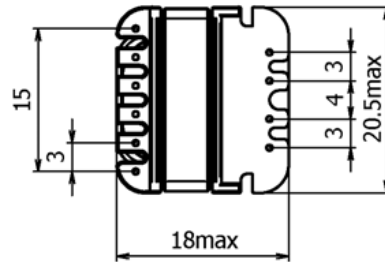
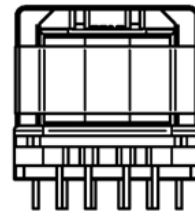
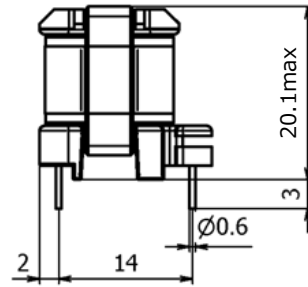
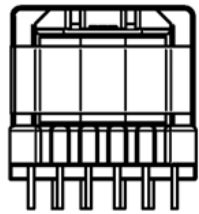
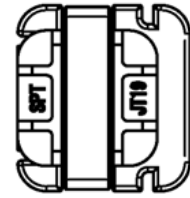
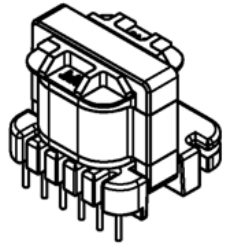


PN : JT1005R-2P

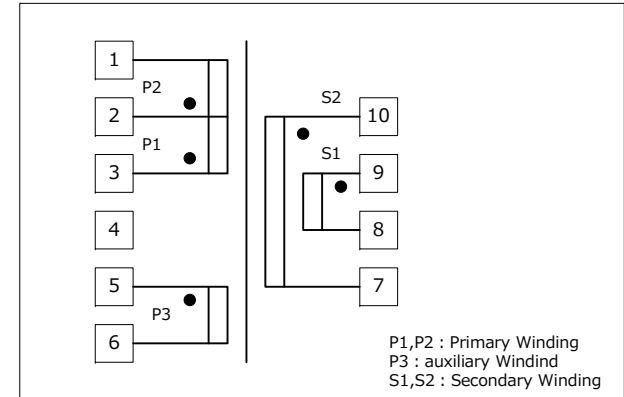


RoHS compliant

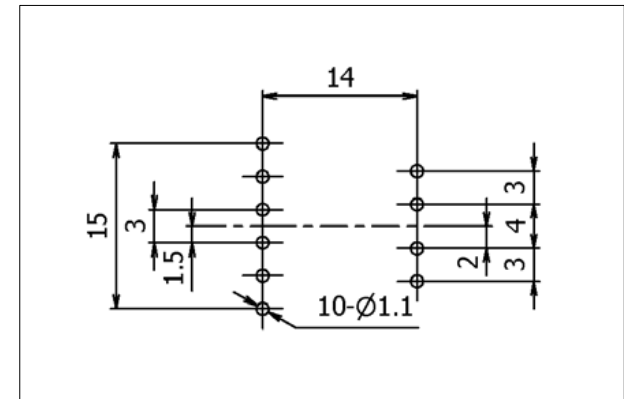


Bobbin : JT19
Ferrite core : EE19

Dimensions



Schematics (Top View)



Recommended PCB hole size (Bottom view)

1. Specifications are subject to change for improvemet without notice.
2. Please request us detailed specification.



TEST REPORT

Product Name	Test Board
Product Number	EVA-JT1005R-2P
Design Number	PS1192A
Sheet Number	
Date	2017/6/19

Meet Safety Standards
IEC 60950 PSE

Specification

Trans type : JT19

IC name : BM2P053 (ROHM)

Input voltage : AC100V - 240V (85V ~ 264V)

Input frequency : 50Hz / 60Hz (47Hz ~ 63Hz)

Output power : 10W

Output voltage : 5V (4.75V ~ 5.25V)

Output current : 2.0A

Ripple noise : 492mVp-p typ (AC100V) 498mVp-p typ (AC240V)

Standby power : 0.11W typ (AC100V) 0.13W typ (AC240V)

Efficiency : 81.0% (AC100V) 82.0% (AC240V)

Over load protect : Auto restart

Over voltage protect : Latch

Over temperature protect : 145°C (typ)

Operating temperature : -10°C ~ +50°C

Storage temperature : -30°C ~ +85°C

Hi-pot test : 3000V 1min.

Dimensions : 66.0 × 32.0 × 22.0 (mm)

Weight : 30.8g

Alphatrans co., ltd.

4-4-11 Bakurou-machi, Chuo-ku, Osaka

541-0059 Japan

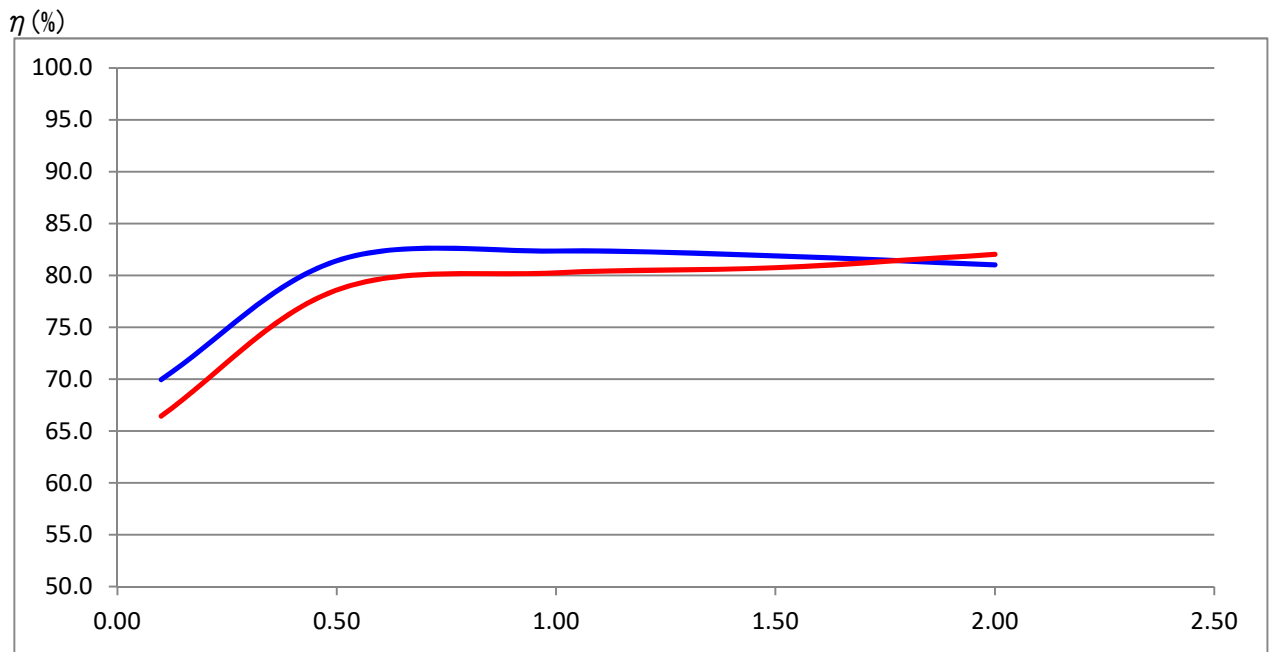
TEL (06) 6252-8839 FAX (06) 6252-3939

<http://www.alphatrans.jp/>

Approve	Check	Drawn
T.Hagimoto	E .Fujishita	M .Omori

Load Regulation

AC in (V)	5V (V)	5V (A)	Bias (V)	I in (mA)	P in (W)	P out (W)	P loss (W)	η (%)
100	5.008	0.00	16.96	4.48	0.111	0.00	0.11	0.0
100	5.008	0.10	17.98	23.17	0.716	0.50	0.22	69.9
100	5.005	0.50	18.60	74.62	3.074	2.50	0.57	81.4
100	5.002	1.00	19.55	129.87	6.074	5.00	1.07	82.4
100	5.000	1.50	20.60	181.03	9.161	7.50	1.66	81.9
100	4.997	2.00	21.70	230.96	12.335	9.99	2.34	81.0
240	5.009	0.00	16.81	5.15	0.134	0.00	0.13	0.0
240	5.009	0.10	18.19	13.12	0.754	0.50	0.25	66.4
240	5.006	0.50	19.90	47.12	3.185	2.50	0.68	78.6
240	5.004	1.00	21.13	78.80	6.236	5.00	1.23	80.2
240	5.002	1.50	22.11	108.51	9.292	7.50	1.79	80.7
240	4.997	2.00	21.98	135.24	12.184	9.99	2.19	82.0



(A)

Over Current Protection

AC100V: 3.0A

AC240V: 3.5A

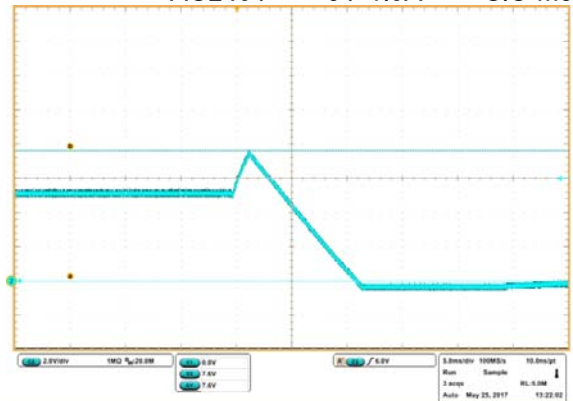
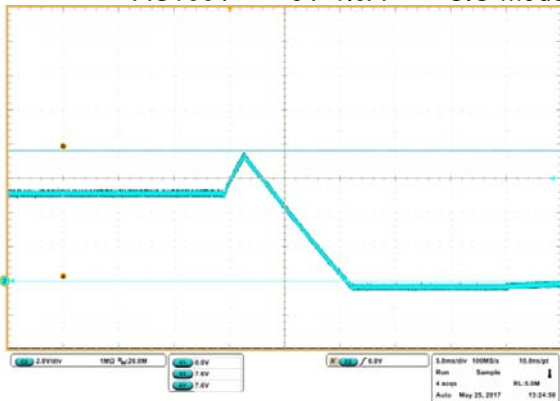
Over Voltage Protection

AC100V: 7.6V 2ms

AC240V: 7.6V 1.5ms

AC100V 5V 1.0A C.C mode

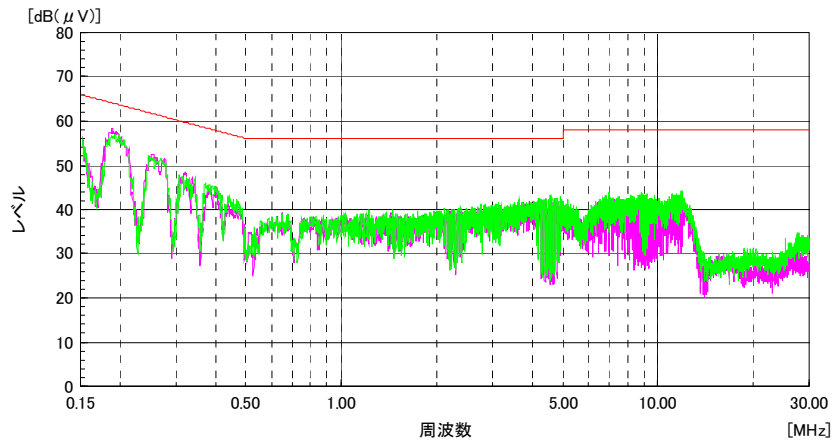
AC240V 5V 1.0A C.C mode



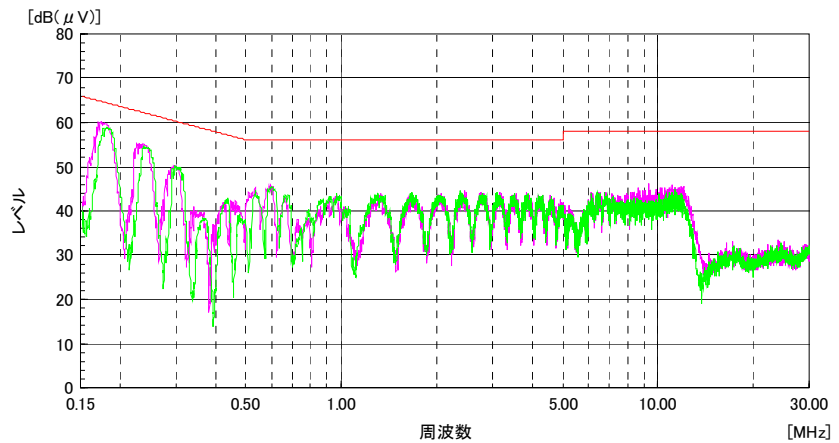
✘U3 R-A short

Conducted EMI noise

input:
AC100V
output:
5V 2.0A

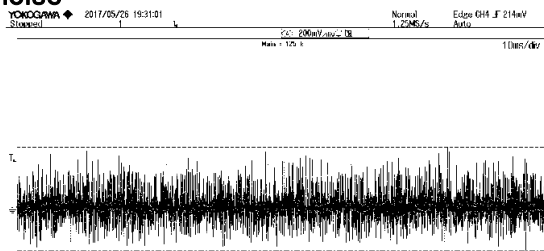


input:
AC240V
output:
5V 2.0A



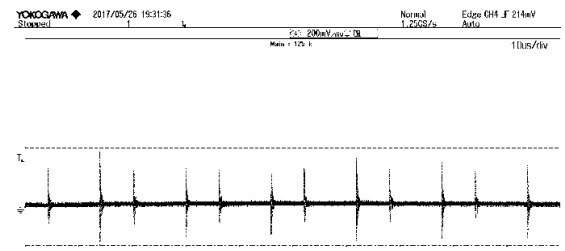
Output ripple noise

input:
AC100V
output:
5V 2.0A



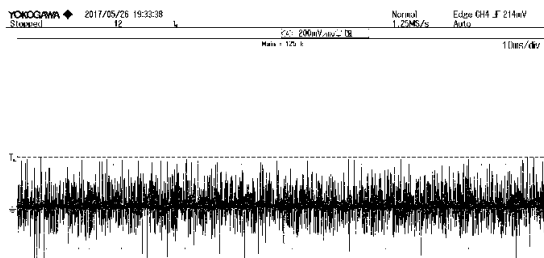
Ripple Noise:
492mV_{p-p}

V1	284.0mV	Max	261mV	Min	209mV
V2	705.0mV	Max	19.035mV	Min	21.995mV
V3	452.0mV	Max		Min	



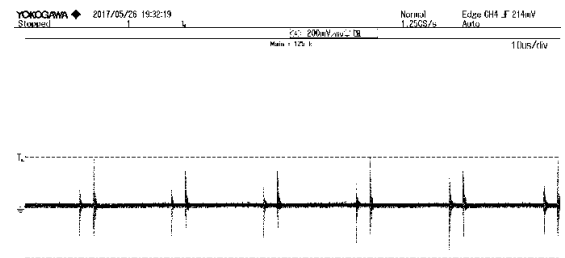
V1	282.0mV	Max	261mV	Min	167mV
V2	482.0mV	Max	21.995mV	Min	
V3	454.0mV	Max		Min	

input:
AC240V
output:
5V 2.0A



Ripple Noise:
498mV_{p-p}

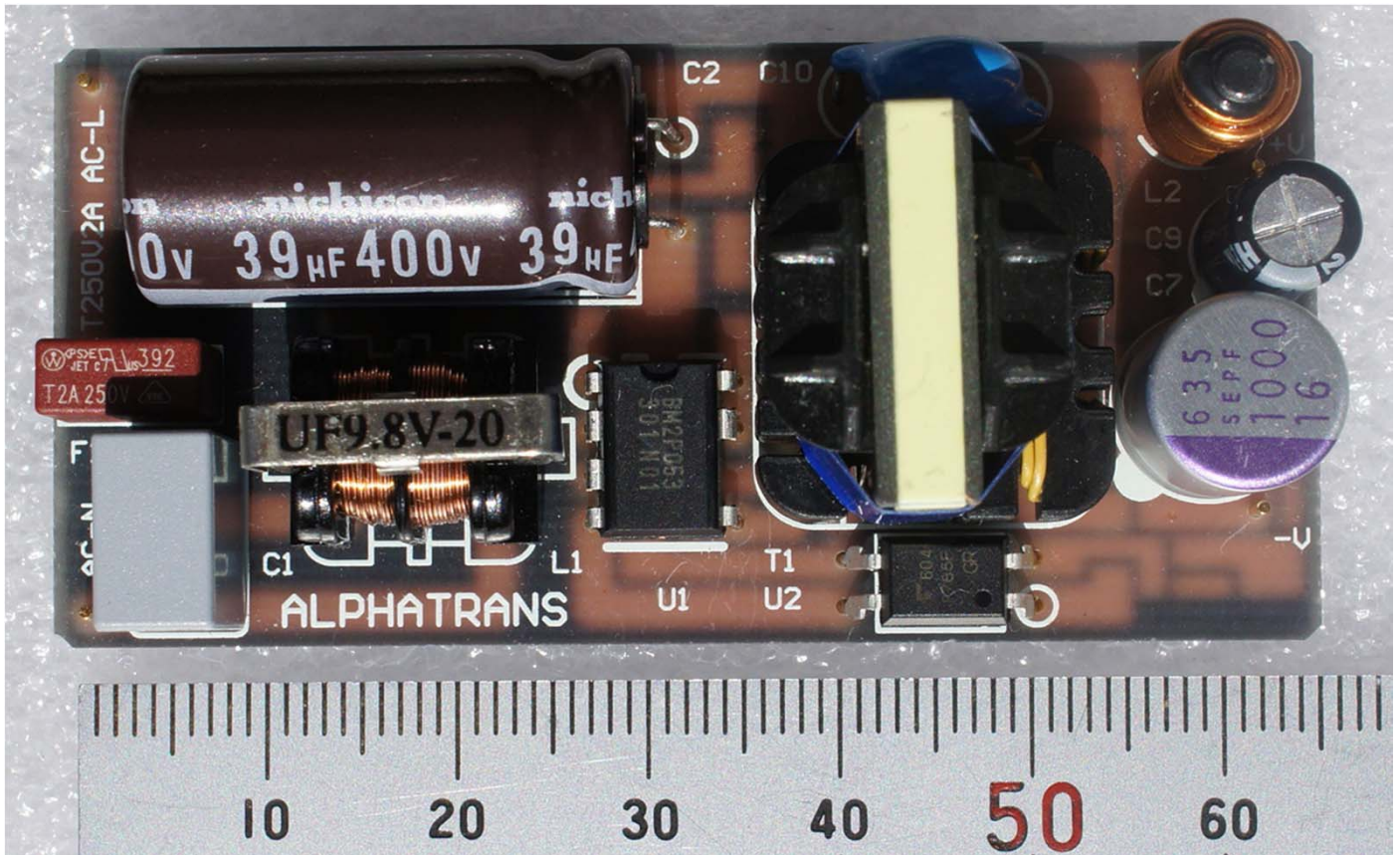
V1	238.0mV	Max	270mV	Min	261mV
V2	705.0mV	Max	17.0453mV	Min	
V3	458.0mV	Max		Min	



V1	238.0mV	Max	270mV	Min	244mV
V2	705.0mV	Max	16.9178mV	Min	
V3	452.0mV	Max		Min	

Differential Probe: (DP-100 Keisoku Giken)

Test board image



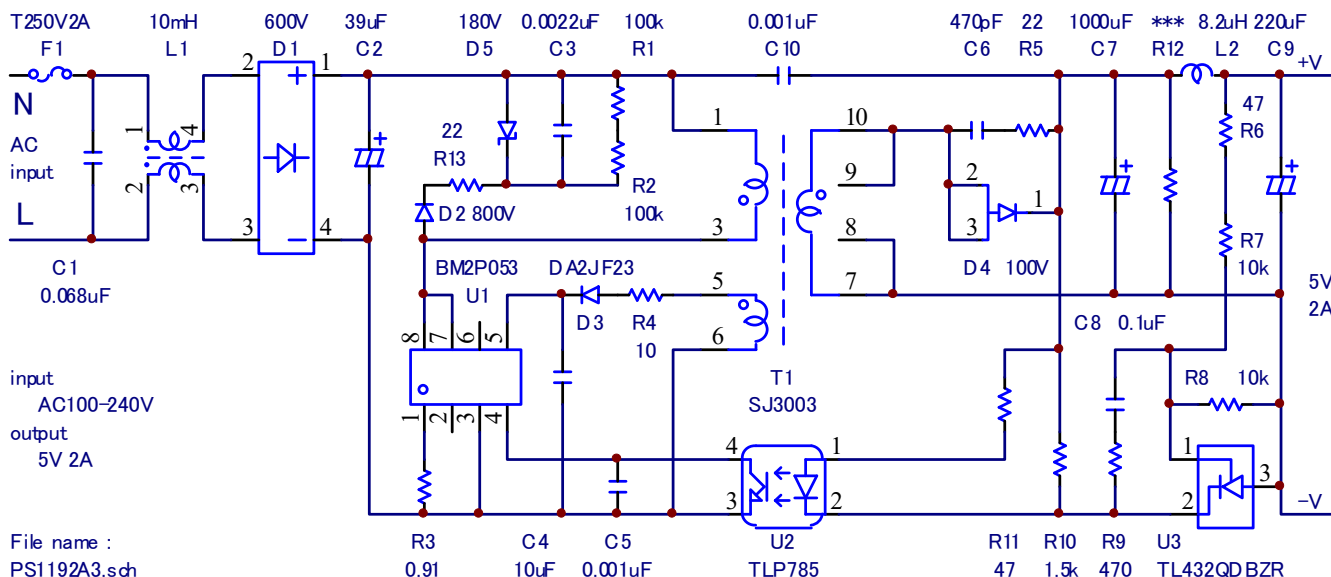
Temperature & Life

input: AC100~240V
 output: 5V 2.0A
 mean temperature : 40 °C
 max operating temperature: 50 °C

C2	105 °C	UCY2G390MHD9	12000 (hour)
C7	105 °C	16SEPF1000M	5000 (hour)
C9	105 °C	UHE1A221MED	5000 (hour)

		input AC85V (°C)	input AC100V		input AC240V		input AC264V		limit temp (°C)	max temp (°C)	margin	mean temp	40°C	
			(°C)	(ΔT)	(°C)	(ΔT)	(°C)	(ΔT)					(°C)	(ΔT)
①	Reference	(°C)	29.6	—	29.5	—	29.1	—	30.0	—	—			
②	L1	(°C)	60.1	30.5	55.7	26.3	44.7	15.6	44.8	14.8	120	80.5	39.5	
③	D1	(°C)	63.7	34.1	60.0	30.5	48.1	19.1	49.0	19.0	150	84.1	65.9	
④	C2	(°C)	52.6	23.1	50.5	21.0	43.7	14.7	44.4	14.4	105	73.1	32.0	63.1
⑤	D5	(°C)	62.4	32.9	60.3	30.8	55.0	25.9	55.9	25.9	150	82.9	67.2	
⑥	R13	(°C)	68.0	38.4	65.3	35.9	58.6	29.5	60.0	30.0	155	88.4	66.6	
⑦	D2	(°C)	72.5	43.0	69.3	39.8	61.2	32.1	63.6	33.6	150	93.0	57.1	
⑧	U1	(°C)	76.3	46.7	71.5	42.1	61.7	32.6	64.6	34.6	105	96.7	8.3	
⑨	T1 wire	(°C)	76.3	46.7	75.3	45.9	73.0	44.0	76.3	46.3	120	96.7	23.3	
⑩	T1 core	(°C)	74.9	45.4	73.9	44.5	72.9	43.8	75.8	45.8	120	95.8	24.2	
⑪	D4	(°C)	97.7	68.2	97.0	67.5	96.3	67.3	98.4	68.4	150	118.4	31.6	
⑫	C7	(°C)	66.2	36.7	65.3	35.9	65.3	36.2	66.2	36.2	105	86.7	18.4	76.2
⑬	L2	(°C)	65.6	36.0	65.6	36.2	64.9	35.9	67.7	37.7	120	87.7	32.3	
⑭	C9	(°C)	62.6	33.1	61.8	32.4	62.0	32.9	62.3	32.3	105	83.1	22.0	72.9
⑮	U3	(°C)	60.8	31.3	60.6	31.2	58.8	29.7	61.0	31.0	125	81.3	43.8	

Schematic Diagram



Parts List

REF.No	Description	TYPE	Specification	Manufacture
C1	Film Capacitor	BFC233920683	0.068uF AC310V 10.0x6.0 P=7.5	Panasonic
C2	Electrol Capacitor	UCY2G390MHD9	39uF 400V 12000H ϕ 12.5x25 P=5.0	Nichicon
C3	Ceramic Capacitor	C3216JB2E222K	0.0022uF 250V B 3216	TDK
C4	Ceramic Capacitor	C2012JB1E106M	10uF 50V B 2012	TDK
C5	Ceramic Capacitor	C1608JB1H102K	0.001uF 50V B 1608	TDK
C6	Ceramic Capacitor	C1608CH2E471J	470pF 250V CH 1608	TDK
C7	Electrol Capacitor	I6SEPF1000M	1000uF 16V 5000H ϕ 10x13 P=5.0	Panasonic
C8	Ceramic Capacitor	C1608JB1H104K	0.1uF 50V B 1608	TDK
C9	Electrol Capacitor	UHE1A221MED	220uF 10V 5000H ϕ 6.3x11 P=2.5	Nichicon
C10	Ceramic Capacitor	CD85-E2GA102MYNS	0.001uF AC250V ϕ 8.5x7 P=10.0	TDK
D1	Diode Bridge	S1WB(A)60B-7102	600V 1A SMD	Shindengen
D2	Diode	RFU02VSM8STR	800V 0.2A TUMD2SM D2014	ROHM
D3	Diode	DA2JF23	300V 0.3A SMini2-F5-B D1712	Panasonic
D4	Diode	V12P10-M3/86A	100V 12A TO-277A	Vishay
D5	Zener Diode	DFLZ180	180V 1W D2818	MCC
F1	Fuse	39212000000	2A 250V T 8.5x4 P=5.08	Littelfuse
L1	Line Filter	XF1441Y (UF9.8V-20)	10mH 0.2A UF9.8V	AlphaTrans
L2	Choke Coil	XF1442Y	8.2uH 5A BCVW	Alphatrans
R1	Resistor	MCR18EZPJ104	100k 1/4W 200V 3216	ROHM
R2	Resistor	MCR18EZPJ104	100k 1/4W 200V 3216	ROHM
R3	Resistor	MCR18EZHJLR91	0.91 1/4W 3216	ROHM
R4	Resistor	MCR03EZPJ100	10 1/10W 50V 1608	ROHM
R5	Resistor	MCR18EZPJ220	22 1/4W 200V 3216	ROHM
R6	Resistor	MCR03EZPJ470	47 1/10W 50V 1608	ROHM
R7	Resistor	MCR03EZPFX1002	10k 1/10W 50V 1% 1608	ROHM
R8	Resistor	MCR03EZPFX1002	10k 1/10W 50V 1% 1608	ROHM
R9	Resistor	MCR03EZPJ471	470 1/10W 50V 1608	ROHM
R10	Resistor	MCR03EZPJ152	1.5k 1/10W 50V 1608	ROHM
R11	Resistor	MCR18EZPJ470	47 1/4W 200V 3216	ROHM
R12	***	***	3216	***
R13	Resistor	MCR18EZPJ220	22 1/4W 200V 3216	ROHM
T1	Transformer	JT1005R-2P	SJ3003C JT19	Alphatrans
U1	IC	BM2P053	650V DIP8	ROHM
U2	Optical	TLP785F (GR,F	5000V	Toshiba
U3	Shunt Reg.	TL432QDBZR	2.495V 2% SOT23-3	Texas Instruments
	PCB	PW1124A	FR-4 t=1.0	
	Terminal	DC-5		マックエイト