

## Bill of Materials

## Reference Circuit "SZ-581D744"

**Panasonic**

Red: Changes

Reference	Part Code	Value	Tolerance	Voltage	Watt	Manufacturer
C1	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C2	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C3	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C4	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C5	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C6	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C7	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C8	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C9	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C10	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C11	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C12	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C13	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C14	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C15	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C16	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C17	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C18	JMK212BJ226MG-T	22u	+/- 20%	6.3		Taiyo Yuden
C19	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C20	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C21	GRM1552C1H150JZ01D	15p	+/- 5%	50		Murata
C22	GRM1552C1H150JZ01D	15p	+/- 5%	50		Murata
C23	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C24	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C25	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C26	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C27	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C28	LMK107BJ105KA-T	1u	+/- 10%	10		Taiyo Yuden
C29	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C101	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C151	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C201	GRM21BB31C106KE15L	10u	+/- 10%	16		Murata
C202	GRM1552C1H5R0CZ01D	5p	+/- 0.25pF	50		Murata
C203	GRM1552C1H5R0CZ01D	5p	+/- 0.25pF	50		Murata
C204	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C205	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C206	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C207	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C208	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C209	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C210	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C211	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C212	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C213	GRM21BB31C106KE15L	10u	+/- 10%	16		Murata
C214	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C301	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C302	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C303	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C304	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C305	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C351	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C352	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C353	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C354	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C355	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C356	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C357	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C358	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C359	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C360	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata

C501	GR442QR73D102KW01L	1000P	+/- 10%	2000		Murata
C502	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C503	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C504	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C505	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C506	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C507	GRM1552C1H101JZ01D	100p	+/- 5%	50		Murata
C508	JMK212BJ226MG-T	22u	+/- 20%	6.3		Taiyo Yuden
C509	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C510	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C511	GRM21BB31C106KE15L	10u	+/- 10%	16		Murata
C512	JMK212BJ226MG-T	22u	+/- 20%	6.3		Taiyo Yuden
C513	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C514	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C515	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C516	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C517	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C520	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C521	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C522	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C523	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C524	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C525	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C526	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C530	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C601	USV1C1011TE	100u	+/- 20%	16		Nichicon
C602	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C603	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C604	USV1C1011TE	100u	+/- 20%	16		Nichicon
C611	GRM43DR72J104KW01L	0.1u	+/- 10%	630		Murata
CNW401	CKCA43CH1H471KT010N	470p	+/- 10%	50		TDK
CNW402	CKCA43CH1H471KT010N	470p	+/- 10%	50		TDK
R1	ERJS03J105V	1M	+/- 5%		0.1	Panasonic
R2	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
R3	ERJS03J330V	33	+/- 5%		0.1	Panasonic
R4	ERJS03J101V	100	+/- 5%		0.1	Panasonic
R5	ERJS03J152V	1.5k	+/- 5%		0.1	Panasonic
R6	ERJS03J152V	1.5k	+/- 5%		0.1	Panasonic
R7	ERJS03J104V	100k	+/- 5%		0.1	Panasonic
R8	ERJS03F2401V	2.4k	+/- 1%		0.1	Panasonic
R9	ERJS03F1501V	1.5k	+/- 1%		0.1	Panasonic
R10	ERJS03F3001V	3k	+/- 1%		0.1	Panasonic
R11	ERJS03F1001V	1k	+/- 1%		0.1	Panasonic
R12	ERJS03J472V	4.7k	+/- 5%		0.1	Panasonic
R13	ERJS03J472V	4.7k	+/- 5%		0.1	Panasonic
R14	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R15	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R101	ERJS03J472V	4.7k	+/- 5%		0.1	Panasonic
R102	ERJS03J472V	4.7k	+/- 5%		0.1	Panasonic
R103	ERJS03J472V	4.7k	+/- 5%		0.1	Panasonic
R104	ERJS03J472V	4.7k	+/- 5%		0.1	Panasonic
R105	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
R106	ERJS03J472V	4.7k	+/- 5%		0.1	Panasonic
R151	ERJS03J331V	330	+/- 5%		0.1	Panasonic
R152	ERJS03J331V	330	+/- 5%		0.1	Panasonic
R153	ERJS03J331V	330	+/- 5%		0.1	Panasonic
R154	ERJS03J331V	330	+/- 5%		0.1	Panasonic
R155	ERJS03J331V	330	+/- 5%		0.1	Panasonic
R156	ERJS03J331V	330	+/- 5%		0.1	Panasonic
R157	ERJS03J331V	330	+/- 5%		0.1	Panasonic
R158	ERJS03J331V	330	+/- 5%		0.1	Panasonic
R201	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R202	ERJS03J203V	20k	+/- 5%		0.1	Panasonic
R203	ERJS03J152V	1.5k	+/- 5%		0.1	Panasonic

R204	ERJS06J270V	27	+/- 5%		0.125	Panasonic
R205	ERJS06J270V	27	+/- 5%		0.125	Panasonic
R206	ERJS03J472V	4.7k	+/- 5%		0.1	Panasonic
R207	ERJS03J472V	4.7k	+/- 5%		0.1	Panasonic
R208	ERJS03J472V	4.7k	+/- 5%		0.1	Panasonic
R209	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R210	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R211	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R212	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
R213	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R214	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R215	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R216	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R301	ERJS14J472U	4.7k	+/- 5%		0.25	Panasonic
R302	ERJS14J472U	4.7k	+/- 5%		0.25	Panasonic
R303	ERJS14J472U	4.7k	+/- 5%		0.25	Panasonic
R304	ERJS14J472U	4.7k	+/- 5%		0.25	Panasonic
R305	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
R306	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
R307	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
R308	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
R309	ERJS03J100V	10	+/- 5%		0.1	Panasonic
R310	ERJS03J100V	10	+/- 5%		0.1	Panasonic
R311	ERJS03J100V	10	+/- 5%		0.1	Panasonic
R312	ERJS03J100V	10	+/- 5%		0.1	Panasonic
R313	ERJS03J221V	220	+/- 5%		0.1	Panasonic
R314	ERJS03J221V	220	+/- 5%		0.1	Panasonic
R315	ERJS03J221V	220	+/- 5%		0.1	Panasonic
R316	ERJS03J221V	220	+/- 5%		0.1	Panasonic
R317	ERJS03J471V	470	+/- 5%		0.1	Panasonic
R318	ERJS03J331V	330	+/- 5%		0.1	Panasonic
R319	ERJS03J471V	470	+/- 5%		0.1	Panasonic
R320	ERJS03J331V	330	+/- 5%		0.1	Panasonic
R321	ERJS03J331V	330	+/- 5%		0.1	Panasonic
R351	ERJS14J221U	220	+/- 5%		0.25	Panasonic
R352	ERJS14J221U	220	+/- 5%		0.25	Panasonic
R353	ERJS14J221U	220	+/- 5%		0.25	Panasonic
R354	ERJS03J222V	2.2k	+/- 5%		0.1	Panasonic
R355	ERJS03J222V	2.2k	+/- 5%		0.1	Panasonic
R356	ERJS03J222V	2.2k	+/- 5%		0.1	Panasonic
R357	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
R358	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
R359	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
R360	ERJS03J471V	470	+/- 5%		0.1	Panasonic
R361	ERJS03J471V	470	+/- 5%		0.1	Panasonic
R362	ERJS03J471V	470	+/- 5%		0.1	Panasonic
R501	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R502	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R503	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R504	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R505	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R506	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R507	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R508	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R509	ERJS06F49R9V	49.9	+/- 1%		0.125	Panasonic
R510	ERJS06F49R9V	49.9	+/- 1%		0.125	Panasonic
R511	ERJS06F49R9V	49.9	+/- 1%		0.125	Panasonic
R512	ERJS06F49R9V	49.9	+/- 1%		0.125	Panasonic
R513	ERJS03J330V	33	+/- 5%		0.1	Panasonic
R514	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
R515	ERJS03F6491V	6.49k	+/- 1%		0.1	Panasonic
R516	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R530	ERJS03J330V	33	+/- 5%		0.1	Panasonic
R531	ERJS03J330V	33	+/- 5%		0.1	Panasonic

R533	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R534	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R536	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R537	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
R538	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R539	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
R540	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R541	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R542	ERJS03J472V	4.7k	+/- 5%		0.1	Panasonic
R543	ERJS03J101V	100	+/- 5%		0.1	Panasonic
R544	ERJS03J101V	100	+/- 5%		0.1	Panasonic
R611	RD412ETTE105J	1M	+/- 5%		0.25	KOA
J101	ERJS030R00V	0	+/- 5%		0.1	Panasonic
J501	ERJS030R00V (None)	0	+/- 5%		0.1	Panasonic
J502	ERJS030R00V	0	+/- 5%		0.1	Panasonic
J503	ERJS030R00V	0	+/- 5%		0.1	Panasonic
J504	ERJS030R00V (None)	0	+/- 5%		0.1	Panasonic
J505	ERJS030R00V (None)	0	+/- 5%		0.1	Panasonic
J506	ERJS030R00V (None)	0	+/- 5%		0.1	Panasonic
RNW1	RS8A-1002-J1	10k	+/- 5%		0.064	Susumu
RNW2	RS8A-1002-J1	10k	+/- 5%		0.064	Susumu
RNW3	RS8A-1002-J1	10k	+/- 5%		0.064	Susumu
RNW4	RS8A-1002-J1	10k	+/- 5%		0.064	Susumu
RNW5	RS8A-1002-J1	10k	+/- 5%		0.064	Susumu
RNW6	RS8A-1002-J1	10k	+/- 5%		0.064	Susumu
RNW101	RS8A-1002-J1	10k	+/- 5%		0.064	Susumu
RNW301	RS8A-1002-J1	10k	+/- 5%		0.064	Susumu
RNW302	RS8A-1002-J1	10k	+/- 5%		0.064	Susumu
RNW401	RS8A-1002-J1	10k	+/- 5%		0.064	Susumu
RNW402	EXB38V101JV	100	+/- 5%		0.063	Panasonic
RNW403	EXB38V101JV	100	+/- 5%		0.063	Panasonic
L201	DLP31SN221ML2L					Murata
L501	BKP1608HS101-T					Taiyo Yuden
L502	BKP1608HS101-T					Taiyo Yuden
L503	BKP1608HS101-T					Taiyo Yuden
TR501	TLA-6T118LF					TDK
D351	DA2J10100L					Panasonic
D352	DA2J10100L					Panasonic
D353	DA2J10100L					Panasonic
D601	DA2J10100L					Panasonic
DA201	HN1D03FU					Toshiba
ZD201	DZ4J100K0R	10V				Panasonic
ZD202	DZ4J100K0R	10V				Panasonic
LED1	BRPG1211F-TR					Stanley
LED2	BRPG1211F-TR					Stanley
LED3	BRPG1211F-TR					Stanley
LED151	LNJ337W83RA					Panasonic
LED152	LNJ337W83RA					Panasonic
LED153	LNJ337W83RA					Panasonic
LED154	LNJ337W83RA					Panasonic
LED155	LNJ337W83RA					Panasonic
LED156	LNJ337W83RA					Panasonic
LED157	LNJ337W83RA					Panasonic
LED158	LNJ337W83RA					Panasonic
PC301	PS2805C-4VF3A					NEC
PC302	PS2802-4VF3A					NEC
PC351	PS9117A-V-F3-AX					NEC
PC352	PS9117A-V-F3-AX					NEC
PC353	PS9117A-V-F3-AX					NEC
IC1	R5F72165BDFP	200MHz				Renesas
IC2	RNA52A10MMEL-E					Renesas
IC3	R1EX24032ATAS0I	4K-byte				Renesas
IC151	TC74LCX244FK					Toshiba
IC201	TC7SZ08FU					Toshiba

IC202	ADM3202ARUZ					Analog Devices
IC203	ADM485ARMZ					Analog Devices
IC204	TC74LCX244FK					Toshiba
IC205	TC74VHC14FK					Toshiba
IC301	TC74LCX244FK					Toshiba
IC351	TC74VHC14FK					Toshiba
IC501	MNM1221					Panasonic Motor BU
IC502	KSZ8041MLLI (Rev. A5)					Micrel
IC601	PQ033ENA1ZPH	3.3V				Sharp
X1	DSX321G 12.5MHz	12.5MHz	+/- 50ppm			Daishinku
X2	DSO321SR 48MHz	48MHz	+/- 50ppm			Daishinku
X501	DSO321SR 25MHz	25MHz	+/- 50ppm			Daishinku
TP101	LC-3-G-Y					Mac 8
TP501	LC-3-G-Y					Mac 8
TP502	LC-3-G-Y					Mac 8
TP503	LC-3-G-Y					Mac 8
SW101	B3SL-1022P					Omron
RSW401	SA-7030TB	BCD				Copal Electronics
RSW402	SA-7030TB	BCD				Copal Electronics
CN1	MC 0,5/4-G-2,5					Phoenix Contact
CN2	UB-M5BR-DMP14-4S					JST
CN3	MDS-8000-10					JST
CN4	MDS-8000-10					JST
CN5	10220-52A2PL					3M
CN11	85505-5113					Molex
CN12	85505-5113					Molex
CN101	7614-6002					3M
CN102	PS-16PE-D4T1-PN1					JAE