AC/DC Converter Controller Application Information

IC Product Name	BM1P061FJ
Control Method	PWM
Input	80　Vac　to　240　Vac
Output	12V 3A
Type	Isolation
Document Number	W-I-1200300-0000-00
Revision	001

Reference Circuit

W-I-1200300-0000-00
20.Jan.2014
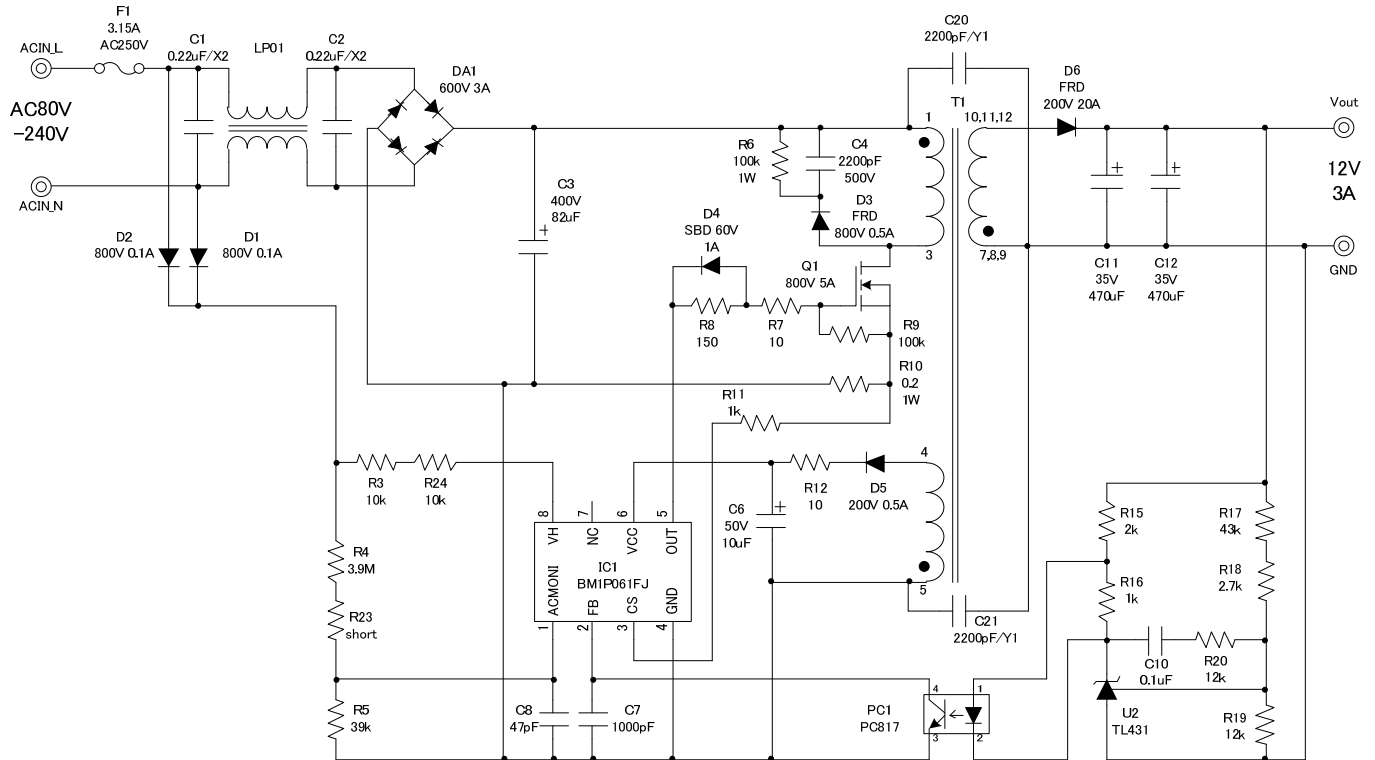
Transformer Specification
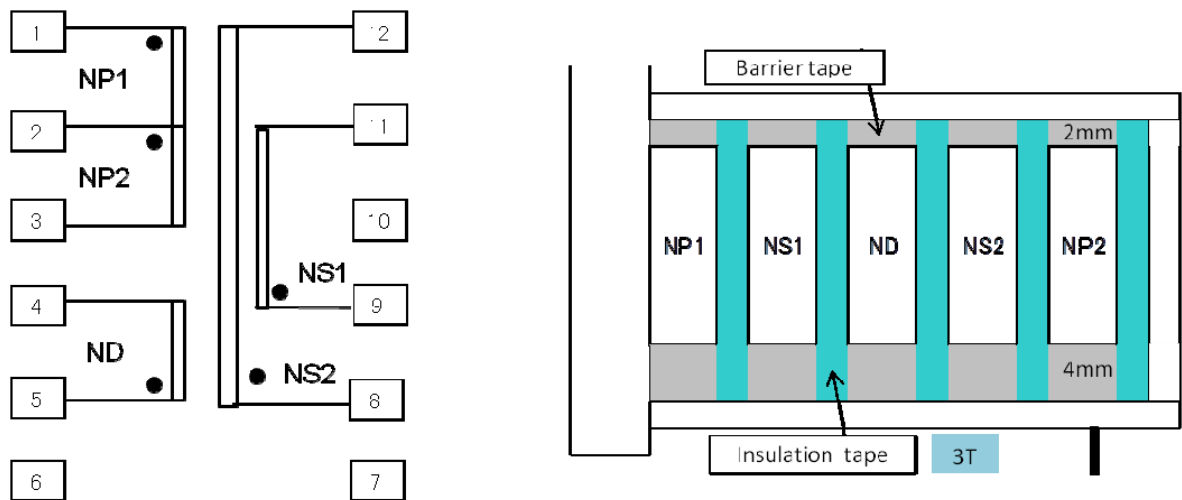
Core: JFE MB3 EER-28.5A or compatible
Bobbin: JFE BER28.5SP12 Vertical/Terminal Pins 6-6(12pins) or compatible
AL-Value: 149.4 nH/N^2
Inductance(1-3pin): 0.239 mH±15%

Coil	Terminal	Turns	Wire	Winding Method
NP1	'1-2	20	2UEW 0.5	1 Layer 密
NS1	'9-11	8	2UEW 0.55 X 2	1 Layer 密
ND	'5-4	10	2UEW 0.4	1 Layer 均等
NS2	'8-12	8	2UEW 0.55 X 2	1 Layer 密
NP2	'2-3	20	2UEW 0.5	1 Layer 密

耐圧　P-S　　:AC3.0KVrms 1MIN. 2mA or AC3.6kVrms 1s 2mA　　巻始め：バリアテープ固定
　　　PS-CORE:AC1.5KVrms 1MIN. 2mA or AC1.8kVrms 1s 2mA　　巻終り：直角引き出し挟み込み処理
IR : P-S,PS-CORE 100 MΩ MIN. at DC 500V　　　　　　　　　　巻方向： 統一

Bill of Materials

Item	Spec	Parts name	Maker
C1	0.1uF/X2	LE224	Okaya
C2	0.1uF/X2	LE224	Okaya
C3	82uF/400V		
C4	2200pF/500V	CK45-R3AD222KYNS	TDK
C6	10uF/50V		
C7	1000pF/16V		
C8	47pF/16V		
C10	0.1uF/25V		
C11	Low-Z 470uF/35V		
C12	Low-Z 470uF/35V		
C20	2200pF/Y1	CS11-E2GA222MYNS	TDK
C21	2200pF/Y1	CS11-E2GA222MYNS	TDK
DA1	600V/3A	D3SBA60	Shindengen
D1	800V/0.1A	1N4007	
D2	800V/0.1A	1N4007	
D3	FRD 700V 0.5A	RFN1L7S	Rohm
D4	SBD/FRD 40V 1A	RB160L-60	Rohm
D5	200V 0.5A	RF05VA2S	Rohm
D6	FRD 200V 10A	RF2001T2D	Rohm
F1		3.15A/AC250V	
IC1		BM1P061FJ	Rohm
LP01			
Q1	800V 5A	R8005ANX	Rohm
R3	10kΩ	MCR18EZHJ103	Rohm
R24	10kΩ	MCR18EZHJ103	Rohm
R4	3.9MΩ	MCR10EZPJ395	Rohm
R23	short		
R5	39kΩ	MCR10EZPJ393	Rohm
R6	100kΩ/1W		
R7	10Ω	MCR18EZPJ100	Rohm
R8	150Ω	MCR10EZPJ151	Rohm
R9	100kΩ	MCR10EZPJ104	Rohm
R10	0.2Ω/1W	0.39//0.39=0.195Ω	
R11	1kΩ	MCR10EZPJ102	Rohm
R12	10Ω	MCR18EZHJ100	Rohm
R15	2kΩ	MCR10EZPJ202	Rohm
R16	1kΩ	MCR10EZPJ102	Rohm
R17	43kΩ	MCR10EZPJ433	Rohm
R18	2.7kΩ	MCR10EZPJ272	Rohm
R19	12kΩ	MCR10EZPJ123	Rohm
R20	12kΩ	MCR10EZPJ123	Rohm
T1	EERT28		Tomita
U2		TL431	
PC1		PC817	

Typical Characteristics

Vin:AC80V 50Hz

Iout(A)	Vout(V)	Pout(W)	Pin(W)	η (%)
0	12.30	0	0.034	–
0.01	12.30	0.123	0.185	66.7
0.1	12.30	1.230	1.497	82.2
0.5	12.30	6.149	7.159	85.9
0.75	12.30	9.223	10.75	85.8
1.5	12.29	18.44	21.63	85.3
2.25	12.29	27.66	32.87	84.1
3	12.29	36.87	44.41	83.0

Vin:AC100V 50Hz

Iout(A)	Vout(V)	Pout(W)	Pin(W)	η (%)
0	12.30	0	0.035	–
0.01	12.30	0.123	0.185	66.4
0.1	12.30	1.230	1.496	82.2
0.5	12.30	6.150	7.169	85.8
0.75	12.30	9.225	10.72	86.1
1.5	12.30	18.45	21.41	86.2
2.25	12.29	27.66	32.40	85.4
3	12.29	36.87	43.58	84.6

Vin:AC240V 50Hz

Iout(A)	Vout(V)	Pout(W)	Pin(W)	η (%)
0	12.30	0	0.082	–
0.01	12.30	0.123	0.225	54.7
0.1	12.30	1.230	1.531	80.3
0.5	12.30	6.150	7.145	86.1
0.75	12.30	9.224	10.58	87.2
1.5	12.30	18.44	21.19	87.0
2.25	12.29	27.66	31.76	87.1
3	12.29	36.88	42.42	86.9

Regulation

Efficiency
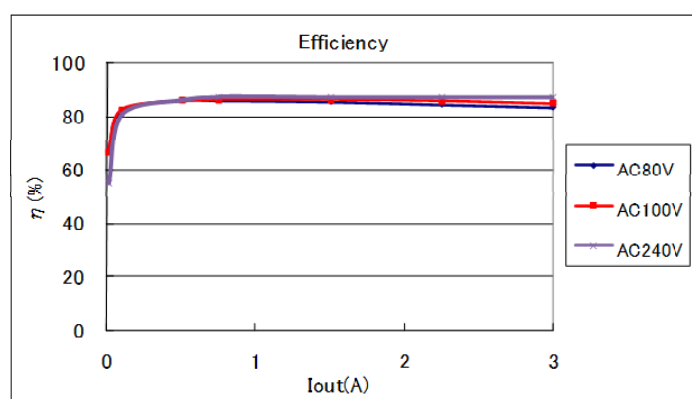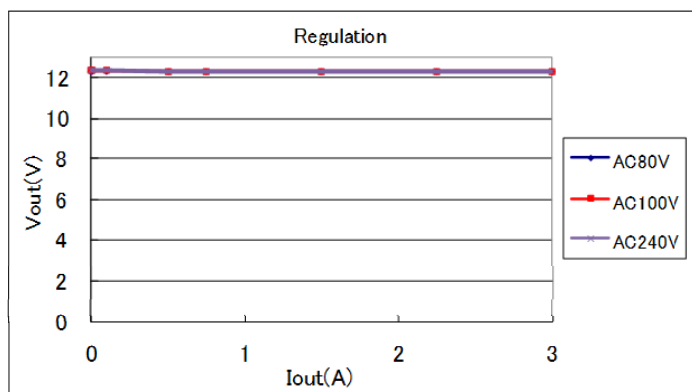
Revision History

Date	Revision	Changes
20.Jan.2014	001	New Release

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JAPAN	USA	EU	CHINA
CLASSⅢ	CLASSⅢ	CLASSⅡb	CLASSⅢ
CLASSⅣ		CLASSⅢ	

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