

M57115L-01

THE POWER SUPPLY DC-DC CONVERTER FOR IGBT MODULE GATE DRIVE

DESCRIPTION

M57115L-01 build in three circuits of insulated type DC-DC converters as a power supply for upper arm side IGBT module drive circuits of an inverter circuit.

Since the positive/negative voltage of 17.5V and -6.0V (80mA) is outputted, it is the optimum as a gate power supply for IGBT driver M57175L-01.

Recommendation driver :

The Mitsubishi IGBT module driver M57175L-01

FEATURES

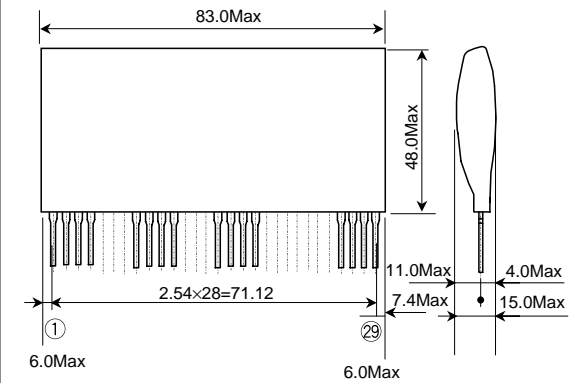
- +15V Input, (+17.4V, -6.0V) X 3 circuit
- Electrical isolation between input and output (Vios = 2500Vrms for 1minute)

APPLICATION

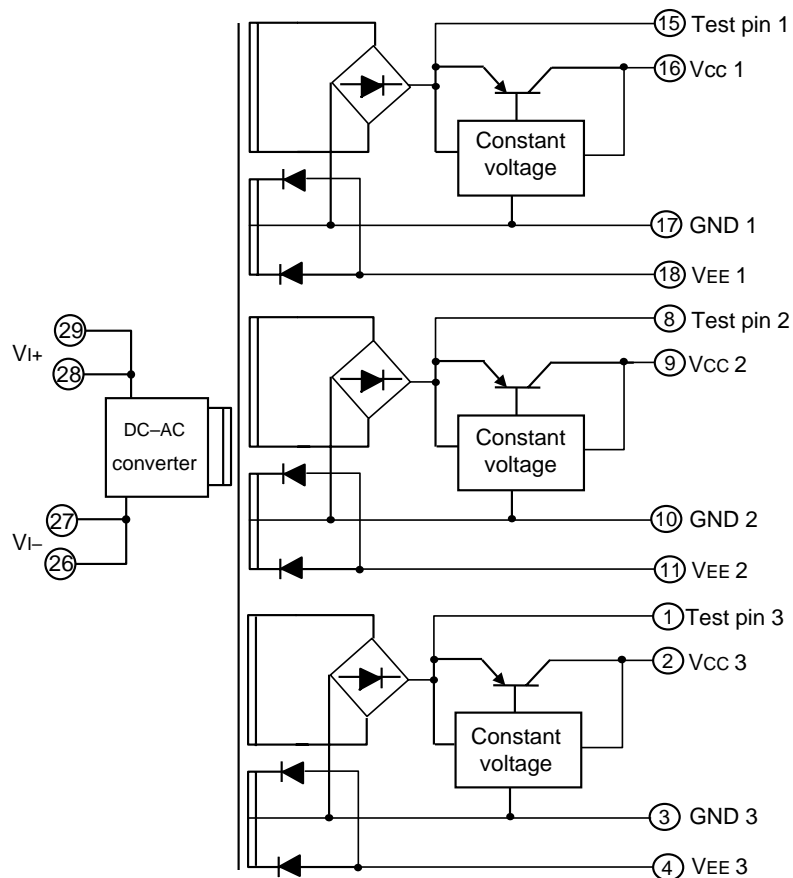
Inverter or AC servo systems

OUTLINE DRAWING

Dimensions: mm



BLOCK DIAGRAM



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ABSOLUTE MAXIMUM RATINGS (Unless otherwise specified, Ta = 25°C)

Symbol	Parameter	Conditions	Ratings	Units
V _i	Input voltage	—	16	V
I _{Li}	Output current	I = 1 (②-④ pin), I = 2 (⑨-⑪ pin), I = 3 (⑯-⑱ pin)	80	mA
T _{opr}	Operating temperature	There is nothing dew condensation.	-10 ~ 60	°C
T _{stg}	Storage temperature	There is nothing dew condensation.	-20 ~ 85	°C
V _{iso1}	Isolation voltage	Sing-wave voltage, 60Hz, 1min	2500	V _{rms}

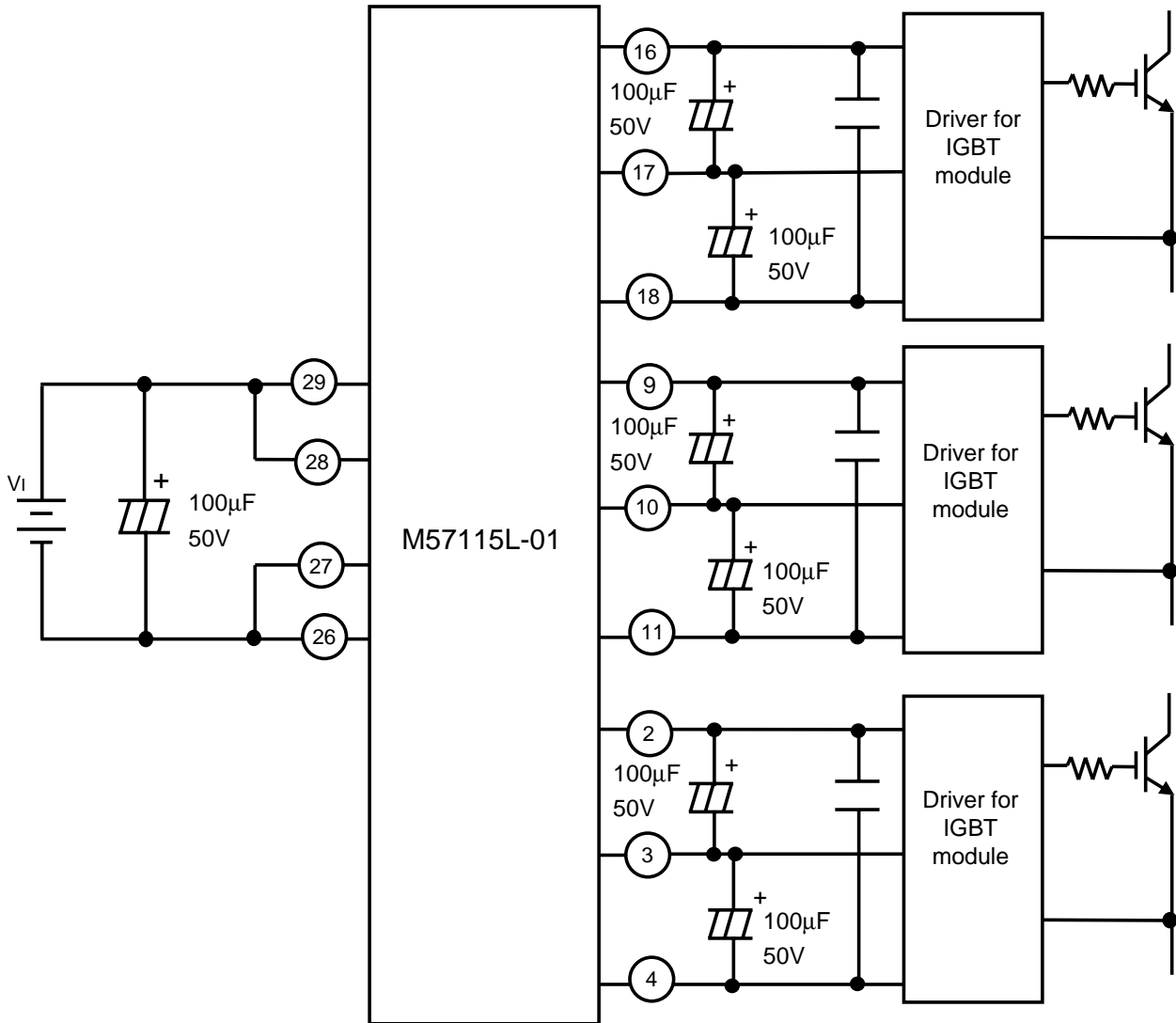
ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{in} = 15V, Ta = 25°C)

Symbol	Parameter	Test conditions	Limits			Units
			Min	Typ	Max	
V _i	Input voltage	Recommended range	14.2	—	15.8	V
V _{cci}	Output voltage1	②, ⑨, ⑯ pin voltage IL = 0 ~ 80mA	17.0	17.4	17.8	V
V _{Eei}	Output voltage2	④, ⑪, ⑱ pin voltage IL = -80mA ~ 0mA	-5.0	-6.0	-7.0	V
I _L	Output current	Between ②-④, ⑨-⑪, ⑯-⑱ pin	—	—	80	mA
Reg-I	Input regulation	IL = 80mA, V _i = 14.2 ~ 15.8V	—	—	500	mV
Reg-L	Load regulation	IL = 0 ~ 80mA	—	—	100	mV
η	Efficiency	IL = 80mA	—	70	—	%

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APPLICATION EXAMPLE



Note) Please select the electrolysis capacitor between each output side terminal (2)-(3), (3)-(4), (9)-(10), and (10)-(11), (16)-(17), and (17)-(18) in consideration of the ripple current of a capacitor etc. with the peak value of gate current.