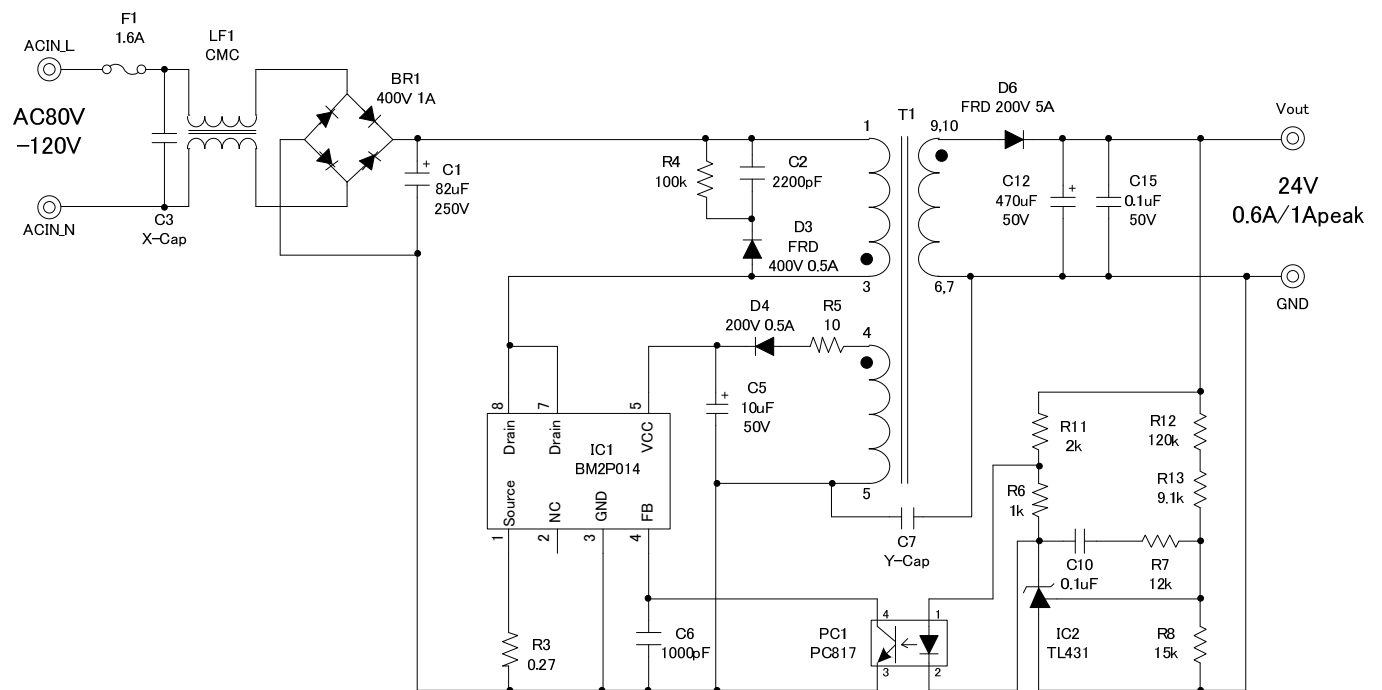


# AC/DC Converter Controller

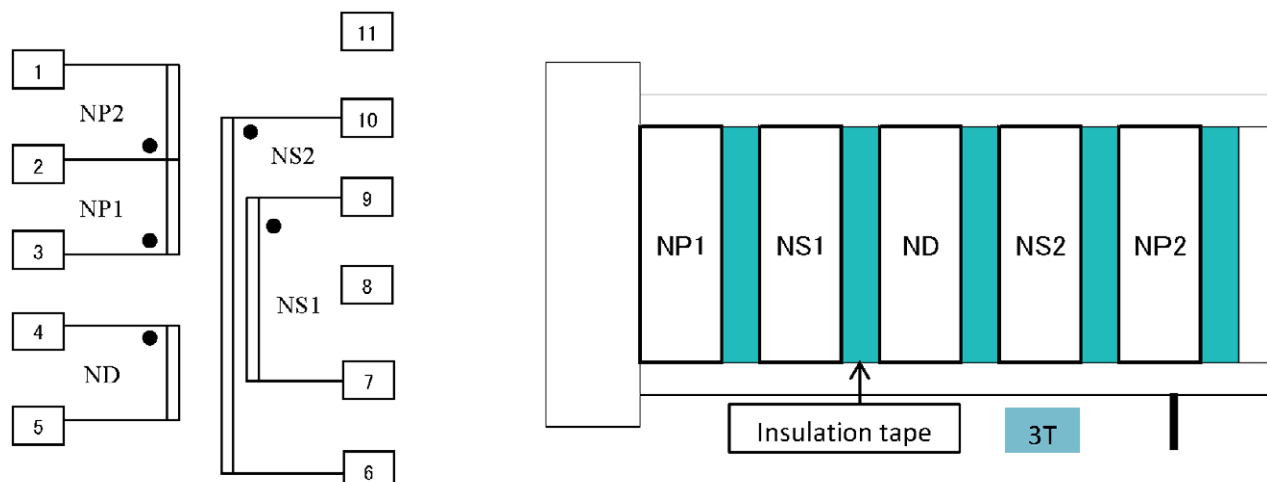
## Application Information

IC Product Name	BM2P014
Control Method	PWM
Input	80 Vac to 120 Vac
Output	24V 0.6A (1Apeak)
Type	Isolation
Document Number	1-I-2400060-0000-00
Revision	001

## Reference Circuit



## Transformer Specification



Core: JFE MB3 EI-25D or compatible

Bobbin: JFE BE25PP11 Vertical/Terminal Pins 5-6(11pins) or compatible

AL-Value: 80.3 nH/N<sup>2</sup>

Inductance(1-3pin): 0.270 mH±15%

Coil	Terminal	Turns	Wire	Winding Method
NP1	'3-2	29	2UEW 0.3	1 Layer FIT(密)
NS1	'9-7	20	TEX-E 0.27	1 Layer FIT(密)
ND	'4-5	13	2UEW 0.4	1 Layer SPACE(均等)
NS2	'10-6	20	TEX-E 0.27	1 Layer FIT(密)
NP2	'2-1	29	2UEW 0.3	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	82uF/250V		
C2	2200pF/500V		
C3	X-Cap/0.1uF		
C5	10uF/50V		
C6	1000pF/16V		
C7	Y-Cap/2200pF		
C10	0.1uF/25V		
C12	Low-Z 470uF/50V		
C15	0.1uF/50V		
BR1	400V/1A		
D3	FRD 400V 0.5A	RF071L4S	
D4	200V 0.5A	RF05VA2S/RF05VAM2S	Rohm
D6	FRD 200V 5A	RFN6T2D/RF601T2D	Rohm
F1	1.6A		
IC1		BM2P014	Rohm
LF1	CMC		
R3	0.27Ω/0.5W	MCR25 0.27Ω	Rohm
R4	100kΩ/1W		
R5	10Ω	MCR10 or MCR18 10Ω	Rohm
R6	1kΩ	MCR03 or MCR10 1kΩ	Rohm
R7	12kΩ	MCR03 or MCR10 12kΩ	Rohm
R8	15kΩ	MCR03 or MCR10 15kΩ±1%	Rohm
R11	2kΩ	MCR03 or MCR10 2kΩ	Rohm
R12	120kΩ	MCR03 or MCR10 120kΩ±1%	Rohm
R13	9.1kΩ	MCR03 or MCR10 9.1kΩ±1%	Rohm
T1	EI25		Tomita
IC2		TL431	
PC1		PC817	

## Typical Characteristics

Vin:AC80V 50Hz

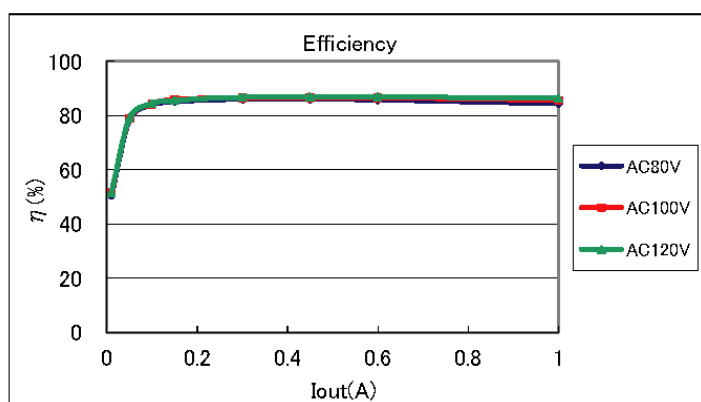
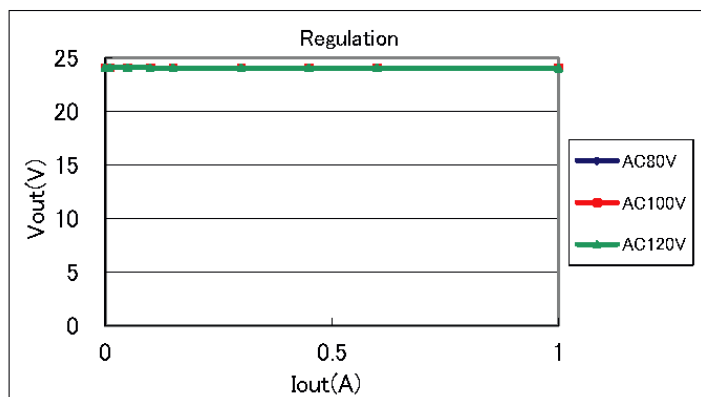
Iout(A)	Vout(V)	Pout(W)	Pin(W)	$\eta$ (%)
0	24.09	0	0.061	-
0.01	24.09	0.241	0.476	50.6
0.05	24.09	1.204	1.533	78.6
0.1	24.09	2.409	2.869	84.0
0.15	24.09	3.613	4.240	85.2
0.3	24.08	7.225	8.393	86.1
0.45	24.08	10.84	12.59	86.1
0.6	24.08	14.45	16.83	85.8
1	24.07	24.07	28.53	84.4

Vin:AC100V 50Hz

Iout(A)	Vout(V)	Pout(W)	Pin(W)	$\eta$ (%)
0	24.09	0	0.060	-
0.01	24.09	0.241	0.467	51.6
0.05	24.09	1.204	1.524	79.0
0.1	24.09	2.409	2.857	84.3
0.15	24.08	3.613	4.199	86.0
0.3	24.08	7.225	8.343	86.6
0.45	24.08	10.84	12.50	86.7
0.6	24.08	14.45	16.68	86.6
1	24.07	24.07	28.09	85.7

Vin:AC120V 50Hz

Iout(A)	Vout(V)	Pout(W)	Pin(W)	$\eta$ (%)
0	24.09	0	0.060	-
0.01	24.09	0.241	0.466	51.7
0.05	24.09	1.204	1.522	79.1
0.1	24.09	2.409	2.852	84.5
0.15	24.08	3.613	4.219	85.6
0.3	24.08	7.225	8.324	86.8
0.45	24.08	10.84	12.46	86.9
0.6	24.08	14.45	16.62	86.9
1	24.07	24.07	27.86	86.4



## Revision History

Date	Revision	Changes
7.Mar.2014	001	New Release

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(Note1) Medical Equipment Classification of the Specific Applications

JAPAN	USA	EU	CHINA
CLASS III	CLASS III	CLASS II b	CLASS III
CLASS IV		CLASS III	

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