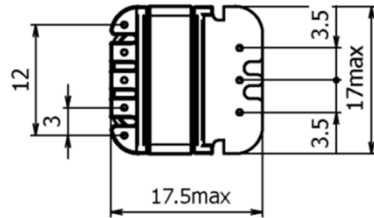
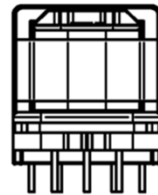
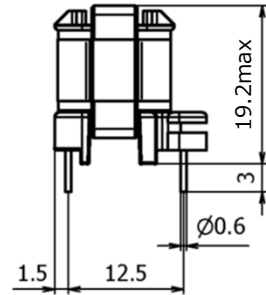
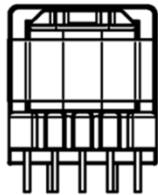
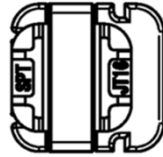
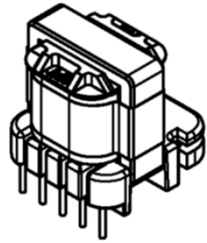


PN : JT0505P-TN

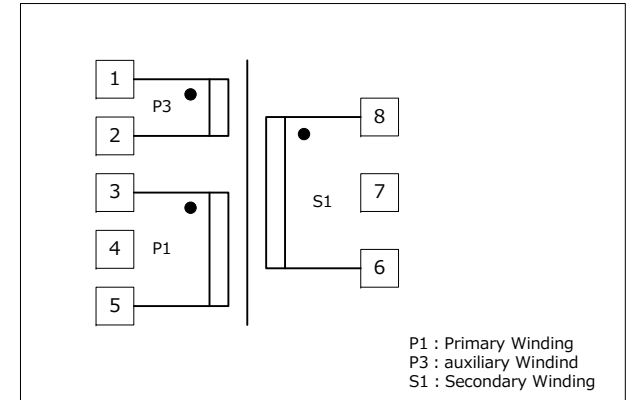


RoHS compliant

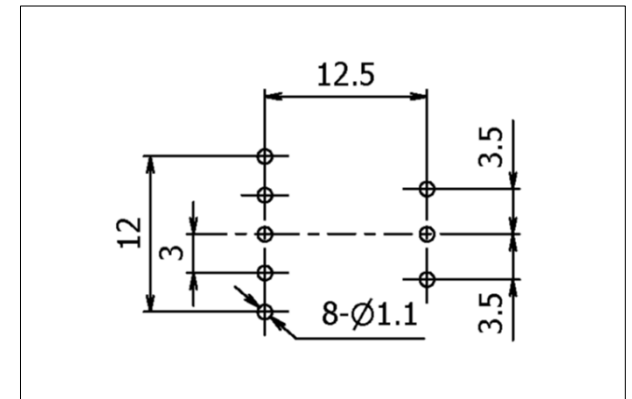


Bobbin : JT16  
Ferrite core : EE16

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-JT0505P-TN
Design Number	PS1204A
Sheet Number	
Date	2017/9/19

Meet Safety Standards
IEC 60950 PSE

## Specification

Trans type : JT16

IC name : TNY284D (Power Integrations)

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

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

Output power : 5W

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

Output current : 1.0A

Ripple noise : 620mVp-p typ (AC100V) 720mVp-p typ (AC240V)

Standby power : 0.07W typ (AC100V) 0.16W typ (AC240V)

Efficiency : 77.4% (AC100V) 78.0% (AC240V)

Over load protect : Auto restart

Over voltage protect : Latch

Over temperature protect : 142°C (typ)

Operating temperature : -10°C ~ +50°C

Storage temperature : -30°C ~ +85°C

Hi-pot test : 3000V 1min.

Dimensions : 38.0 × 25.0 × 18.5 (mm)

Weight : 15.4g

Alphatrans co., ltd.

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

541-0059 Japan

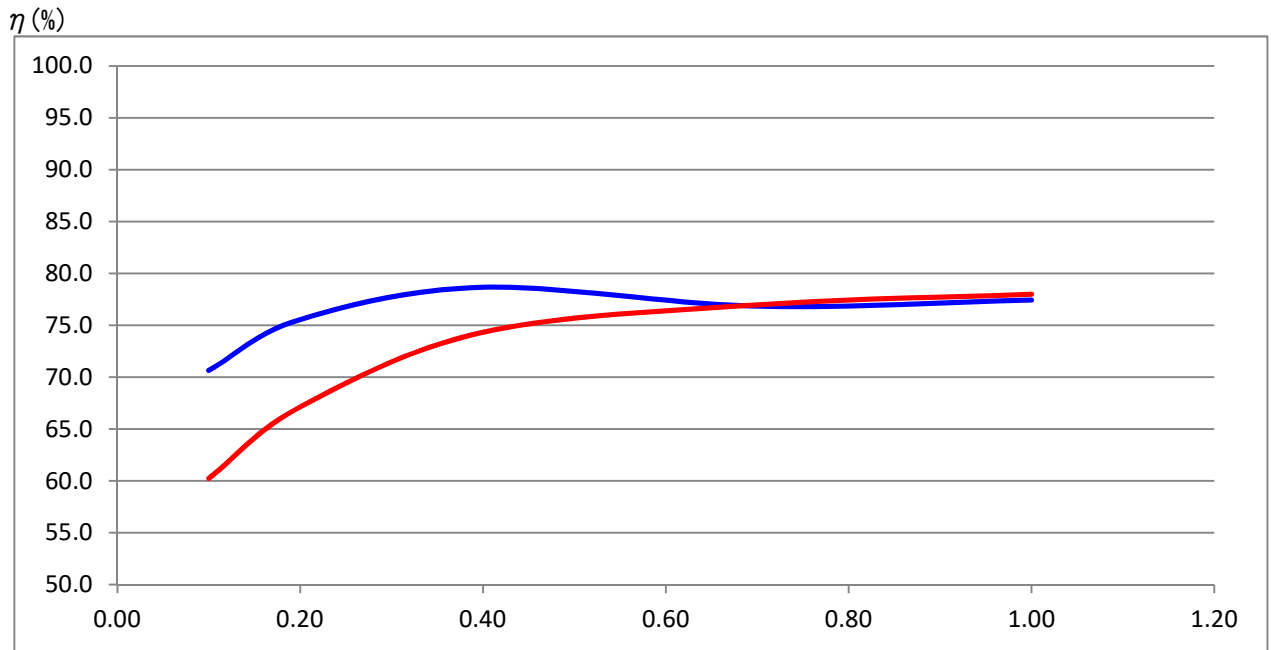
TEL (06) 6252-8839 FAX (06) 6252-3939

<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)	効率 (%)
100	4.995	0.00	18.32	2.52	0.069	0.000	0.069	0.0
100	4.995	0.10	19.31	22.39	0.707	0.500	0.208	70.7
100	4.994	0.20	20.25	37.24	1.322	0.999	0.323	75.6
100	4.993	0.40	21.33	62.16	2.539	1.997	0.542	78.7
100	4.993	0.70	24.65	97.63	4.549	3.495	1.054	76.8
100	4.992	1.00	25.54	129.87	6.448	4.992	1.456	77.4
240	4.995	0.00	18.49	2.22	0.155	0.000	0.155	0.0
240	4.994	0.10	19.39	15.47	0.829	0.499	0.330	60.2
240	4.994	0.20	20.02	27.30	1.488	0.999	0.489	67.1
240	4.993	0.40	21.20	42.37	2.687	1.997	0.690	74.3
240	4.992	0.70	22.56	60.19	4.540	3.494	1.046	77.0
240	4.991	1.00	24.53	80.34	6.400	4.991	1.409	78.0



(A)

### Over Current Protection

AC100V: 1.5A

AC240V: 1.8A

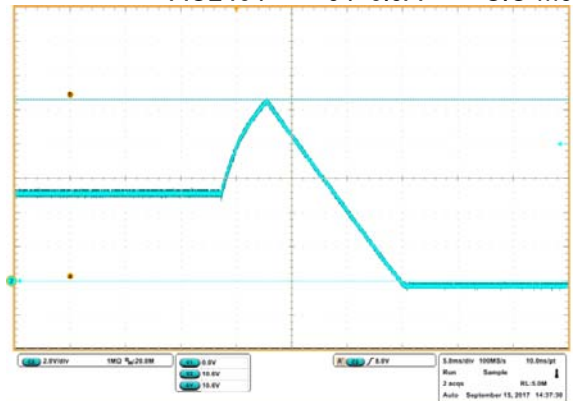
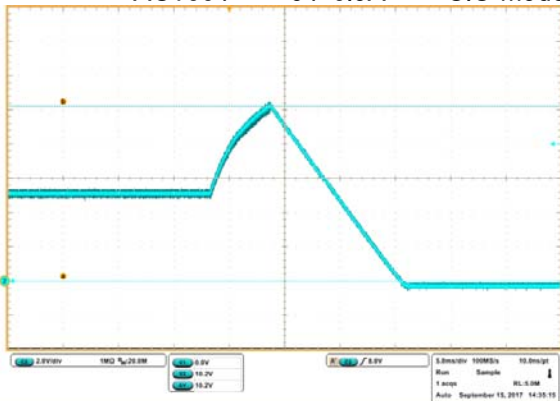
### Over Voltage Protection

AC100V: 10.2V 5.0ms

AC240V: 10.6V 4.0ms

AC100V 5V 0.5A C.C mode

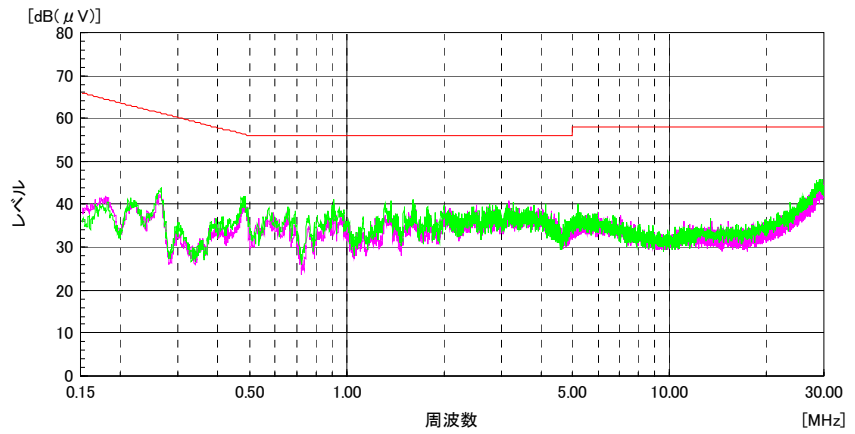
AC240V 5V 0.5A C.C mode



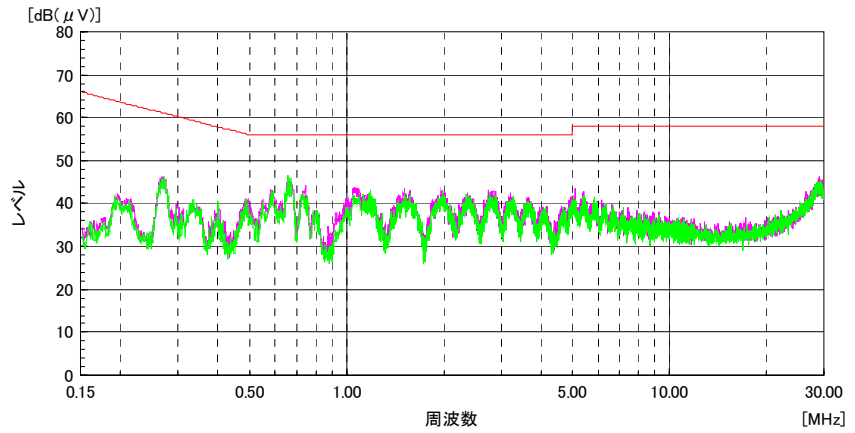
※U3 R-A short

### Conducted EMI noise

input:  
AC100V  
output:  
5V 1.0A



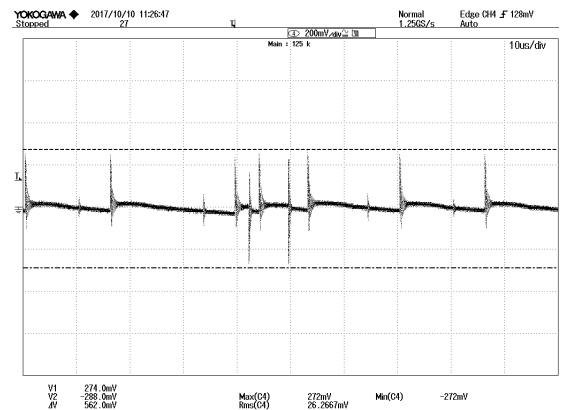
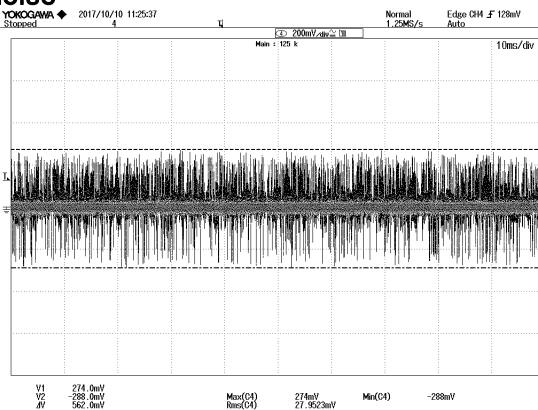
input:  
AC240V  
output:  
5V 1.0A



### Output ripple noise

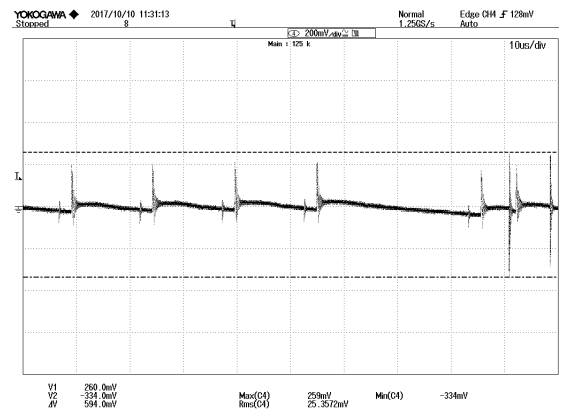
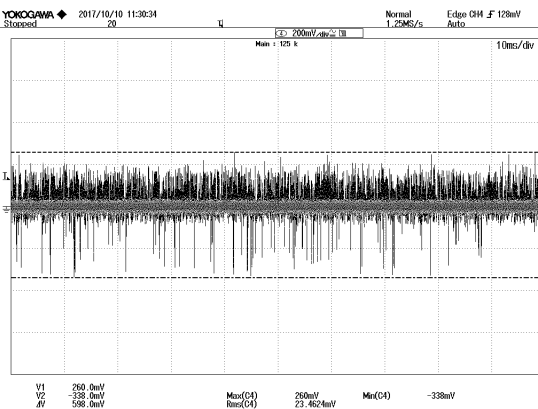
input:  
AC100V  
output:  
5V 1.0A

Ripple Noise:  
562mV<sub>p-p</sub>



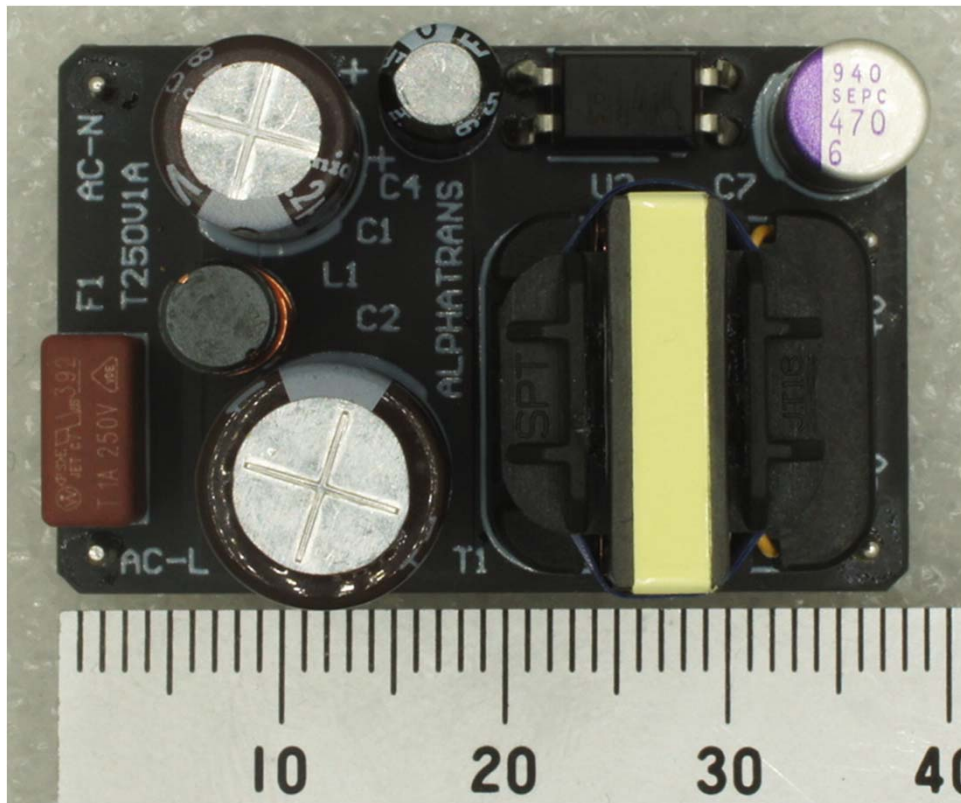
input:  
AC240V  
output:  
5V 1.0A

Ripple Noise:  
598mV<sub>p-p</sub>



Differential Probe: (DP-100 Keisoku Giken)

## Test board image



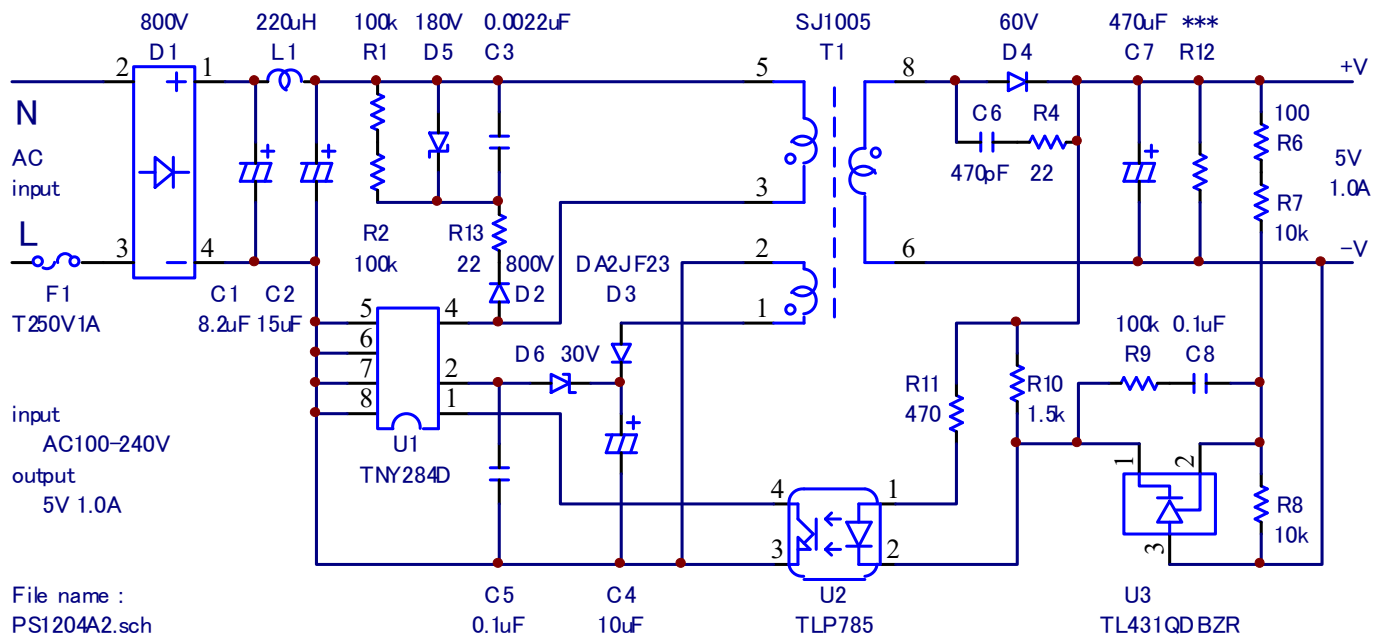
## Temperature & Life

input: AC100~240V  
 output: 5V 1.0A  
 mean temperature : 40 °C  
 max operating temperature: 50 °C

C1	105 °C	UVC2G8R2MPD	2000 (hour)
C2	105 °C	UVC2G150MPD	2000 (hour)
C4	105 °C	UHE1H100MDD1TD	5000 (hour)
C7	105 °C	6SEPC470MW	5000 (hour)

		input AC85V (°C)	input AC100V		input AC240V		input AC264V		limit temp (°C)	max temp (°C)	margin	mean temp	40°C Life (hour)	40°C Life (Year)		
			(°C)	(ΔT)	(°C)	(ΔT)	(°C)	(ΔT)							(°C)	(ΔT)
①	Reference	(°C)	27.0	—	27.2	—	26.9	—	—	—	—					
②	D1	(°C)	57.5	30.6	52.7	25.5	46.8	20.0	47.0	20.2	150	80.6	69.5			
③	C1	(°C)	55.6	28.7	51.1	23.9	47.1	20.2	47.5	20.7	105	78.7	26.4	68.7	24847	2.8
④	L1	(°C)	57.4	30.4	52.9	25.7	49.1	22.2	49.4	22.6	105	80.4	24.6			
⑤	C2	(°C)	60.6	33.6	56.2	29.0	52.3	25.5	53.3	26.5	105	83.6	21.4	73.6	17630	2.0
⑥	D2	(°C)	74.1	47.1	67.0	39.8	62.7	35.9	63.8	37.0	150	97.1	52.9			
⑦	D5	(°C)	64.4	37.5	59.5	32.3	56.0	29.1	57.0	30.2	150	87.5	62.6			
⑧	R13	(°C)	70.4	43.4	64.1	36.9	60.0	33.2	61.0	34.2	155	93.4	61.6			
⑨	U1	(°C)	91.0	64.1	78.4	51.2	71.9	45.0	73.0	46.2	150	114.1	36.0			
⑩	C4	(°C)	59.7	32.7	54.3	27.1	51.2	24.4	51.9	25.1	105	82.7	22.3	72.7	46913	5.4
⑪	T1 wire	(°C)	64.6	37.7	62.1	34.9	61.4	34.6	61.8	35.0	105	87.7	17.4			
⑫	T1 core	(°C)	63.6	36.7	61.5	34.3	61.3	34.5	62.5	35.7	105	86.7	18.4			
⑬	D4	(°C)	69.5	42.6	67.8	40.6	67.5	40.7	67.6	40.8	150	92.6	57.5			
⑭	C7	(°C)	56.4	29.5	54.4	27.2	53.8	26.9	55.0	28.2	105	79.5	25.6	69.5	58767	6.7
⑮	U3	(°C)	53.1	26.2	51.6	24.4	51.2	24.3	51.7	24.9	125	76.2	48.9			

## Schematic Diagram



## Parts List

REF.No	Description	TYPE	Specification	Manufacture
C1	Electrol Capacitor	UVC2G8R2MPD	8.2uF 400V 2000H $\phi$ 8x16.0 P=3.5	Nichicon
C2	Electrol Capacitor	UVC2G150MPD	15uF 400V 2000H $\phi$ 10x16.0 P=5.0	Nichicon
C3	Ceramic Capacitor	C2012JB2E222K	0.0022uF 250V B 2012	TDK
C4	Electrol Capacitor	UHE1H100MDD1TD	10uF 50V 5000H $\phi$ 5x11 P=2.5	Nichicon
C5	Ceramic Capacitor	C1608JB1H104K	0.1uF 50V B 1608	TDK
C6	Ceramic Capacitor	C1608CH2E471J	470pF 250V CH 1608	TDK
C7	Electrol Capacitor	6SEPC470MW	470uF 6.3V 5000H $\phi$ 6.3x9.0 P=2.5	Panasonic
C8	Ceramic Capacitor	C1608JB1H104K	0.1uF 50V B 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	RBR5L60A	60V 5A PMDS D4526	ROHM
D5	Zener Diode	DFLZ180	180V 1W SOD-123FL D2818	MCC
D6	Zener Diode	UDZVTE-1730B	30V 0.5W UMD2 D1712	ROHM
F1	Fuse	39211000440	1A 250V T	Littelfuse
L1	Choke Coil	LF1244Y	220uH CH5011	Alphatrans
R1	Resistor	MCR10EZPJ104	100k 1/8W 150V 2012	ROHM
R2	Resistor	MCR10EZPJ104	100k 1/8W 150V 2012	ROHM
R4	Resistor	MCR10EZPJ220	22 1/8W 150V 2012	ROHM
R6	Resistor	MCR03EZPJ101	100 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	MCR03EZPJ104	100k 1/10W 50V 1608	ROHM
R10	Resistor	MCR03EZPJ152	1.5k 1/10W 50V 1608	ROHM
R11	Resistor	MCR03EZPJ471	470 1/10W 50V 1608	ROHM
R12	Resistor	***	*** 3216	***
R13	Resistor	MCR10EZPJ220	22 1/8W 150V 2012	ROHM
T1	Transformer	JT0505P-TN	SJ1005D JT16	Alphatrans
U1	IC	TNY284D	725V SO8C	Power Integrations
U2	Optical	TLP785F (GR,F)	5000V	Toshiba
U3	Shunt Reg.	TL431QDBZR	2.495V 2% SOT23-3	Texas Instruments
	PCB	PW1125C	FR-4 t=1.0	
	Terminal	DC-5		マックエイト