

MITSUBISHI HYBRID IC
M57146U-01

IPM POWER SUPPLY UNIT

DESCRIPTION

M57146U-01 is an insulated DC-DC converter designed to drive the IPM. 4 outputs of 15VDC can obtain from an input of 220 ~ 380VDC.

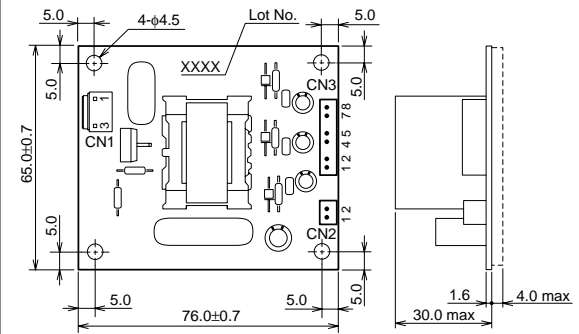
The terminals between inputs and outputs, and each outputs are insulated.

FEATURES

- Output +15V, 50mAX3
 +15V, 100mAX1
- Electrical isolation (between input and outputs)
 1500Vrms 1minute
- Electrical isolation (between each outputs)
 1500Vrms 1minute

OUTLINE DRAWING

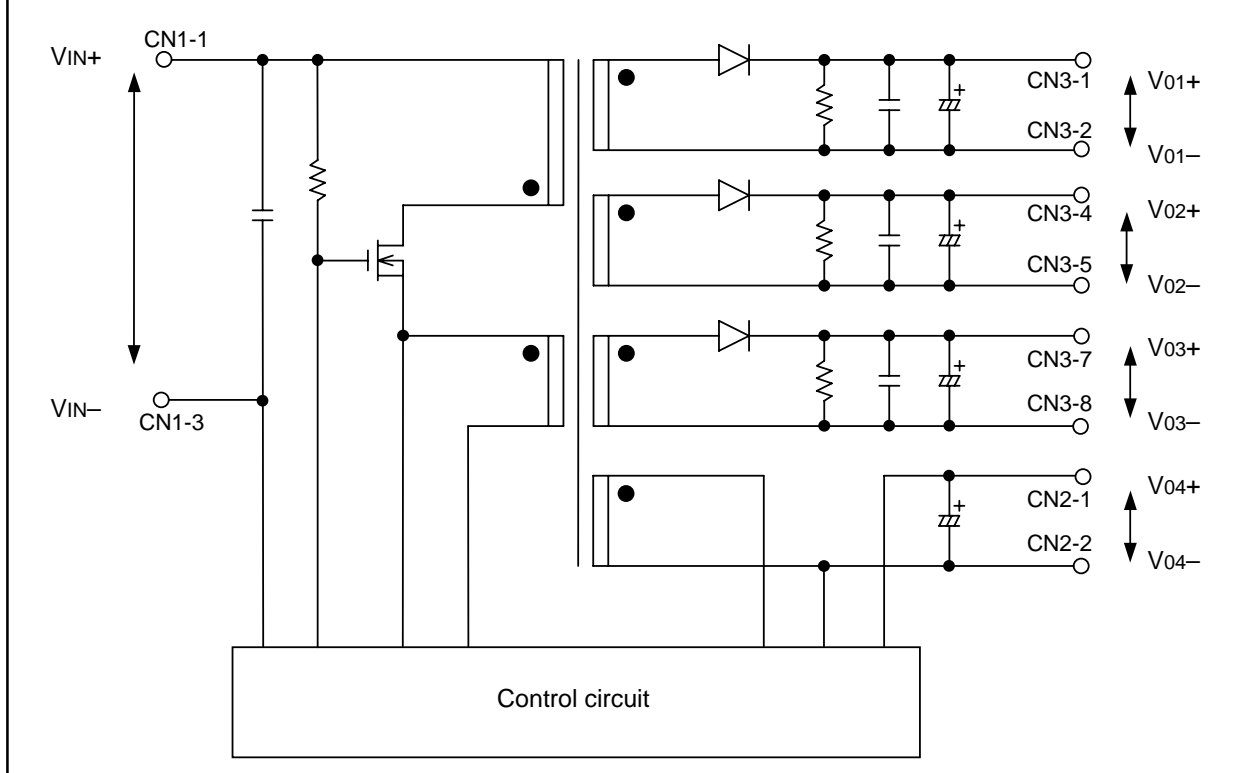
Dimensions: mm



APPLICATION

Power supply for IPM drive

BLOCK DIAGRAM



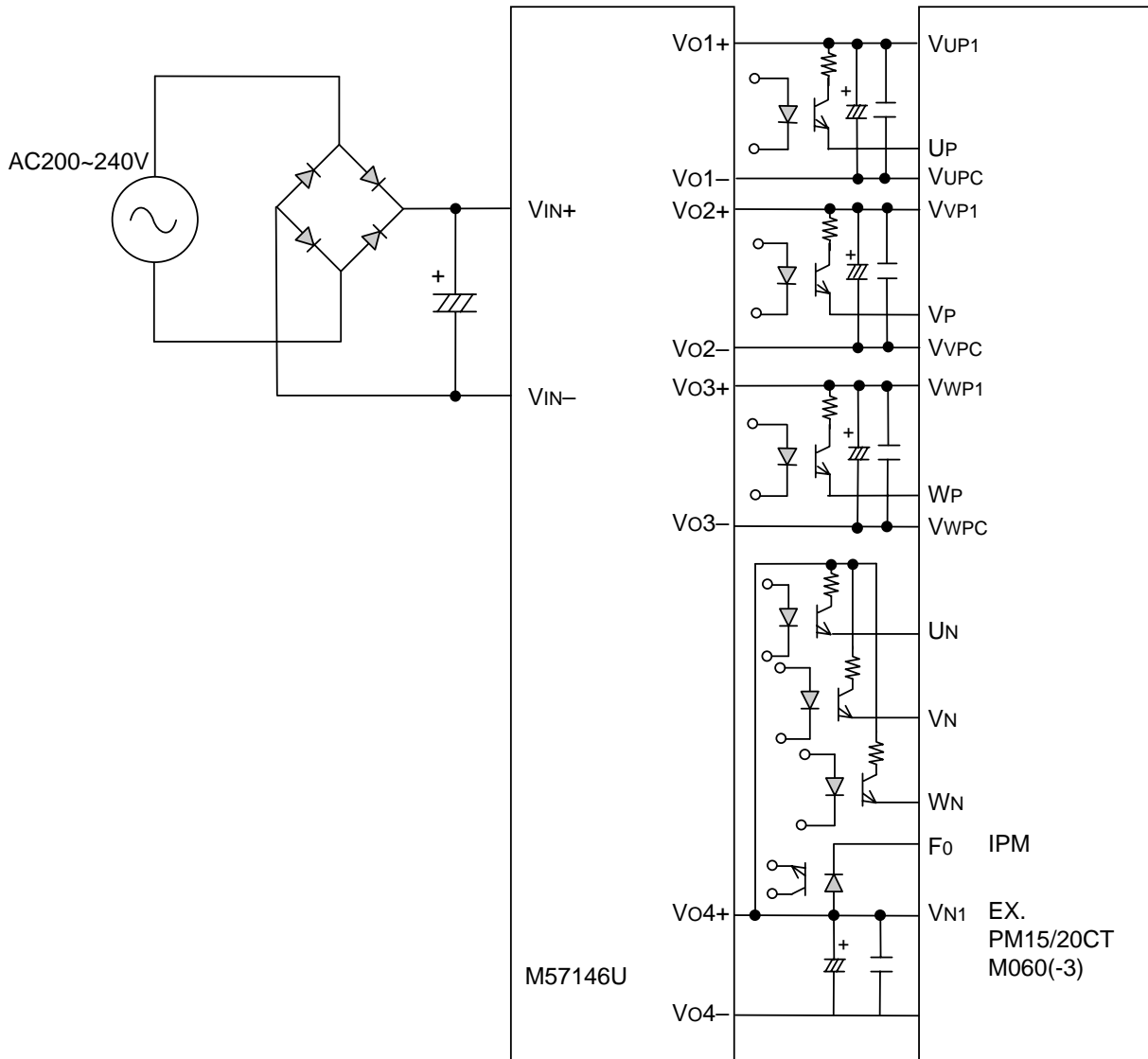
MAXIMUM RATINGS (Ta = 25°C, unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
Vi	Input voltage	–	380	V
IL	Output current	Vo1, Vo2, Vo3	50	mA
		Vo4	100	mA
Topr	Operating temperature	No condensation	–10 ~ 70	°C
Tstg	Storage temperature	No condensation	–20 ~ 85	°C
Po	Total output power	–	3.75	W
Viso1	Electrical isolation between input and outputs	Sine wave voltage, 60Hz, 1 minutes	1500	Vrms
Viso2	Electrical isolation between each outputs	Sine wave voltage, 60Hz, 1 minutes	1500	Vrms

ELECTRICAL CHARACTERISTICS (VIN= 220 ~ 380V, Ta = 25°C, unless otherwise noted)

Symbol	Parameter	Test Conditions	Limits			Unit
			Min.	Typ.	Max.	
Vi	Input voltage	Recommended range	220	—	380	V
Vo1	Output voltage	Io1 = 0 ~ 50mA, Io2 = Io3 = 0mA, Io4 = 80mA	14	15	16	V
Vo2		Io2 = 0 ~ 50mA, Io1 = Io3 = 0mA, Io4 = 80mA	14	15	16	
Vo3		Io3 = 0 ~ 50mA, Io1 = Io2 = 0mA, Io4 = 80mA	14	15	16	
Vo4		Io4 = 10 ~ 100mA, Io1 = Io2 = Io3 = 0mA	14	15	16	
Reg-I	Line regulation	Vo1 voltage change Io1 = 30mA, Io2 = Io3 = 0mA, Io4 = 80mA	–	50	–	mV
		Vo2 voltage change Io2 = 30mA, Io1 = Io3 = 0mA, Io4 = 80mA	–	50	–	
		Vo3 voltage change Io3 = 30mA, Io1 = Io2 = 0mA, Io4 = 80mA	–	50	–	
		Vo4 voltage change Io1 = Io2 = Io3 = 0mA, Io4 = 80mA	–	50	–	
Reg-L	Load regulation	Vo1 voltage change Io1 = 0 ~ 50mA, Io2 = Io3 = 0mA, Io4 = 80mA	–	50	–	V
		Vo2 voltage change Io2 = 0 ~ 50mA, Io1 = Io3 = 0mA, Io4 = 80mA	–	0.7	–	
		Vo3 voltage change Io3 = 0 ~ 50mA, Io1 = Io2 = 0mA, Io4 = 80mA	–	0.7	–	
		Vo4 voltage change Io4 = 10 ~ 100mA, Io1 = Io2 = Io3 = 0mA	–	0.7	–	
η	Efficiency	VIN = 300V, Io1 = Io2 = Io3 = 30mA, Io4 = 80mA	–	73	–	%

APPLICATION EXAMPLE



AVAILABLE IPM

PM10CSJ060	PM15CTM060	PM30CTJ060
PM15CSJ060	PM15CTM060-3	PM30CTJ060-3
PM20CSJ060	PM20CTM060	
PM30CSJ060	PM20CTM060-3	PM30RSF060

This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.