100A			250A			100A			250A			
Input side	Control voltage		4 to 6V	10 to 18V	18 to 28V	4 to 6V	10 to 18V	18 to 28V	4 to 6V	10 to 18V	18 to 28V	4 to 6V	10 to 18V	18 to 28V
	Input impedance, approx.		0.26kΩ	0.8kΩ	1.6kΩ	0.26kΩ	0.8kΩ	1.6kΩ	0.26kΩ	0.8kΩ	1.6kΩ	0.26kΩ	0.8kΩ	1.6kΩ
	Drop-out voltage, min.		1V											
Operate time, max.			1/2 cycle of voltage sine wave + 1ms											
Release time, max.			1/2 cycle of voltage sine wave + 1ms											
Breakdown voltage			3,000Vrms between input and output 2,500Vrms between input, output and case											
Snubber circuit integrated			●											
LED operation indicator			—											
Safety standards			—											
Mass (weight) (approx.)			250g						280g					

*Random type is available by custom order.


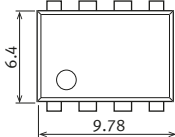
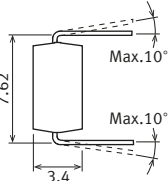
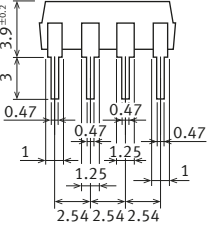

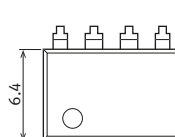
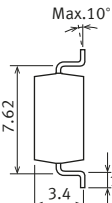
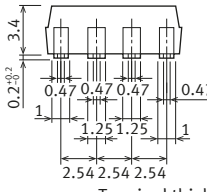
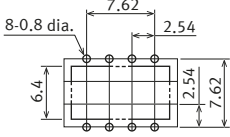
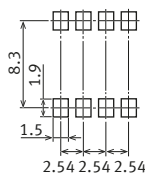

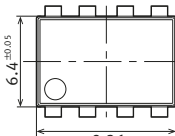
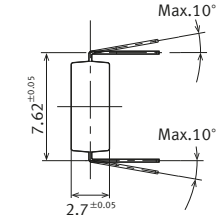
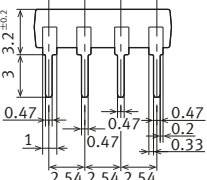

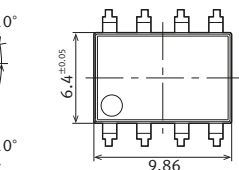
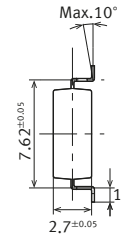
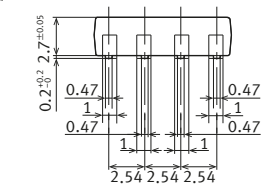
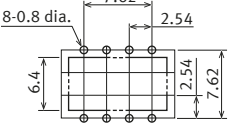
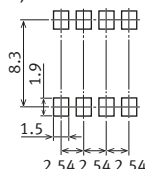

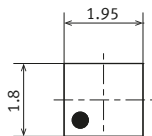
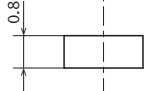
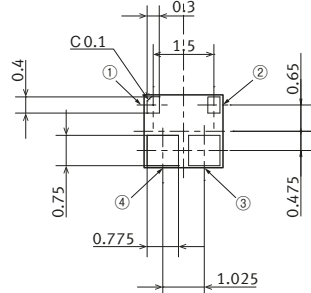
Product name			AQ-A Relays (AC output type)			AQ-A Relays (DC output type)	
Type			Zero-cross ^{*1}			—	
Number of terminals			4				
Type			15A	25A	40A	30A	10A
Appearance configuration <small>*Standoff height included</small>							
mm							
Features			Load current up to Max. 40 A in the series, Small Screw Terminal SSR				
Part No.			AQA211VL	AQA411VL	AQA611VL	AQAD551DL	AQAD171DL
Load side	Load voltage	AC	75 to 250Vrms			—	
		DC	—			100V	600V
	Max. load current	40A			*4 (Heat sink) 40A		
		35A					
		30A				*5 (Heat sink) 30A	
		25A		*3 (Heat sink) 25A			
		20A					
		15A	*2 (Heat sink) 15A				
	10A					*6 (Heat sink) 10A	
5A							
Off state leakage current, max.		10mA			100μA		
Non-repetitive surge current		150A	250A	400A	—		
Peak load current		—	—	—	90A (100ms)	20A (100ms)	
Input side	Control voltage		4 to 32V				
	Input impedance, approx.		—				
	Drop-out voltage, min.		1V				
Operate time, max.			1/2 cycle of voltage sine wave + 1ms			10ms	5ms
Release time, max.			1/2 cycle of voltage sine wave + 1ms			3ms	1ms
Breakdown voltage			4,000 Vrms between input and output/2,500Vrms between input, output and case				
Snubber circuit integrated			●			—	
Reverse connection prevention diode			—			●	
LED operation indicator			●				
Safety standards			UL/C-UL, VDE			UL/C-UL, VDE	
Mass (weight) (approx.)			70g				

*1 Random type is available by custom order. *2 When mounting a standard heat sink (AQP-HS-J10A or AQP-HS-SJ20A) *3 When mounting a standard heat sink (AQP-HS-30/40A)

*4 When mounting a standard heat sink (AQP-HS-J25A) *5 When mounting a standard heat sink (AQP-HS-J25A) *6 When mounting a standard heat sink (AQP-HS-SJ20A)


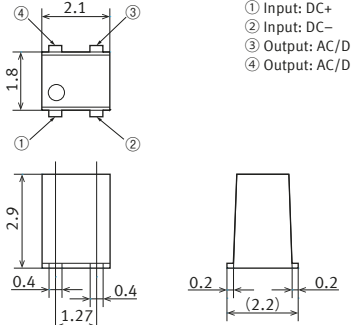
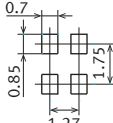

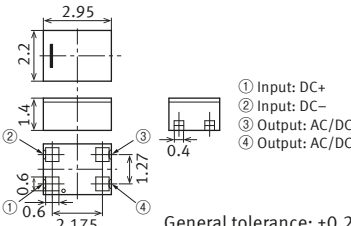
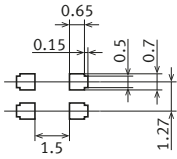

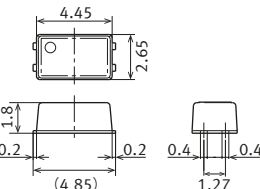
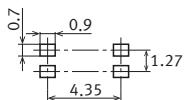

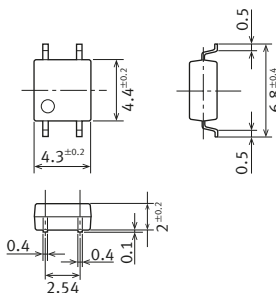
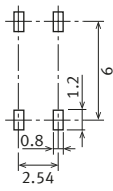

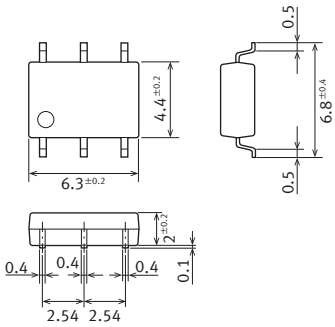
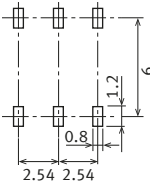
Type	Dimensions (mm)		
AQY21 (DIP) AQY41 (DIP) Series	Through hole terminal type  CAD   Terminal thickness: $t = 0.2$ General tolerance: ± 0.1	Surface mount terminal type  CAD   Terminal thickness: $t = 0.2$ General tolerance: ± 0.1	PC board pattern (Bottom view)  Tolerance: ± 0.1 Recommended mounting pad (Top view)  Tolerance: ± 0.1
	Through hole terminal type  CAD   Terminal thickness: $t = 0.25$ General tolerance: ± 0.1	Surface mount terminal type  CAD   Terminal thickness: $t = 0.25$ General tolerance: ± 0.1	PC board pattern (Bottom view)  Tolerance: ± 0.1 Recommended mounting pad (Top view)  Tolerance: ± 0.1
AQV258H5 (DIP) AQV1122 (DIP)	Through hole terminal type  CAD   Terminal thickness: $t = 0.25$ General tolerance: ± 0.1	Surface mount terminal type  CAD   Terminal thickness: $t = 0.25$ General tolerance: ± 0.1	PC board pattern (Bottom view)  Tolerance: ± 0.1 Recommended mounting pad (Top view)  Tolerance: ± 0.1

CAD The CAD data of the products with a "CAD" mark can be downloaded from our Website.


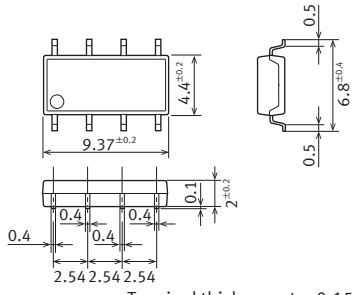
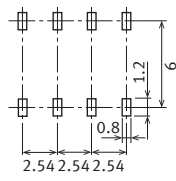

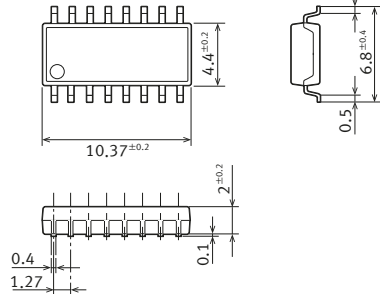
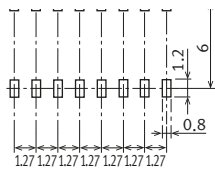

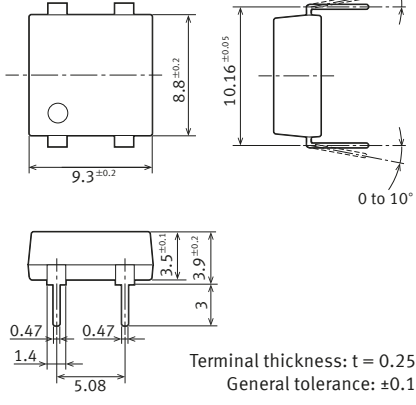
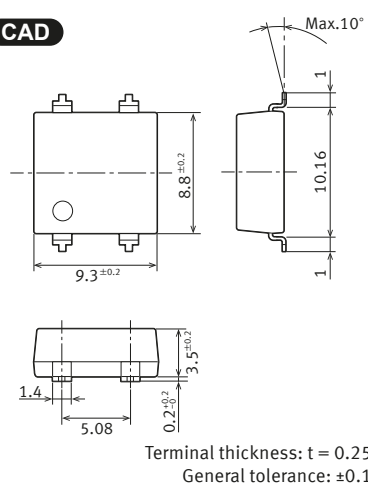
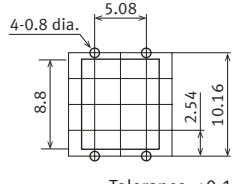
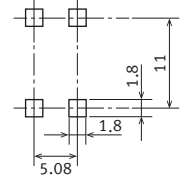

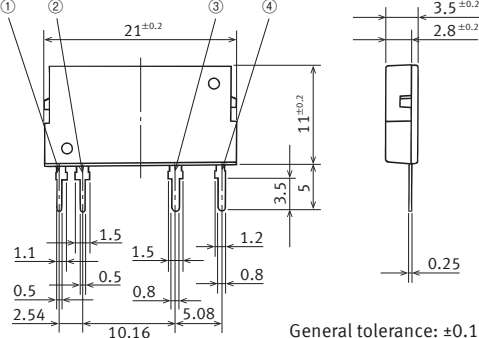
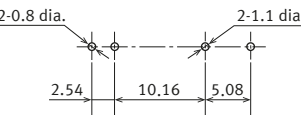
Type	Dimensions (mm)		
AQW21 (DIP) AQW22 (DIP) AQW25 (DIP) AQW41 (DIP) AQW45 (DIP) AQW61 (DIP) AQW65 (DIP) Series	 Through hole terminal type CAD    Terminal thickness: $t = 0.25$ General tolerance: ± 0.1	 Surface mount terminal type CAD    Terminal thickness: $t = 0.25$ General tolerance: ± 0.1	PC board pattern (Bottom view)  Tolerance: ± 0.1 Recommended mounting pad (Top view)  Tolerance: ± 0.1
	 Through hole terminal type CAD    Terminal thickness: $t = 0.2$ General tolerance: ± 0.1	 Surface mount terminal type CAD    Terminal thickness: $t = 0.2$ General tolerance: ± 0.1	PC board pattern (Bottom view)  Tolerance: ± 0.1 Recommended mounting pad (Top view)  Tolerance: ± 0.1
	 CAD    ① Input: DC+ ② Input: DC- ③ Output: AC/DC ④ Output: AC/DC General tolerance: ± 0.2		

*Stand for one digit.


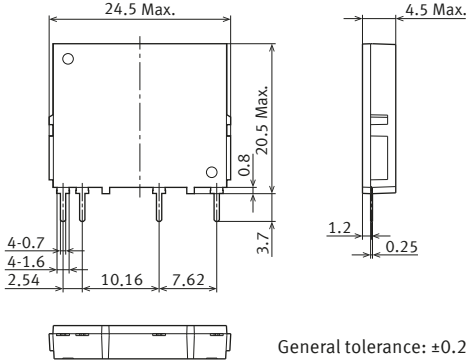
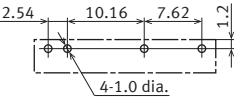

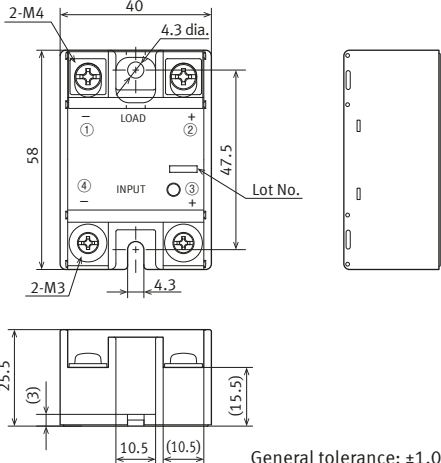
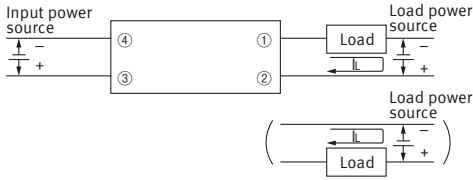
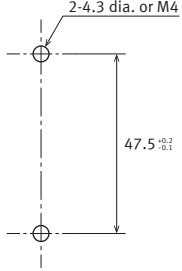
CAD The CAD data of the products with a "CAD" mark can be downloaded from our Website.

Type	Dimensions (mm)		
AQY22 (VSSOP) Series	 CAD	 General tolerance: ± 0.1	Recommended mounting pad (Top view)  Tolerance: ± 0.1
AQY22 (SON) Series	 CAD	 General tolerance: ± 0.2	Recommended mounting pad (Top view)  Tolerance: ± 0.1
APV21 (SSOP) AQY22 (SSOP) Series	 CAD	 Terminal thickness: $t = 0.15$ General tolerance: ± 0.1	Recommended mounting pad (Top view)  Tolerance: ± 0.1
APV11 (SOP) APV21 (SOP) AQY21 (SOP) AQY22 (SOP) AQY23 (SOP) AQY41 (SOP) Series	 CAD	 Terminal thickness: $t = 0.15$ General tolerance: ± 0.1	Recommended mounting pad (Top view)  Tolerance: ± 0.1
AQV21 (SOP) AQV22 (SOP) AQV25 (SOP) AQV41 (SOP) Series	 CAD	 Terminal thickness: $t = 0.15$ General tolerance: ± 0.1	Recommended mounting pad (Top view)  Tolerance: ± 0.1

CAD The CAD data of the products with a "CAD" mark can be downloaded from our Website.


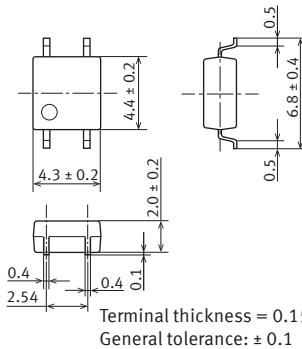


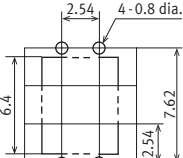
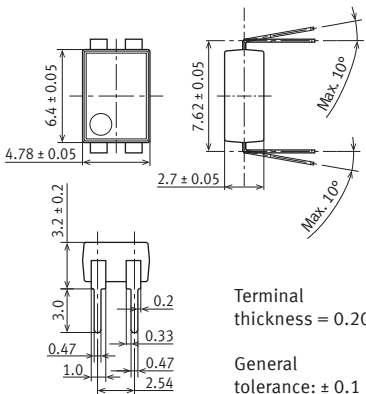
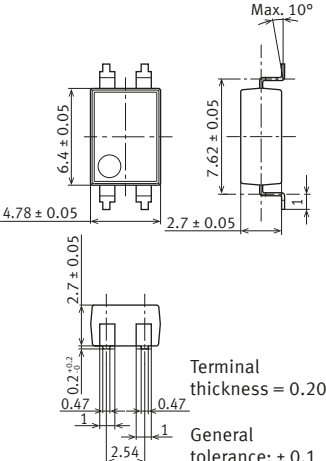
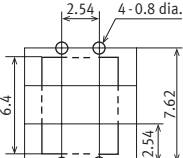
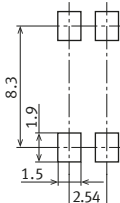
Type	Dimensions (mm)		
<div> CAD</div> <div>AQW21 (SOP) AQW22 (SOP) AQW41 (SOP) AQW61 (SOP) Series</div>	<div></div> <div>Terminal thickness: $t = 0.15$ General tolerance: ± 0.1</div>	<div>Recommended mounting pad (Top view)</div> <div></div> <div>Tolerance: ± 0.1</div>	
<div> CAD</div> <div>AQS22 (SOP) Series</div>	<div></div> <div>Terminal thickness: $t = 0.15$ General tolerance: ± 0.1</div>	<div>Recommended mounting pad (Top view)</div> <div></div> <div>Tolerance: ± 0.1</div>	
<div> CAD</div> <div>AQY27 (Power-DIP) Series</div>	<div>Through hole terminal type</div> <div></div> <div>Terminal thickness: $t = 0.25$ General tolerance: ± 0.1</div>	<div>Surface mount terminal type</div> <div></div> <div>Terminal thickness: $t = 0.25$ General tolerance: ± 0.1</div>	<div>PC board pattern (Bottom view)</div> <div></div> <div>Tolerance: ± 0.1</div> <div>Recommended mounting pad (Top view)</div> <div></div> <div>Tolerance: ± 0.1</div>
<div> CAD</div> <div>AQZ10 (SIL) AQZ20 (SIL) AQZ40 (SIL) Series</div>	<div></div> <div>General tolerance: ± 0.1</div>	<div>PC board pattern (Bottom view)</div> <div></div> <div>Tolerance: ± 0.1</div>	

CAD The CAD data of the products with a "CAD" mark can be downloaded from our Website.

Type	Dimensions (mm)	
AQZ19 (SIL) Series	 CAD	 General tolerance: ±0.2
		<p>PC board pattern (Bottom view)</p>  <p>Tolerance: ±0.1</p> <p>Schematic</p> <p>Input Output</p> <p>— + o o</p> <p>o o o o</p>
AQAD Series	 CAD	 General tolerance: ±1.0
		<p>Schematic</p>  <p>Mounting dimensions</p> 


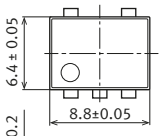
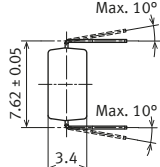
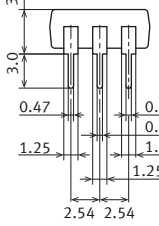

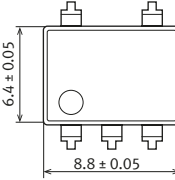
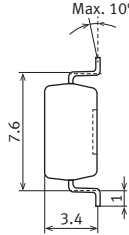
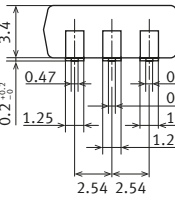
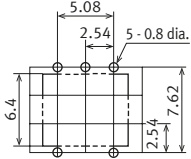
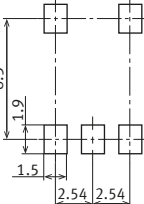

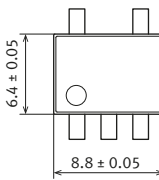
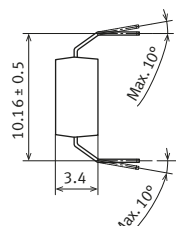
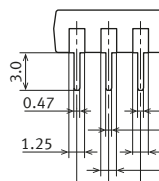

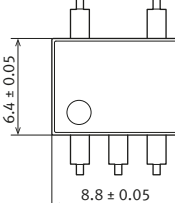
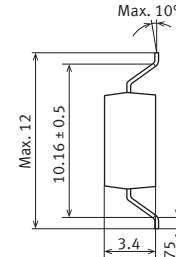
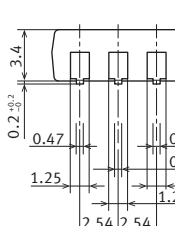
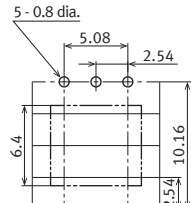
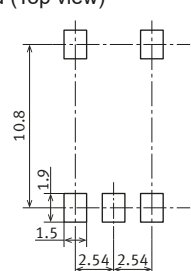
CAD The CAD data of the products with a "CAD" mark can be downloaded from our Website.

Phototriac Coupler Dimensions

Type	Dimensions (mm)		
APT1211S (SOP) APT1221S (SOP) APT1231S (SOP) Series	 CAD		
	<p>Recommended mounting pad (TOP VIEW)</p> 		
APT1211 (A) (DIP4) APT1221 (A) (DIP4) APT1231 (A) (DIP4) Series	 CAD	 CAD	 <p>Tolerance: ± 0.1</p>
	<p>Through hole terminal type</p>  <p>Terminal thickness = 0.20 General tolerance: ± 0.1</p>	<p>Surface mount terminal type</p>  <p>Terminal thickness = 0.20 General tolerance: ± 0.1</p>	<p>PC board pattern (Bottom view)</p>  <p>Tolerance: ± 0.1</p> <p>Recommended mounting pad (Top view)</p>  <p>Tolerance: ± 0.1</p>

CAD The CAD data of the products with a "CAD" mark can be downloaded from our Website.

Phototriac Coupler Dimensions

Type	Dimensions (mm)		
APT1212 (A) (DIP6) APT1222 (A) (DIP6) APT1232 (A) (DIP6) Series	Through hole terminal type  CAD    Terminal thickness = 0.25 General tolerance: ± 0.1	Surface mount terminal type  CAD    Terminal thickness = 0.25 General tolerance: ± 0.1	PC board pattern (Bottom view)  Tolerance: ± 0.1 Recommended mounting pad (Top view)  Tolerance: ± 0.1
	Through hole terminal type  CAD    Terminal thickness = 0.25 General tolerance: ± 0.1	Surface mount terminal type  CAD    Terminal thickness = 0.25 General tolerance: ± 0.1	PC board pattern (Bottom view)  Tolerance: ± 0.1 Recommended mounting pad (Top view)  Tolerance: ± 0.1

CAD The CAD data of the products with a "CAD" mark can be downloaded from our Website.

Please refer to **"the latest product specifications"** when designing your product.

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Panasonic Industry Co., Ltd.

Electromechanical Control Business Division

■1006, Oaza Kadoma, Kadoma-shi, Osaka 571-8506, Japan
industrial.panasonic.com/ac/e/