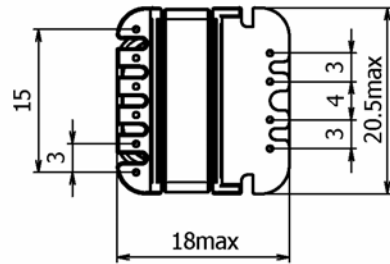
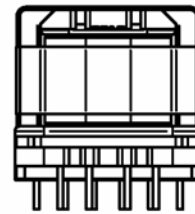
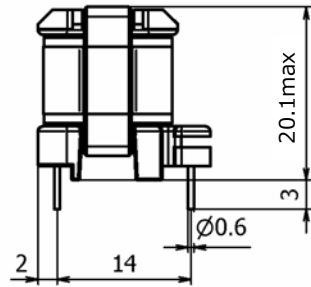
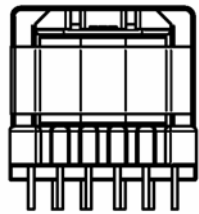
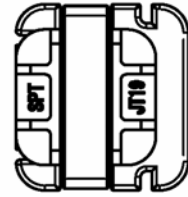
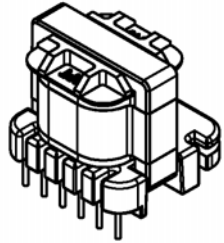


PN : JT1012N-2K

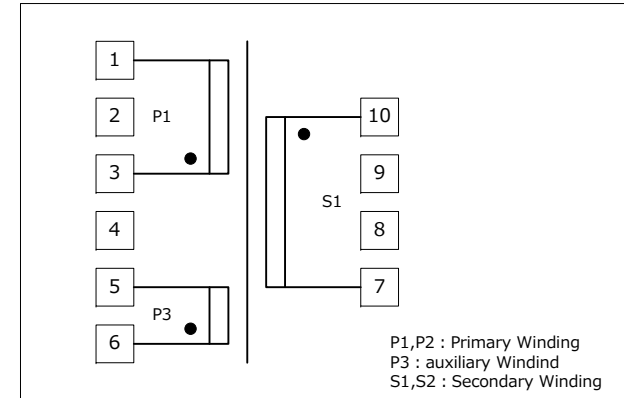


RoHS compliant

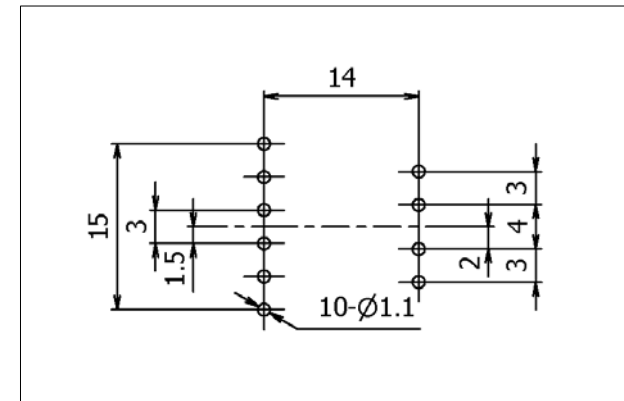


Bobbin : JT19
Ferrite core : EE19

Dimensions



Schematics (Top View)



Recommended PCB hole size (Bottom view)

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



TEST REPORT

Product Name	Test Board
Product Number	EVA-JT1012N-2K
Design Number	PS1202B
Sheet Number	
Date	2017/6/23

Meet Safety Standards
IEC 60950 PSE

Specification

Trans type : JT19

IC name : MIP2K4 (Panasonic)

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

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

Output power : 10W

Output voltage : 12V (11.4V ~ 12.6V)

Output current : 0.85A

Ripple noise : 93mVp-p typ (AC100V) 76mVp-p typ (AC240V)

Standby power : 0.06W typ (AC100V) 0.08W typ (AC240V)

Efficiency : 84.1% (AC100V) 83.6% (AC240V)

Over load protect : Auto restart

Over voltage protect : Latch

Over temperature protect : 140°C (typ)

Operating temperature : -10°C ~ +50°C

Storage temperature : -30°C ~ +85°C

Hi-pot test : 3000V 1min.

Dimensions : 54.0 × 28.0 × 21.0 (mm)

Weight : 23.2g

Alphatrans co., ltd.

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

541-0059 Japan

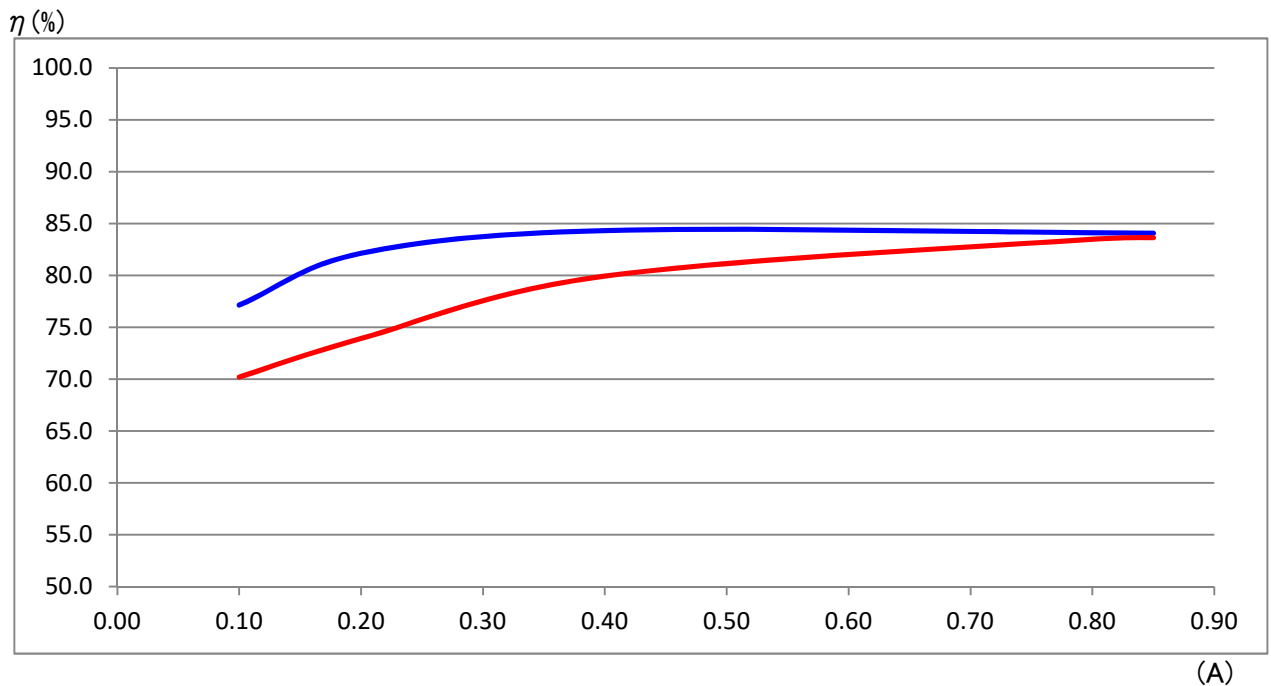
TEL (06) 6252-8839 FAX (06) 6252-3939

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

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

Load Regulation

AC in (V)	12V (V)	12V (A)	Bias (V)	I in (mA)	P in (W)	P out (W)	P loss (W)	η (%)
100	12.011	0.00	9.73	1.99	0.055	0.00	0.06	0.0
100	12.011	0.10	11.90	46.55	1.557	1.20	0.36	77.1
100	12.011	0.20	11.98	76.95	2.925	2.40	0.52	82.1
100	12.010	0.40	12.07	131.18	5.697	4.80	0.89	84.3
100	12.009	0.80	12.17	228.04	11.422	9.61	1.81	84.1
100	12.009	0.85	12.18	239.59	12.144	10.21	1.94	84.1
240	12.011	0.00	9.22	1.05	0.082	0.00	0.08	0.0
240	12.011	0.10	11.91	30.75	1.711	1.20	0.51	70.2
240	12.010	0.20	11.99	55.29	3.250	2.40	0.85	73.9
240	12.010	0.40	12.08	86.69	6.010	4.80	1.21	79.9
240	12.009	0.80	12.19	141.92	11.507	9.61	1.90	83.5
240	12.009	0.85	12.20	148.88	12.207	10.21	2.00	83.6



Over Current Protection

AC100V: 1.55A

AC240V: 1.75A

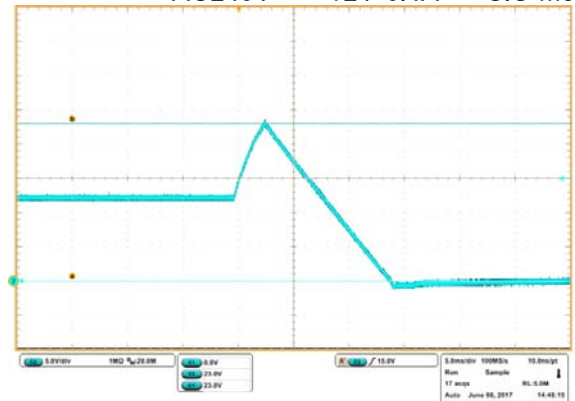
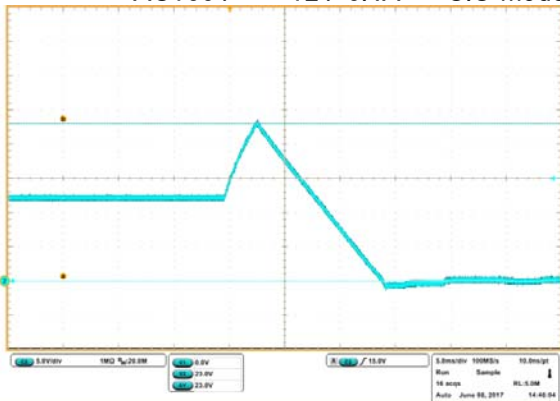
Over Voltage Protection

AC100V: 23V 3.0ms

AC240V: 23V 2.8ms

AC100V 12V 0.4A C.C mode

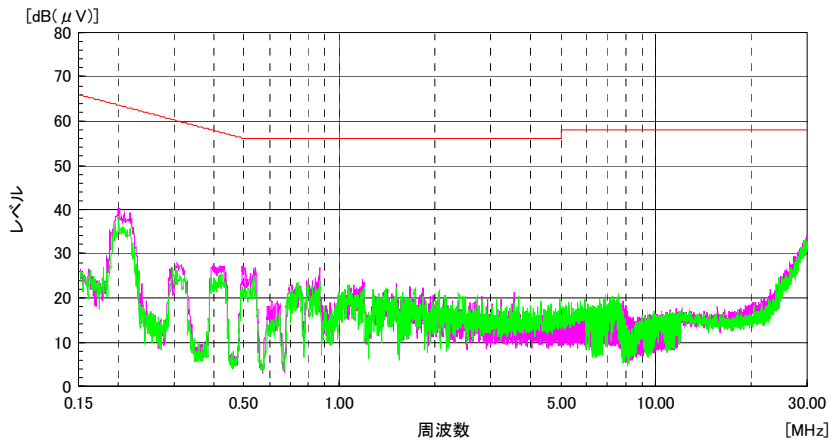
AC240V 12V 0.4A C.C mode



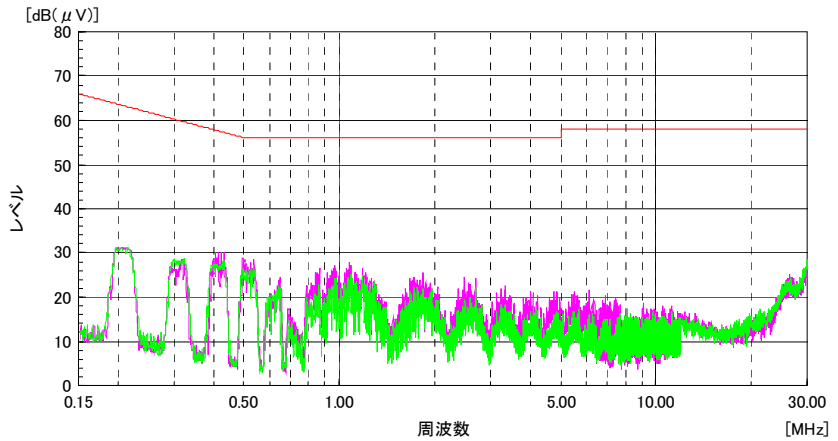
※U3 R-A short

Conducted EMI noise

input:
AC100V
output:
12V 0.85A

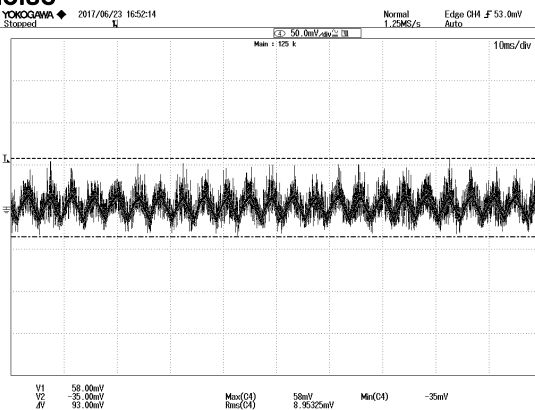


input:
AC240V
output:
12V 0.85A

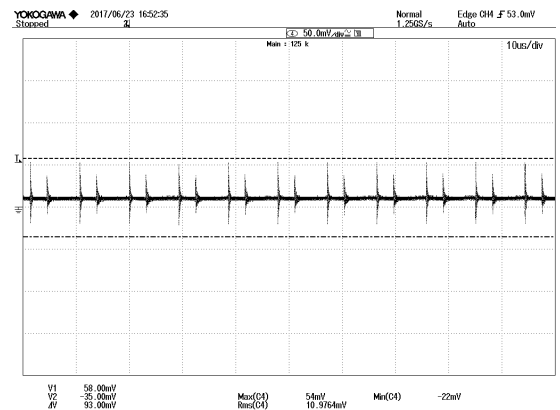


Output ripple noise

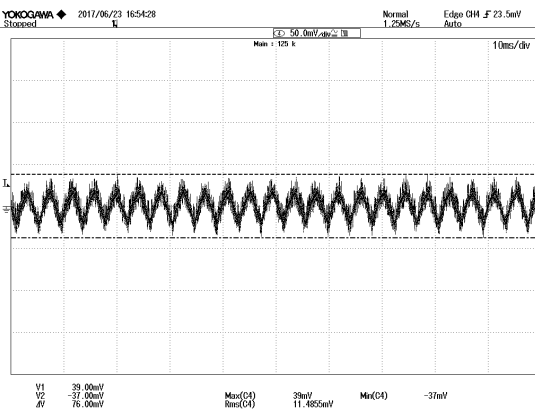
input:
AC100V
output:
12V 0.85A



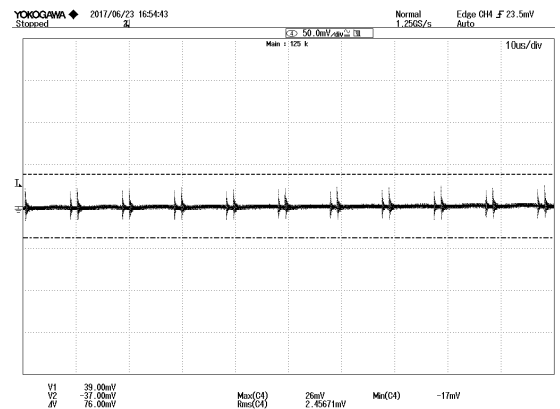
Ripple Noise:
93mVp-p



input:
AC240V
output:
12V 0.85A

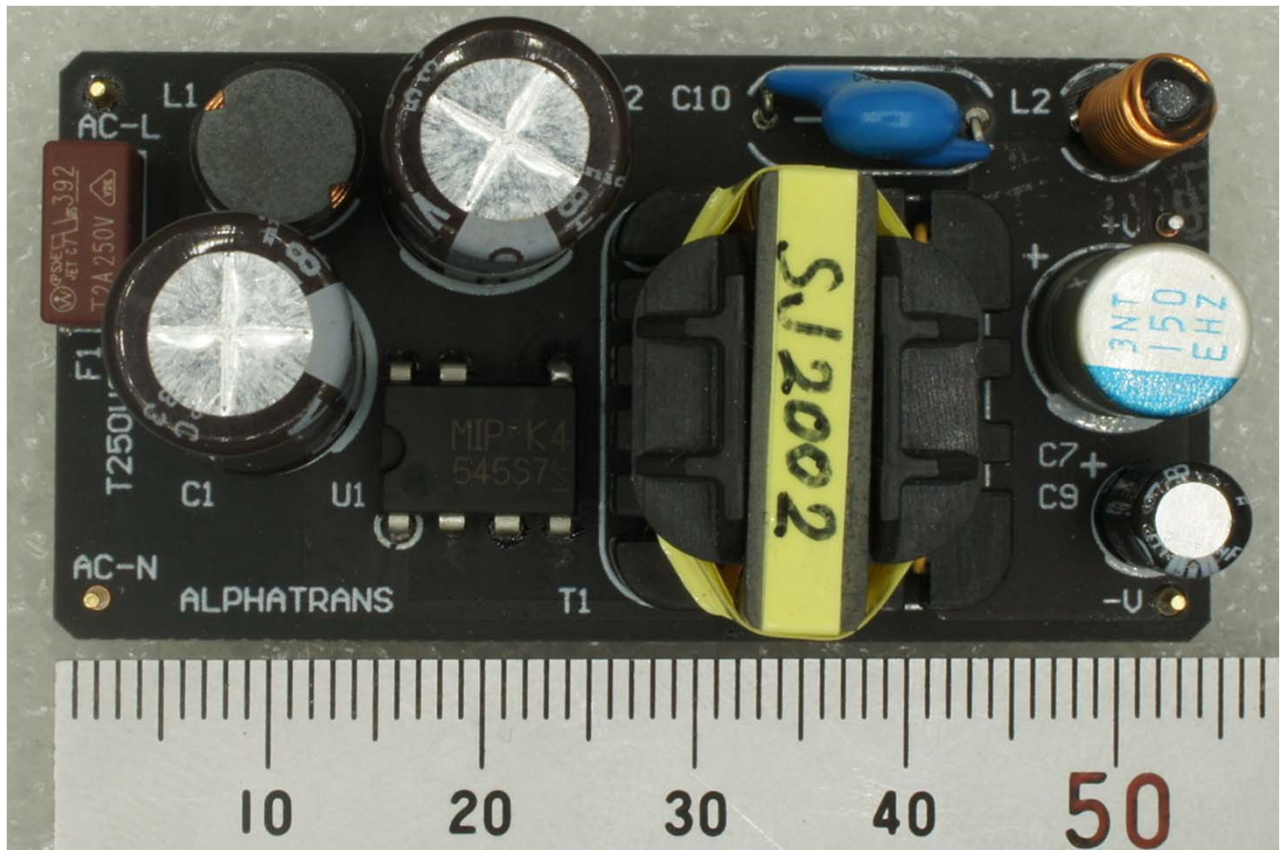


Ripple Noise:
76mVp-p



Differential Probe: (DP-100 Keisoku Giken)

Test board image



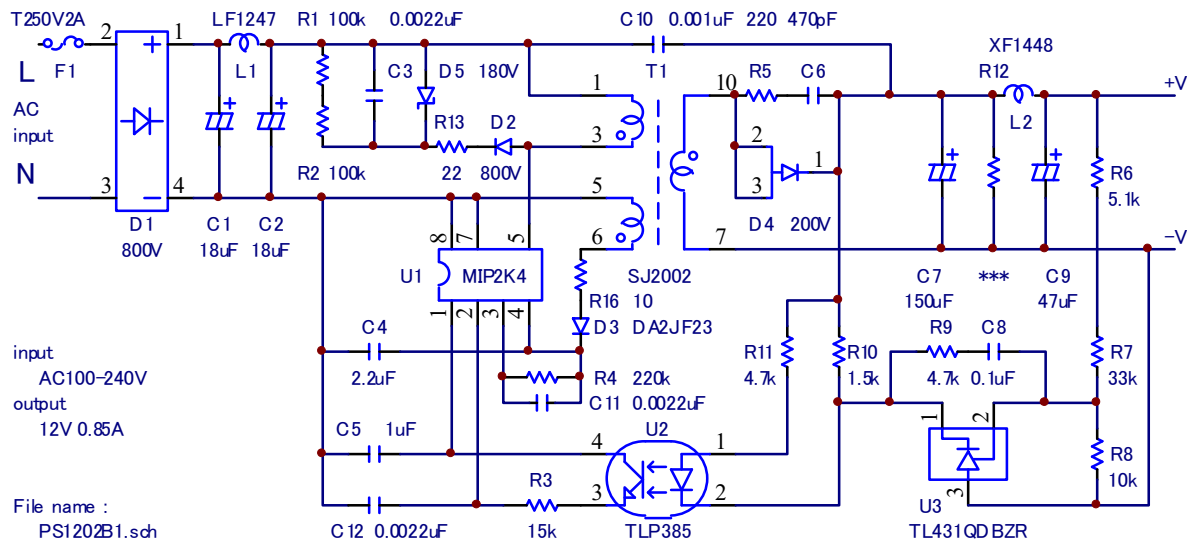
Temperature & Life

input: AC100~240V
 output: 12V 0.85A
 mean temperature : 40 °C
 max operating temperature: 50 °C

C1	105 °C	UVC2G180MPD	2000 (hour)
C2	105 °C	UVC2G180MPD	2000 (hour)
C7	105 °C	25HEHZ150MT	5000 (hour)
C9	105 °C	UHE1E470MDD	5000 (hour)

		input		input		input		input		limit temp (°C)	max temp (°C)	margin	mean temp	40°C Life (hour)	40°C Life (Year)	
		AC85V (°C)	(ΔT)	AC100V (°C)	(ΔT)	AC240V (°C)	(ΔT)	AC264V (°C)	(ΔT)							
①	Reference	(°C)	30.2	—	30.7	—	30.0	—	30.4	—	—	—				
②	D1	(°C)	60.8	30.6	58.3	27.7	49.9	20.0	50.7	20.3	150	80.6	69.4			
③	C1	(°C)	52.5	22.3	51.6	20.9	47.1	17.2	48.2	17.8	105	72.3	32.8	62.3	38720	4.4
④	L1	(°C)	51.7	21.5	50.5	19.8	46.6	16.6	47.5	17.1	120	71.5	48.6			
⑤	C2	(°C)	54.6	24.4	53.6	23.0	50.3	20.4	51.2	20.8	105	70.4	34.7	60.4	44170	5.0
⑥	D5	(°C)	61.8	31.6	61.1	30.4	59.0	29.0	60.0	29.6	150	81.6	68.5			
⑦	U1	(°C)	73.3	43.1	70.6	40.0	65.5	35.5	67.2	36.8	130	93.1	36.9			
⑧	T1 wire	(°C)	62.4	32.2	62.7	32.0	64.3	34.3	65.9	35.5	120	82.2	37.9			
⑨	T1 core	(°C)	65.0	34.8	65.8	35.1	68.6	38.7	70.4	40.0	120	90.0	30.1			
⑩	D4	(°C)	74.1	43.9	74.5	43.8	79.3	49.4	81.0	50.6	175	100.6	74.5			
⑪	C7	(°C)	62.3	32.1	62.8	32.1	65.9	36.0	67.0	36.6	105	86.0	19.1	76.0	37451	4.3
⑫	L2	(°C)	60.7	30.5	61.0	30.3	63.7	33.8	64.7	34.3	120	80.3	39.7			
⑬	C9	(°C)	51.4	21.2	52.5	21.8	53.4	23.4	52.7	22.3	105	73.4	31.6	63.4	89383	10.2
⑭	U3	(°C)	57.3	27.1	58.3	27.7	60.5	30.5	62.2	31.8	125	81.8	43.2			
⑮																

Schematic Diagram



Parts List

REF.No	Description	TYPE	Specification				Manufacture
C1	Electrol Capacitor	UVC2G180MPD	18uF	400V	2000H	φ 10x20 P=5.0	Nichicon
C2	Electrol Capacitor	UVC2G180MPD	18uF	400V	2000H	φ 10x20 P=5.0	Nichicon
C3	Ceramic Capacitor	C3216JB2J222K	0.0022uF	630V	B	3216	TDK
C4	Ceramic Capacitor	C2012JB1H225K	2.2uF	50V	B	2012	TDK
C5	Ceramic Capacitor	C1608JB1H105K	1uF	50V	B	1608	TDK
C6	Ceramic Capacitor	C1608CH2E471J	470pF	250V	CH	1608	TDK
C7	Electrol Capacitor	25HEHZ150MT	150uF	25V	5000H	φ 8x9.5 P=3.5	Suncon
C8	Ceramic Capacitor	C1608JB1H104K	0.1uF	50V	B	1608	TDK
C9	Electrol Capacitor	UHE1E470MDD	47uF	25V	5000H	φ 5x11 P=2.5	Nichicon
C10	Ceramic Capacitor	CD45-E2GA102M-NKA	0.001uF	AC250V		φ 8.5x7 P=10.0	TDK
C11	Ceramic Capacitor	C1608CH1H222K	0.0022uF	50V	CH	1608	TDK
C12	Ceramic Capacitor	C1608CH1H222K	0.0022uF	50V	CH	1608	TDK
D1	Diode Bridge	D1UBA80-7062	800V	1A			Shindengen
D2	Diode	RFU02VSM8STR	800V	0.2A		TUMD2SM D2014	ROHM
D3	Diode	DA2JF23	300V	0.3A		SMini2-F5-B D1712	Panasonic
D4	Diode	VS-6ESH02-M3	200V	6A		TO-277A	Vishay
D5	Zener Diode	DFLZ180	180V	1W		D2818	MCC
F1	Fuse	39212000000	2A	250V	T	8.5x4 P=5.08	Littelfuse
L1	Choke Coil	LF1247	220uH			DR8V	AlphaTrans
L2	Choke Coil	XF1448				BCVW	Alphatrans
R1	Resistor	MCR18EZPJ104	100k	1/4W	200V	3216	ROHM
R2	Resistor	MCR18EZPJ104	100k	1/4W	200V	3216	ROHM
R3	Resistor	MCR03EZPJ153	15k	1/10W	50V	1608	ROHM
R4	Resistor	MCR03EZPJ224	220k	1/10W	50V	1608	ROHM
R5	Resistor	MCR18EZPJ221	220	1/4W	200V	3216	ROHM
R6	Resistor	MCR03EZPFX5101	5.1k	1/10W	50V	1% 1608	ROHM
R7	Resistor	MCR03EZPFX3302	33k	1/10W	50V	1% 1608	ROHM
R8	Resistor	MCR03EZPFX1002	10k	1/10W	50V	1% 1608	ROHM
R9	Resistor	MCR03EZPJ472	4.7k	1/10W	50V	1608	ROHM
R10	Resistor	MCR03EZPJ152	1.5k	1/10W	50V	1608	ROHM
R11	Resistor	MCR18EZPJ472	4.7k	1/4W	200V	3216	ROHM
R12	***	***				3216	***
R13	Resistor	MCR18EZPJ220	22	1/4W	200V	3216	ROHM
R16	Resistor	MCR03EZPJ100	10	1/10W	50V	1608	ROHM
T1	Transformer	JT1012N-2K	SJ2002A			JT19	Alphatrans
U1	IC	MIP2K4	700V			DIP8	Panasonic
U2	Optical	TLP385 (GR)	5000V			SOP4 8mm	Toshiba
U3	Shunt Reg.	TL431QDBZR	2.495V 2%			SOT23-3	Texas Instruments
	PCB	PW1132B	FR-4	t=1.0			
	Terminal	DC-5					マックエイト