ML-1280

High-efficiency DC/DC Converter Module (Compliant with MIL-STD-1275E)

KEY FEATURES

- Compliant with MIL-STD-1275E standard
- High-efficiency DC-DC Power Converter Board
- Low inrush current Power Converter Board
- Output over-current protection
- Input power reverse polarity protection
- Surge stopper circuit design
- 6600W high power transient voltage suppressor
- eFuse for under voltage/over voltage/overload/over temperature protection
- Wide range input power converter

INTRODUCTION

Winmate's Wide Voltage Input DC Converter Series provides reliable and efficient power solutions for a range of demanding applications, including automotive, industrial, and telecommunications systems. Designed to handle broad input voltage ranges, these converters deliver stable output for devices operating in environments with fluctuating power sources. With features like high efficiency, low inrush current, over-current protection, and compliance with MIL-STD standards, these compact and rugged modules ensure reliable performance in harsh conditions, making them ideal for modern power systems.

SPECIFICATIONS

System Specification

Input Voltage	9V to 36V DC	**Load Range**	12V 6.67A
Power Consumption	80W	**Ripple And Noise**	Less than 120mV
Line Regulation	Less than ±1% at rated 9~36V input voltage	**Load Regulation**	Less than ±5%
Efficiency	Up to 90% (Full loading)	**Protection**	OCP protection OVP protection

Certification

Certification	CE, FCC

Compliance

Compliance	Compliant with MIL-STD-1275E

Environment

Operating Humidity	10% to 90% RH, Non-Condensing	**Operating Temperature**	0°C to 50°C
Storage Temperature	-20°C to 70°C	**Altitude**	0 to 10000ft

Mechanical

Dimension	110 x 50 x 18.1 mm

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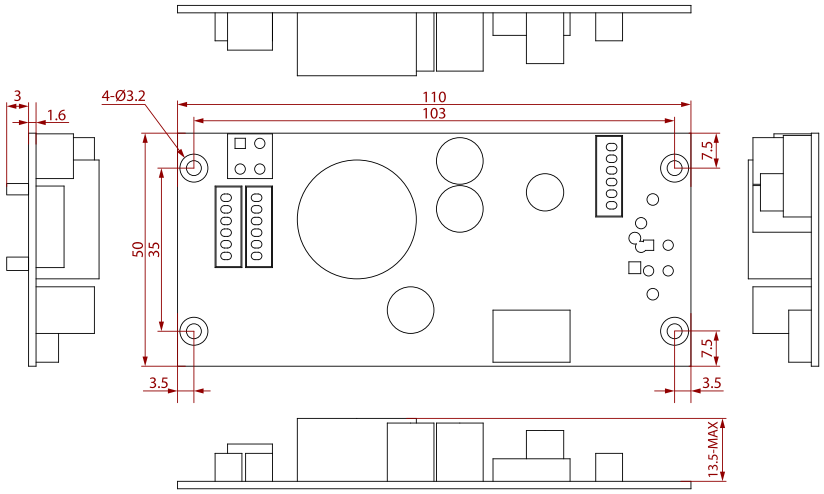
DIMENSIONS UNIT:MM

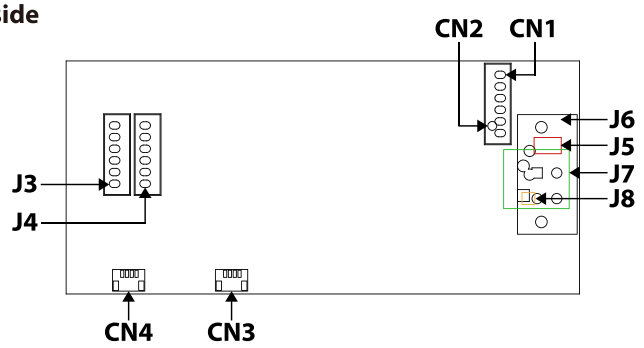


NOTE

1.This is a simplified drawing and some components are not marked in detail.
2.Please contact our sales representative if you need further product information.
3.All specifications are subject to change without prior notice.
4.The product shown in this datasheet is a standard model.For diagrams that contain customized or optional I/ O, please contact the Winmate Sales Team for more information.

Pin Assignment:

Front side



Rear side

J3 : DC output connector
Connector Type : P:2.50mm DIP 180°

Pin	Symbol
1	+12V
2	GND
3	GND
4	GND
5	+12V
6	+12V

J4 : DC output connector
Connector Type : P:2.50mm DIP 180°

Pin	Symbol
1	+12V
2	GND
3	GND
4	GND
5	+12V
6	+12V

J5 : DC input connector
Connector Type : P:2.50mm DIP 180°

Pin	Symbol
1	IGN_ISO
2	GND
3	GND
4	GND
5	VIN+
6	VIN+

J6 : DC input connector
Connector Type : 2EHDRM-03P

Pin	Symbol
1	VIN+
2	GND
3	IGN_ISO
4	N/A
5	N/A

J7 : DC input connector
Connector Type : DT-29-B01W-02 2pin

Pin	Symbol
1	VIN+
2	GND

J8 : Power Jack
Connector Type : 4p Power Jack
Molex-87427-044

Pin	Symbol
1	GND
2	GND
3	VIN+
4	VIN+

J9 : MCU Debug Port
Connector Type : P:1.25mm SMD 180

Pin	Symbol
1	+V5A
2	GND
3	C2CK
4	C2D
5	N/A
6	N/A

CN1 : POWER SWITCH
Connector Type : P:2.50mm DIP 180°

Pin	Symbol
1	VIN+_B
2	VIN+_B
3	VIN+_B
4	VIN+_A
5	VIN+_A
6	VIN+_A

CN2 : POWER SWITCH
Connector Type : Pin2:NC P:3.96mm

Pin	Symbol
1	VIN+_A
2	VIN+_B

CN3 : MCU Receiver
Connector Type : P:1.0mm SMD 180°

Pin	Symbol
1	+V5A
2	TXD
3	RXD
4	GND
5	GND
6	GND

CN4 : MCU BT_IN/OUT
Connector Type : P:1.0mm SMD 180°

Pin	Symbol
1	BT_IN
2	BT_OUT
3	PWR
4	GND
5	GND
6	GND