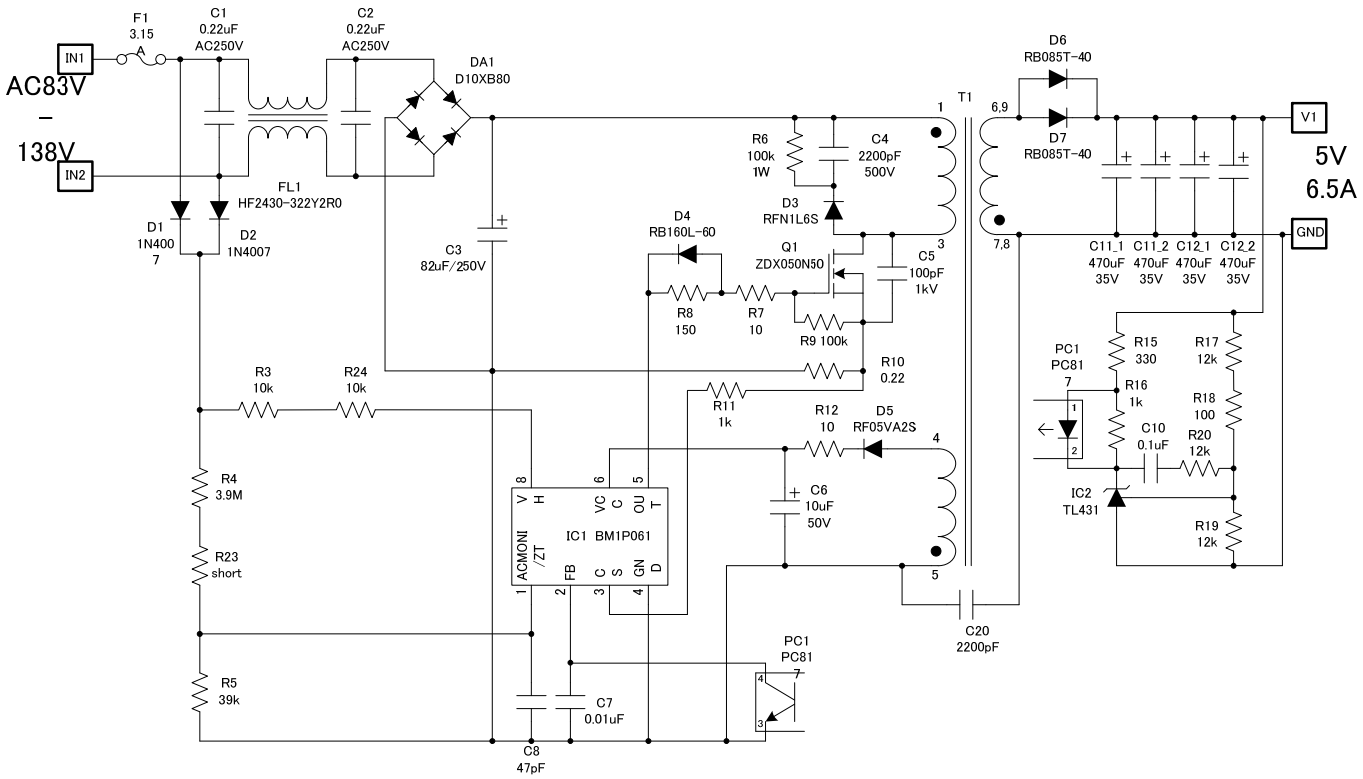
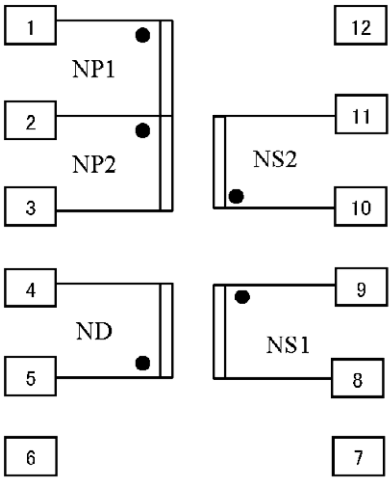
AC/DC Converter Controller Application Information

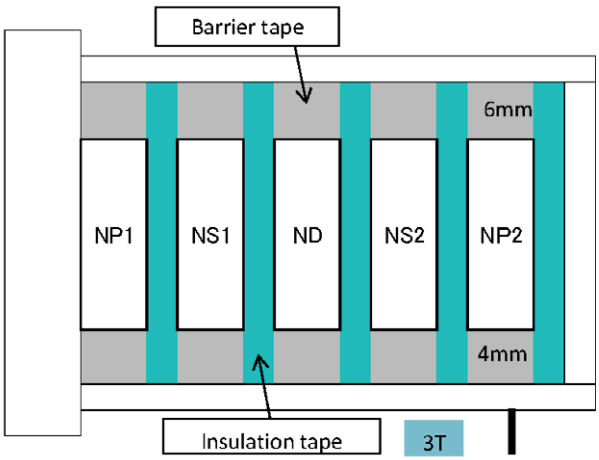
IC Product Name	BM1P061FJ
Control Method	PWM
Input	83 Vac to 138 Vac
Output	5V 6.5A
Type	Isolation
Document Number	1-I-0500650-0000-00
Revision	001

Reference Circuit



Transformer Specification





Core: JFE MB3 EER-28.5A or compatible
Bobbin: JFE BER28.5SP12 Vertical/Terminal Pins 6-6(12pins) or compatible
AL-Value: 277.8 nH/N^2
Inductance(1-3pin): 0.250 mH±15%

Coil	Terminal	Turns	Wire	Winding Method
NP1	'1-2	15	2UEW 0.4	1 Layer FIT(密)
NS1	'9-8	3	リッツ線(2UEW 0.2×30)	1 Layer FIT(密)
ND	'5-4	8	2UEW 0.3×2	1 Layer FIT(密)
NS2	'10-11	3	リッツ線(2UEW 0.2×30)	1 Layer FIT(密)
NP2	'2-3	15	2UEW 0.4	1 Layer FIT(密)

耐圧 P-S :AC3.0KVrms 1MIN. 2mA or AC3.6kVrms 1s 2mA
PS-CORE:AC1.5KVrms 1MIN. 2mA or AC1.8kVrms 1s 2mA
IR : P-S,PS-CORE 100 MΩ MIN. at DC 500V

巻始め：バリアテープ固定
巻終り：直角引き出し挟み込み処理
巻方向 ： 統一

Bill of Materials

Item	Spec	Parts name	Maker
C1	0.22uF/AC250V X-Cap	LE224	Okaya
C2	0.22uF/AC250V X-Cap	LE224	Okaya
C3	82uF/250V	KXJ 82uF 250V	Nippon Chemi-con
C4	2200pF/1kV	CK45-B3AD222KY*N	TDK
C5	100pF/1kV	CC45SL3AD101JY*N	TDK
C6	10uF/50V	PM 10uF 50V	Nichicon
C7	0.01F/16V	GRM219B711H103K	Murata
C8	47pF/16V	GRM219B711H470K	Murata
C10	0.1uF/50V	GRM21BB11H104KA01B	Murata
C11_1	470uF/35V Low-Z	HD 470uF 35V	Nichicon
C11_2	470uF/35V Low-Z	HD 470uF 35V	Nichicon
C12_1	470uF/35V Low-Z	HD 470uF 35V	Nichicon
C12_2	470uF/35V Low-Z	HD 470uF 35V	Nichicon
C20	2200pF/1kV	CS11-E2GA222MYNS	TDK
DA1	400V/3A	D10XB80	Shindengen
D1	400V/1A	1SR154-400	Rohm
D2	400V/1A	1SR154-400	Rohm
D3	FRD 600V/0.5A	RFN1L6S	Rohm
D4	30V/1A	RB160L-60	Rohm
D5	FRD 200V/0.5A	RF05VA2S/RF05VAM2S	Rohm
D6	SBD 40V/10A	RB085T-40	Rohm
D7	SBD 40V/10A	RB085T-40	Rohm
F1		3.15A	
FL1		HF2430-332Y2R0	TDK
IC1		BM1P061FJ	Rohm
IC2		TL431	
PC1		PC817	SHARP
Q1	500V/5A	ZDX050N50/R5005CNX	Rohm
R3	10kΩ	MCR18EZPJ104	Rohm
R4	3.9MΩ/0.25W	MCR18EZPJ395	Rohm
R5	39kΩ	MCR10EZPJ393	Rohm
R6	100kΩ/1W		
R7	10Ω/0.25W	MCR18EZPJ100	Rohm
R8	150Ω	MCR10EZPJ151	Rohm
R9	100kΩ	MCR10EZPJ104	Rohm
R10	0.22Ω/1W		
R11	1kΩ	MCR10EZPJ102	Rohm
R12	10Ω/0.25W	MCR18EZPJ100	Rohm
R15	330Ω	MCR10EZPJ331	Rohm
R16	1kΩ	MCR10EZPJ102	Rohm
R17	12kΩ	MCR10EZPF1202	Rohm
R18	100Ω	MCR10EZPF1000	Rohm
R19	12kΩ	MCR10EZPF1202	Rohm
R20	12kΩ	MCR10EZPJ123	Rohm
R23	short		
R24	10kΩ	MCR18EZPJ103	Rohm
T1	EER28		Tomita

Typical Characteristics

Vin:AC83V 50Hz

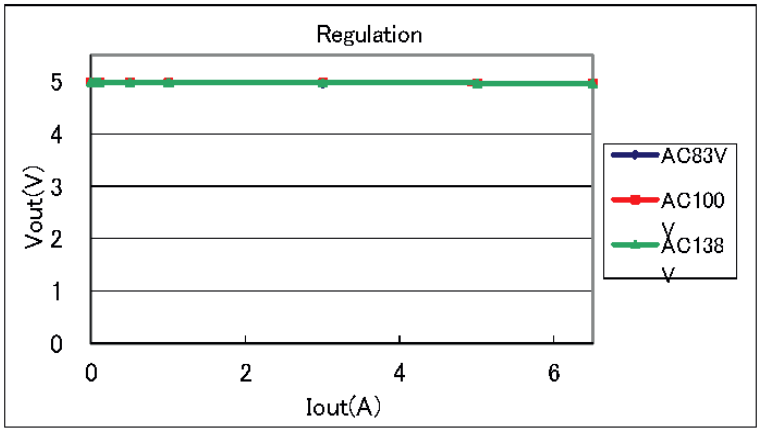
Iout(A)	Vout(V)	Pout(W)	Pin(W)	η (%)
0	4.994	0	0.020	–
0.05	4.994	0.250	0.309	80.8
0.068	4.994	0.340	0.420	80.9
0.1	4.994	0.499	0.612	81.6
0.5	4.992	2.496	2.96	84.3
1	4.991	4.991	5.88	84.8
3	4.983	14.949	17.71	84.4
5	4.975	24.873	30.02	82.9
6.5	4.967	32.286	39.45	81.8

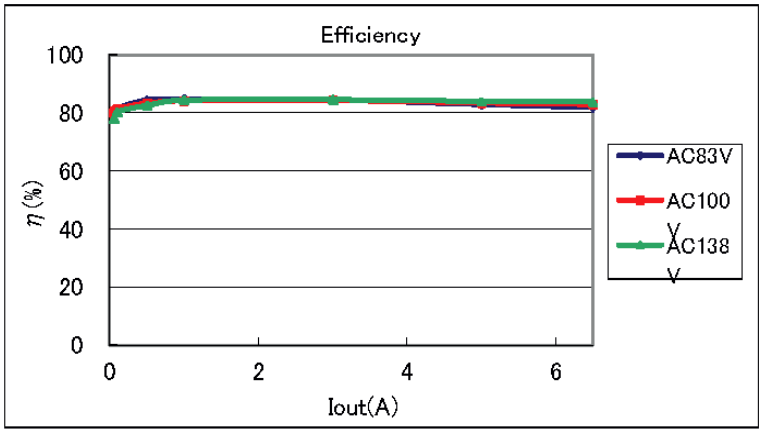
Vin:AC100V 50Hz

Iout(A)	Vout(V)	Pout(W)	Pin(W)	η (%)
0	4.994	0.000	0.023	–
0.05	4.994	0.250	0.312	80.0
0.068	4.994	0.340	0.422	80.5
0.1	4.994	0.499	0.614	81.3
0.5	4.992	2.496	2.998	83.3
1	4.991	4.991	5.93	84.2
3	4.983	14.948	17.74	84.3
5	4.975	24.873	29.80	83.5
6.5	4.968	32.292	38.96	82.9

Vin:AC138V 50Hz

Iout(A)	Vout(V)	Pout(W)	Pin(W)	η (%)
0	4.994	0.000	0.043	–
0.05	4.994	0.250	0.320	78.0
0.068	4.994	0.340	0.436	77.9
0.1	4.994	0.499	0.622	80.3
0.5	4.992	2.496	3.025	82.5
1	4.991	4.991	5.91	84.4
3	4.983	14.949	17.68	84.6
5	4.975	24.875	29.62	84.0
6.5	4.969	32.297	38.51	83.9





Revision History

Date	Revision	Changes
7.Mar.2014	001	New Release

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JAPAN	USA	EU	CHINA
CLASSⅢ	CLASSⅢ	CLASSⅡb	CLASSⅢ
CLASSⅣ		CLASSⅢ	

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