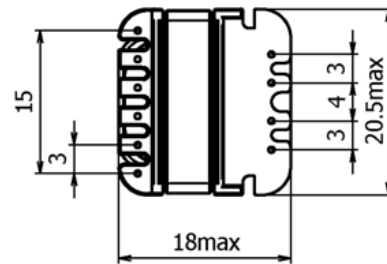
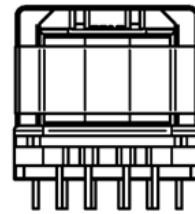
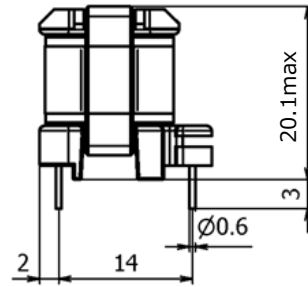
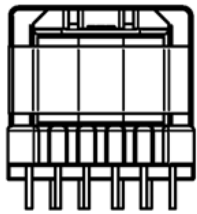
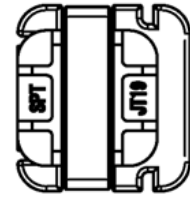
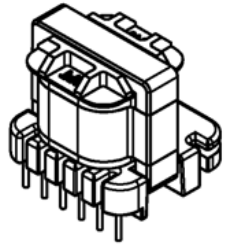


PN : JT1012R-2P

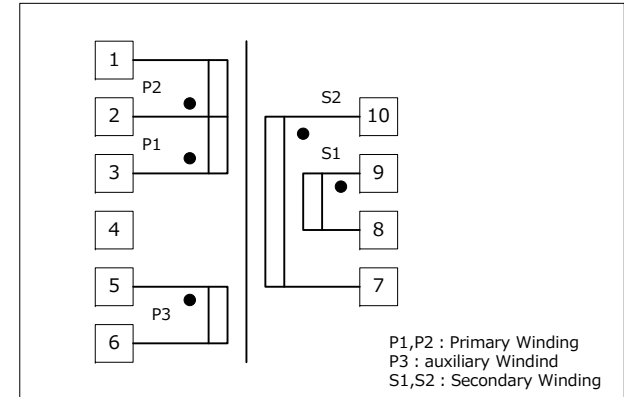


RoHS compliant

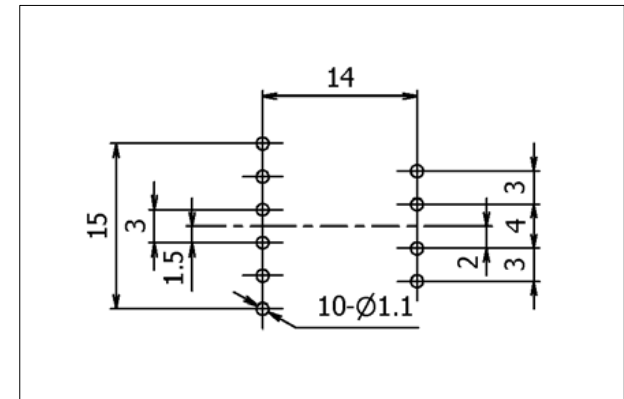


Bobbin : JT19
Ferrite core : EE19

Dimensions



Schematics (Top View)



Recommended PCB hole size (Bottom view)

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



TEST REPORT

Product Name	Test Board
Product Number	EVA-JT1012R-2P
Design Number	PS1191A
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 : 12V (11.4V ~ 12.6V)

Output current : 0.85A

Ripple noise : 404mVp-p typ (AC100V) 266mVp-p typ (AC240V)

Standby power : 0.07W typ (AC100V) 0.08W typ (AC240V)

Efficiency : 84.8% (AC100V) 86.0% (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 : 30.0g

Alphatrans co., ltd.

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

541-0059 Japan

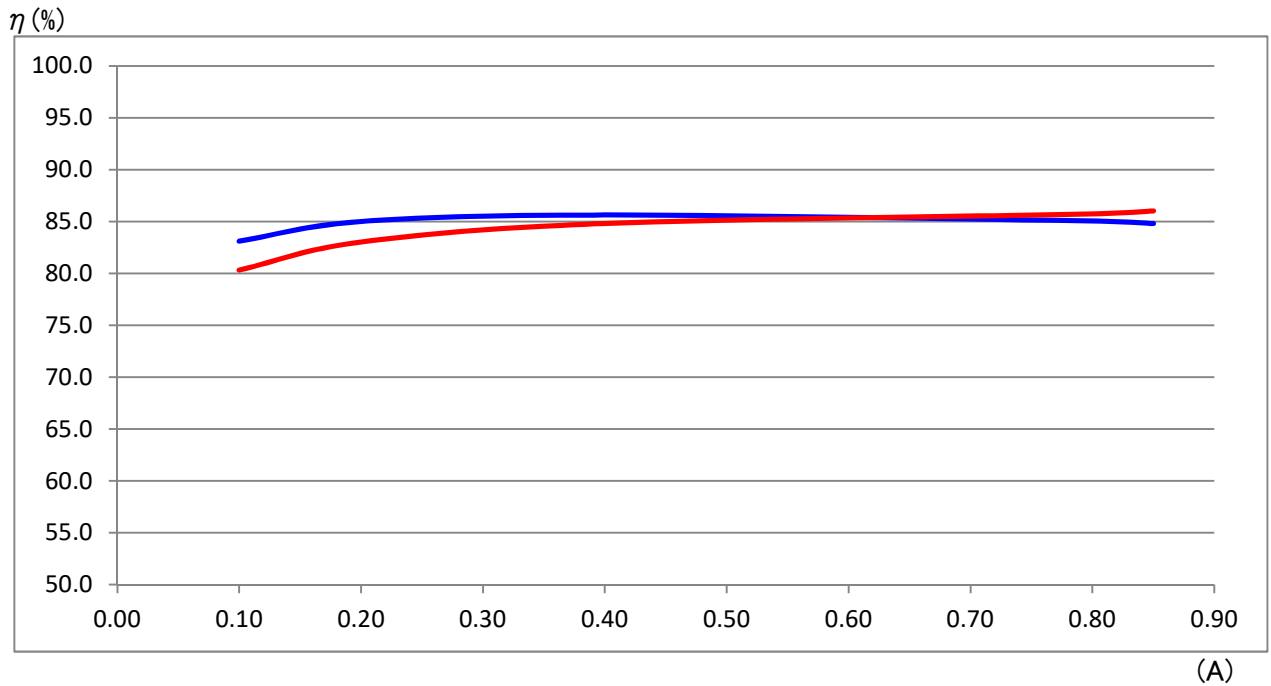
TEL (06) 6252-8839 FAX (06) 6252-3939

<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	11.951	0.00	16.53	3.06	0.067	0.00	0.07	0.0
100	11.950	0.10	17.66	40.36	1.438	1.20	0.24	83.1
100	11.950	0.20	17.74	69.64	2.812	2.39	0.42	85.0
100	11.949	0.40	17.82	121.61	5.582	4.78	0.80	85.6
100	11.948	0.80	17.97	214.83	11.238	9.56	1.68	85.1
100	11.948	0.85	17.98	226.18	11.976	10.16	1.82	84.8
240	11.952	0.00	15.95	4.66	0.079	0.00	0.08	0.0
240	11.951	0.10	17.72	24.33	1.488	1.20	0.29	80.3
240	11.951	0.20	17.79	43.16	2.879	2.39	0.49	83.0
240	11.950	0.40	17.87	72.88	5.636	4.78	0.86	84.8
240	11.949	0.80	17.98	126.17	11.151	9.56	1.59	85.7
240	11.949	0.85	17.98	132.04	11.807	10.16	1.65	86.0



Over Current Protection

AC100V: 1.30A

AC240V: 1.50A

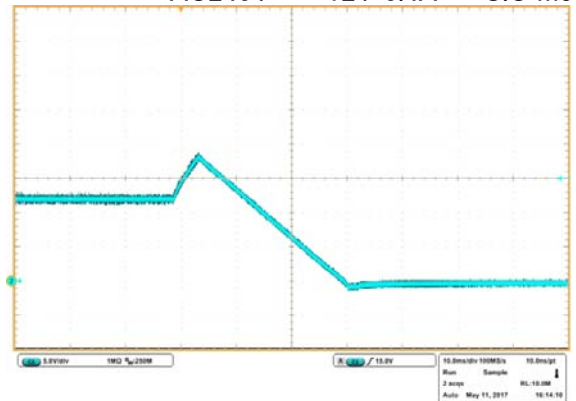
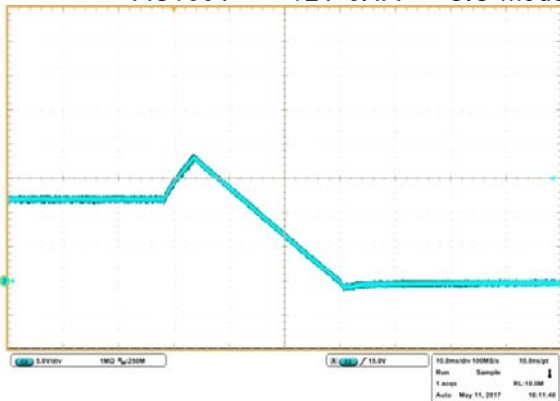
Over Voltage Protection

AC100V: 18V 6ms

AC240V: 18V 5ms

AC100V 12V 0.4A C.C mode

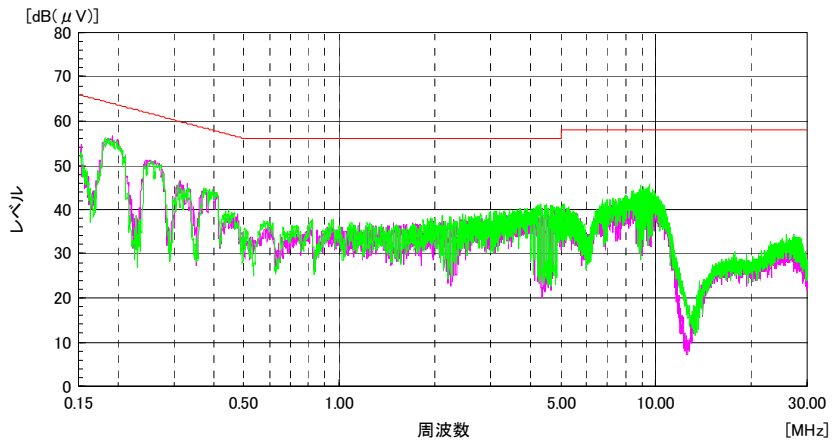
AC240V 12V 0.4A C.C mode



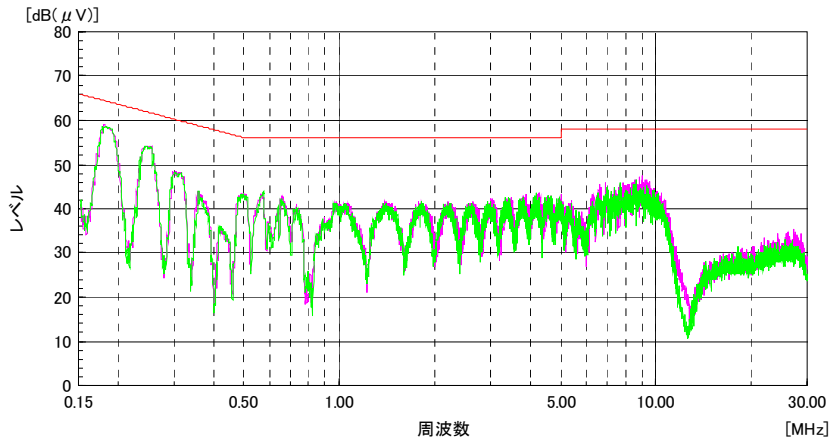
※U3 R-A short

Conducted EMI noise

input:
AC100V
output:
12V 0.85A

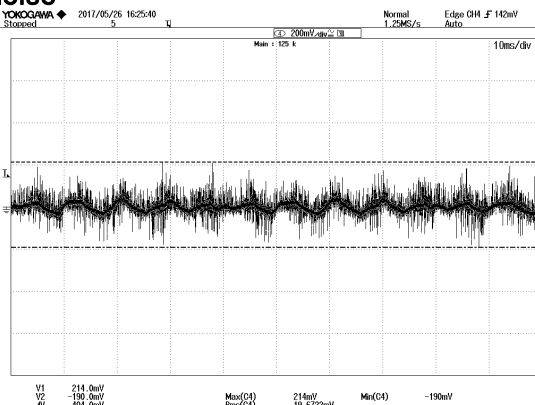


input:
AC240V
output:
12V 0.85A

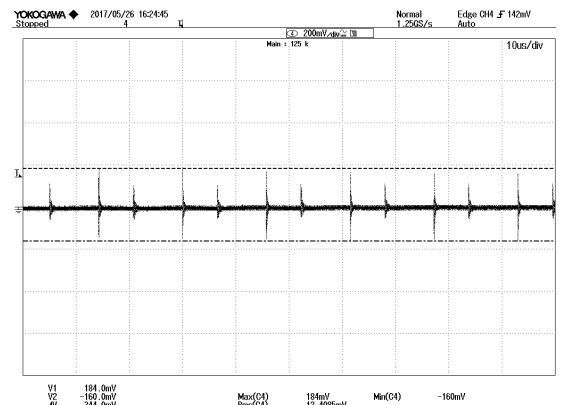


Output ripple noise

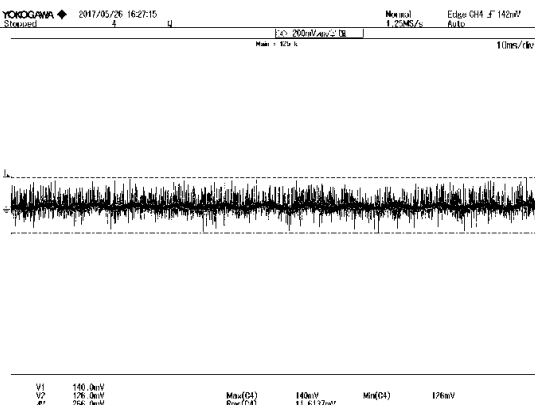
input:
AC100V
output:
12V 0.85A



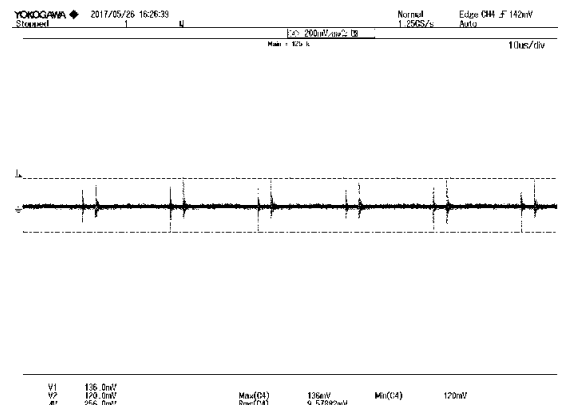
Ripple Noise:
404mVp-p



input:
AC240V
output:
12V 0.85A

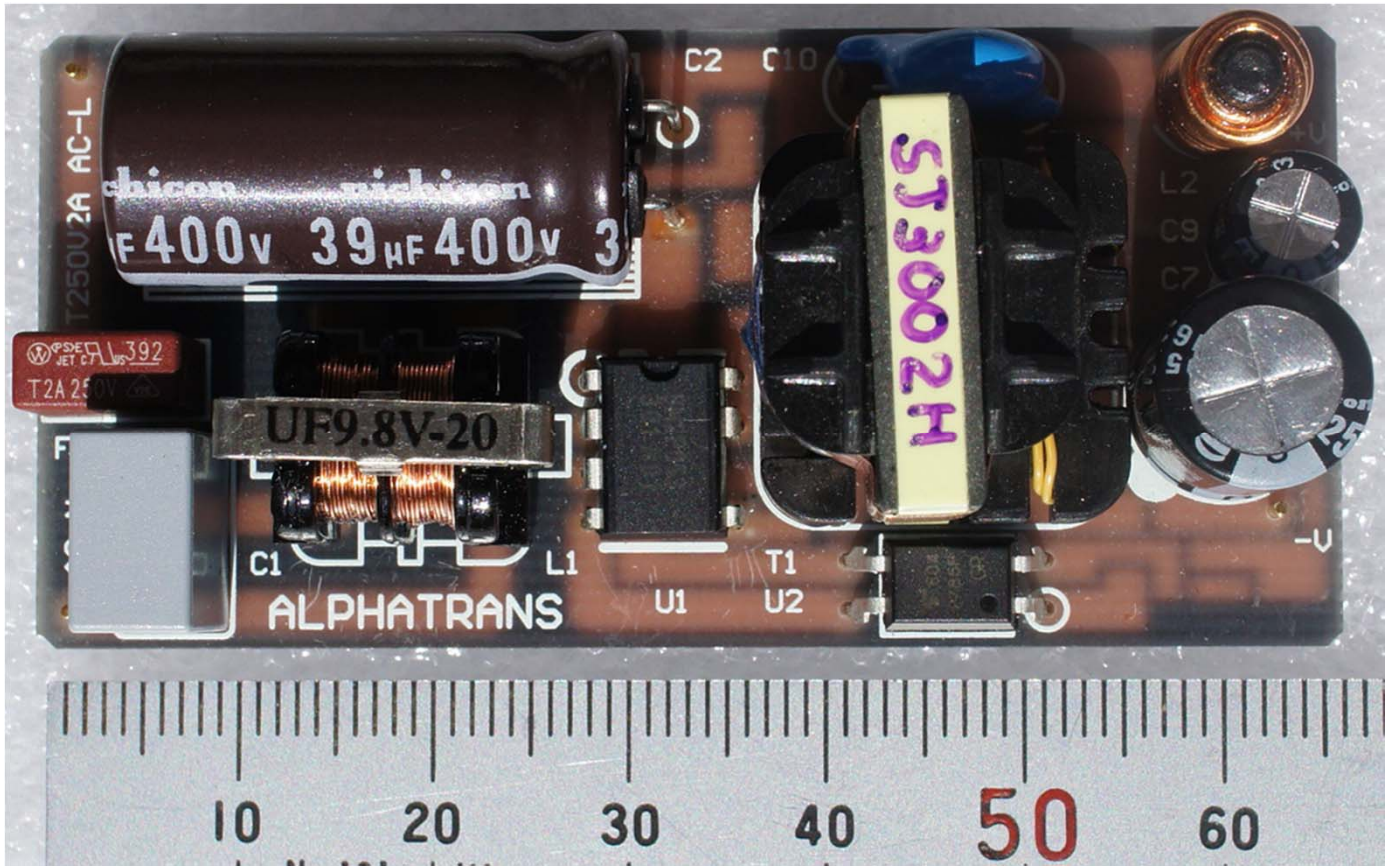


Ripple Noise:
266mVp-p



Differential Probe: (DP-100 Keisoku Giken)

Test board image



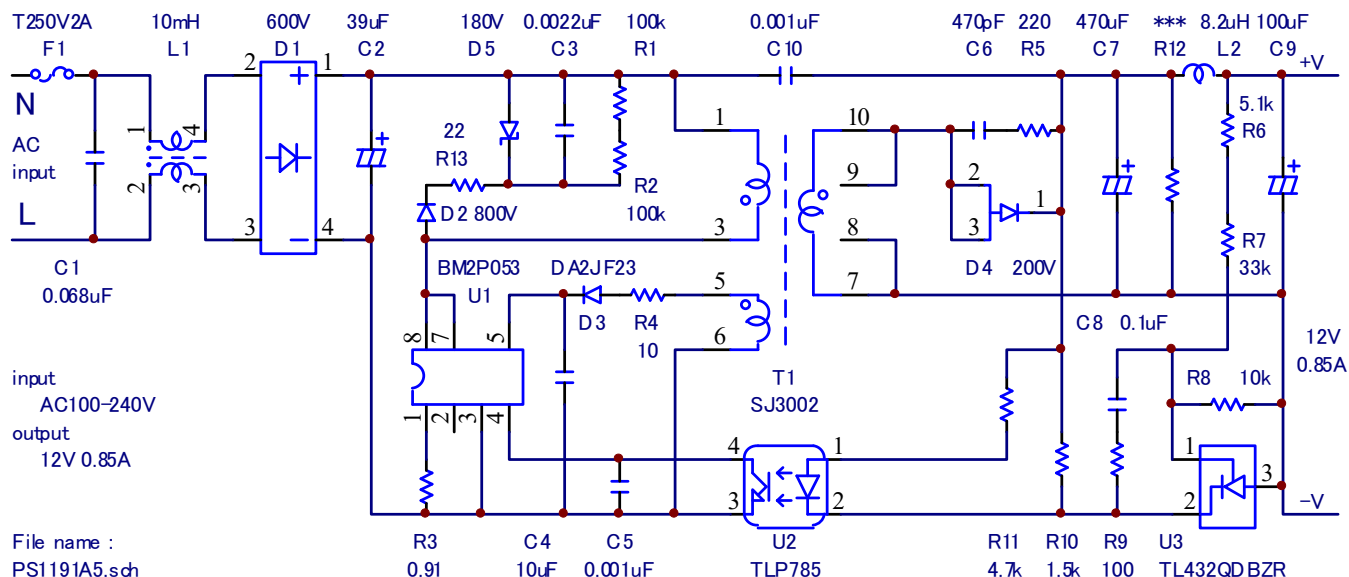
Temperature & Life

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

C2	105 °C	UCY2G390MHD9	12000 (hour)
C7	105 °C	UHE1E471MPD6	7000 (hour)
C9	105 °C	UHE1E101MED	5000 (hour)

		input	input	input	input	limit	max		mean	40°C	40°C					
		AC85V	AC100V	AC240V	AC264V	temp	temp	margin	temp	Life	Life					
		(°C)	(ΔT)	(°C)	(ΔT)	(°C)	(°C)		(°C)	(hour)	(Year)					
①	Reference	(°C)	27.8	—	28.2	—	29.4	—	31.1	—	—					
②	L1	(°C)	55.7	27.9	52.8	24.6	43.8	14.4	44.9	13.8	120	77.9	42.1			
③	D1	(°C)	59.6	31.8	57.1	29.0	46.4	17.0	48.0	16.9	150	81.8	68.2			
④	C2	(°C)	47.8	20.0	46.7	18.5	41.5	12.1	42.9	11.7	105	70.0	35.0	60.0	271153	31.0
⑤	D5	(°C)	55.4	27.6	55.4	27.2	50.1	20.7	52.1	21.0	150	77.6	72.4			
⑥	R13	(°C)	61.1	33.3	60.0	31.8	54.4	25.0	56.5	25.4	155	83.3	71.7			
⑦	D2	(°C)	64.0	36.3	62.4	34.2	56.8	27.4	59.2	28.1	150	86.3	63.8			
⑧	U1	(°C)	69.1	41.3	65.1	36.9	59.2	29.8	62.0	30.9	105	91.3	13.7			
⑨	T1 wire	(°C)	67.1	39.4	66.7	38.6	67.4	38.0	70.2	39.1	120	89.4	30.7			
⑩	T1 core	(°C)	66.8	39.1	66.7	38.5	68.0	38.6	70.3	39.2	120	89.2	30.8			
⑪	D4	(°C)	77.7	49.9	77.7	49.6	79.5	50.1	81.9	50.8	175	100.8	74.2			
⑫	C7	(°C)	50.3	22.5	50.6	22.5	53.3	24.0	55.1	24.0	105	74.0	31.1	64.0	120455	13.8
⑬	L2	(°C)	56.1	28.3	57.2	29.0	56.5	27.1	58.8	27.7	120	79.0	41.0			
⑭	C9	(°C)	52.1	24.3	52.0	23.9	54.4	25.1	55.2	24.1	105	75.1	30.0	65.1	79723	9.1
⑮	U3	(°C)	48.7	20.9	48.5	20.3	51.7	22.3	53.5	22.4	125	72.4	52.6			

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	UHE1E471MPD6	470uF 25V 7000H φ 10x16 P=5.0	Nichicon
C8	Ceramic Capacitor	C1608JB1H104K	0.1uF 50V B 1608	TDK
C9	Electrol Capacitor	UHE1E101MED	100uF 25V 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	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	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	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	MCR03EZPJ101	100 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
T1	Transformer	JT1012R-2P	SJ3002H 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