

## Bill of Materials

## Reference Circuit "SR-MNM1221-IO"

Panasonic

Red: Changes

Reference	Part Code	Value	Tolerance	Voltage	Watt	Manufacturer
C1	GR442QR73D102KW01L	1000p	+/- 10%	2000		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	GRM21BB31C106KE15L	10u	+/- 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	None					
C12	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C13	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C14	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C15	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C17	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C18	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C19	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C20	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C21	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C22	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C23	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C24	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C25	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C26	None					
C27	GRM1552C1H471JA01D	470p	+/- 5%	50		Murata
C28	GRM1552C1H471JA01D	470p	+/- 5%	50		Murata
C30	JMK212BJ226MG-T	22u	+/- 20%	6.3		Taiyo Yuden
C31	JMK212BJ226MG-T	22u	+/- 20%	6.3		Taiyo Yuden
C101	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C102	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
C111	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C112	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C113	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C114	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C115	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C116	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C117	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C118	GRM155B11H102KA01D	1000p	+/- 10%	50		Murata
C201	GRM155B31C104KA87D	0.1u	+/- 10%	16		Murata
IC1	DP83848IVV					NS
IC2	S-80129BNMC					Seiko Instruments
IC3	MNM1221					Panasonic
IC101	SN74LVC14APW					Texas Instruments
IC102	SN74LVC14APW					Texas Instruments
IC201	SN74LVC244AP					Texas Instruments
R1	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R2	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R3	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R4	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R5	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R6	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R7	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R8	ERJS06J750V	75	+/- 5%		0.125	Panasonic
R9	ERJS06F49R9V	49.9	+/- 1%		0.125	Panasonic
R10	ERJS06F49R9V	49.9	+/- 1%		0.125	Panasonic
R11	ERJS06F49R9V	49.9	+/- 1%		0.125	Panasonic
R12	ERJS06F49R9V	49.9	+/- 1%		0.125	Panasonic
R13	ERJS03J222V	2.2k	+/- 5%		0.1	Panasonic
R14	ERJS03F4871V	4.87k	+/- 1%		0.1	Panasonic
R15	ERJS03J222V	2.2k	+/- 5%		0.1	Panasonic

R16	ERJS03J222V	2.2k	+/- 5%		0.1	Panasonic
R17	ERJS03J222V	2.2k	+/- 5%		0.1	Panasonic
R18	ERJS03J331V	330	+/- 5%		0.1	Panasonic
R19	ERJS03J222V	2.2k	+/- 5%		0.1	Panasonic
R20	ERJS03J101V	100	+/- 5%		0.1	Panasonic
R21	None					
R22	None					
R23	None					
R24	None					
R25	None					
R28	ERJS03J101V	100	+/- 5%		0.1	Panasonic
R29	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R30	ERJS03J103V	10k	+/- 5%		0.1	Panasonic
R31	None					
R32	None					
R33	None					
R34	None					
R35	None					
R36	None					
R41	ERJS03J330V	33	+/- 5%		0.1	Panasonic
R42	ERJS03J330V	33	+/- 5%		0.1	Panasonic
R43	ERJS03J222V	2.2k	+/- 5%		0.1	Panasonic
R44	ERJS03J222V	2.2k	+/- 5%		0.1	Panasonic
R45	ERJS03J222V	2.2k	+/- 5%		0.1	Panasonic
R46	ERJS03J152V	1.5k	+/- 5%		0.1	Panasonic
R47	ERJS03J222V	2.2k	+/- 5%		0.1	Panasonic
R48	ERJS03J330V	33	+/- 5%		0.1	Panasonic
R49	ERJS03J152V	1.5k	+/- 5%		0.1	Panasonic
IN R101	ERJS14J472U	4.7k	+/- 5%		0.25	Panasonic
IN R102	ERJS14J472U	4.7k	+/- 5%		0.25	Panasonic
IN R103	ERJS14J472U	4.7k	+/- 5%		0.25	Panasonic
IN R104	ERJS14J472U	4.7k	+/- 5%		0.25	Panasonic
IN R105	ERJS14J472U	4.7k	+/- 5%		0.25	Panasonic
IN R106	ERJS14J472U	4.7k	+/- 5%		0.25	Panasonic
IN R107	ERJS14J472U	4.7k	+/- 5%		0.25	Panasonic
IN R108	ERJS14J472U	4.7k	+/- 5%		0.25	Panasonic
IN R109	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
IN R110	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
IN R111	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
IN R112	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
IN R113	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
IN R114	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
IN R115	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
IN R116	ERJS03J102V	1k	+/- 5%		0.1	Panasonic
IN R121	ERJS03J331V	330	+/- 5%		0.1	Panasonic
IN R122	ERJS03J331V	330	+/- 5%		0.1	Panasonic
IN R123	ERJS03J331V	330	+/- 5%		0.1	Panasonic
IN R124	ERJS03J331V	330	+/- 5%		0.1	Panasonic
IN R125	ERJS03J331V	330	+/- 5%		0.1	Panasonic
IN R126	ERJS03J331V	330	+/- 5%		0.1	Panasonic
IN R127	ERJS03J331V	330	+/- 5%		0.1	Panasonic
IN R128	ERJS03J331V	330	+/- 5%		0.1	Panasonic
OUT R201	ERJS03J100V	10	+/- 5%		0.1	Panasonic
OUT R202	ERJS03J100V	10	+/- 5%		0.1	Panasonic
OUT R203	ERJS03J100V	10	+/- 5%		0.1	Panasonic
OUT R204	ERJS03J100V	10	+/- 5%		0.1	Panasonic
OUT R205	ERJS03J100V	10	+/- 5%		0.1	Panasonic
OUT R206	ERJS03J100V	10	+/- 5%		0.1	Panasonic
OUT R207	ERJS03J100V	10	+/- 5%		0.1	Panasonic
OUT R208	ERJS03J100V	10	+/- 5%		0.1	Panasonic
OUT R209	ERJS03J221V	220	+/- 5%		0.1	Panasonic
OUT R210	ERJS03J221V	220	+/- 5%		0.1	Panasonic
OUT R211	ERJS03J221V	220	+/- 5%		0.1	Panasonic
OUT R212	ERJS03J221V	220	+/- 5%		0.1	Panasonic
OUT R213	ERJS03J221V	220	+/- 5%		0.1	Panasonic

OUT	R214	ERJS03J221V	220	+/- 5%		0.1	Panasonic
OUT	R215	ERJS03J221V	220	+/- 5%		0.1	Panasonic
OUT	R216	ERJS03J221V	220	+/- 5%		0.1	Panasonic
OUT	R221	ERJS03J331V	330	+/- 5%		0.1	Panasonic
OUT	R222	ERJS03J331V	330	+/- 5%		0.1	Panasonic
OUT	R223	ERJS03J331V	330	+/- 5%		0.1	Panasonic
OUT	R224	ERJS03J331V	330	+/- 5%		0.1	Panasonic
OUT	R225	ERJS03J331V	330	+/- 5%		0.1	Panasonic
OUT	R226	ERJS03J331V	330	+/- 5%		0.1	Panasonic
OUT	R227	ERJS03J331V	330	+/- 5%		0.1	Panasonic
OUT	R228	ERJS03J331V	330	+/- 5%		0.1	Panasonic
IN	J101	ERJS030R00V	0			0.1	Panasonic
OUT	J201	ERJS030R00V	0			0.1	Panasonic
OUT	J211	ERJS030R00V (None)	0			0.1	Panasonic
OUT	J212	ERJS030R00V	0			0.1	Panasonic
	X1	DSO321SR 25MHz	25M	+/- 50ppm			DAISHINKU
	CN1	85505-5113					Molex
	CN2	85505-5113					Molex
	CN3	B2P-SHF-1AA					JST
	CN301	MC 0,5/10-G-2,5					Phoenix Contact
	CNW1	ECJRV1H471K	470p	+/- 10%	50		Panasonic
IN	CNW101	ECJRV1H471K	470p	+/- 10%	50		Panasonic
IN	CNW102	ECJRV1H471K	470p	+/- 10%	50		Panasonic
OUT	DA201	MA159ATX					Panasonic
OUT	DA202	MA159ATX					Panasonic
OUT	DA203	MA159ATX					Panasonic
OUT	DA204	MA159ATX					Panasonic
	LED1	LN1371G-TR					Panasonic
	LED2	LN1371G-TR					Panasonic
	LED301	LN1371G-TR					Panasonic
	LED302	LN1371G-TR					Panasonic
	LED303	LN1371G-TR					Panasonic
	LED304	LN1371G-TR					Panasonic
	LED305	LN1371G-TR					Panasonic
	LED306	LN1371G-TR					Panasonic
	LED307	LN1371G-TR					Panasonic
	LED308	LN1371G-TR					Panasonic
IN	PC101	PS2815-4					NEC
IN	PC102	PS2815-4					NEC
OUT	PC201	PS2802-4-VF3					NEC
OUT	PC202	PS2802-4-VF3					NEC
	RNW1	RS8A1002J1	10k	+/- 5%		0.063	SUSUMU
	RNW2	RS8A1002J1	10k	+/- 5%		0.063	SUSUMU
	RNW3	RS8A1002J1	10k	+/- 5%		0.063	SUSUMU
	RNW4	EXB38V103JV	10k	+/- 5%		0.063	Panasonic
	RNW5	RS8A1002J1	10k	+/- 5%		0.063	SUSUMU
IN	RNW101	RS8A1002J1	10k	+/- 5%		0.063	SUSUMU
IN	RNW102	EXB38V103JV	10k	+/- 5%		0.063	Panasonic
IN	RNW103	EXB38V103JV	10k	+/- 5%		0.063	Panasonic
OUT	RNW201	RS8A1002J1	10k	+/- 5%		0.063	SUSUMU
OUT	RNW202	RS8A1002J1	10k	+/- 5%		0.063	SUSUMU
	RSW1	SA-7030TB					Copal Electronics
	RSW2	SA-7030TB					Copal Electronics
	TR1	TLA-6T118LF					TDK

Alternate Mounting (Do NOT install both parts.):

IN module --> reference #1xx

OUT module --> reference #2xx