DC/DC Converters

MR Series
15 Watts
Single/Dual Outputs

ASTEC

T-57-11

The MR Series is ideally suited for sensitive digital and analog applications requiring low noise, high power density, and wide input range, i.e. telecommunications, test equipment, and process control.

Special Features

- MOSFET design
- Surface mount technology
- 4:1 wide input range
- Continuous foldback short circuit protection
- Regulated outputs
- 500 V isolation
- Six-sided shielding

The new MR Series features the latest in MOSFET design and state-of-the-art surface mount technology. This series offers a 20 - 72 V 4:1 ultra-wide input range and efficiencies of 80% or greater. Other key features include low ESR capacitors on both the input and output to reduce noise, foldback continuous overload protection, output voltage trim adjustability, TTL & CMOS remote inhibit, excellent ± 0.5% line regulation, 500 Vdc input / output isolation, and an operating temperature range of -25°C to +60°C. All models are packaged in a six-sided shielded case, measuring only 1.6" X 2.0" X 0.4".

Electrical Specifications

Input	
Vin - nominal	48
Voltage range	20 - 72 Vdc
Reflected ripple	< 100 mA p-p*
Input filtering	Capacitor**
Output	
Voltage tolerance	± 1.0%
Voltage balance	± 1% (dual outputs)
Ripple and noise (PARD)	75 mV p-p (max)***
Short circuit protection	Continuous foldback
Temperature coefficient	0.02% / °C max
General	
Regulation	
Line	± 0.5%
Load	± 1.0%
Efficiency	80% (typ)
I/O isolation	500 Vdc
Switching frequency	130 kHz ± 5%

Environmental

Operating temperature range:
-25°C to +60°C (linearly derate to 0 watts at 100°C)

Storage temperature:
-40°C to +125°C

Cooling:
Free air convection

Notes

* Using an external LC filter can reduce below 10 mA.

** Requires 33 µF 100 V low ESR electrolytic capacitor across input (Sprague type 672D or equivalent).

*** Measured with 3.3 µF 25 V tantalum capacitor across each output.

Specifications subject to change without notice.

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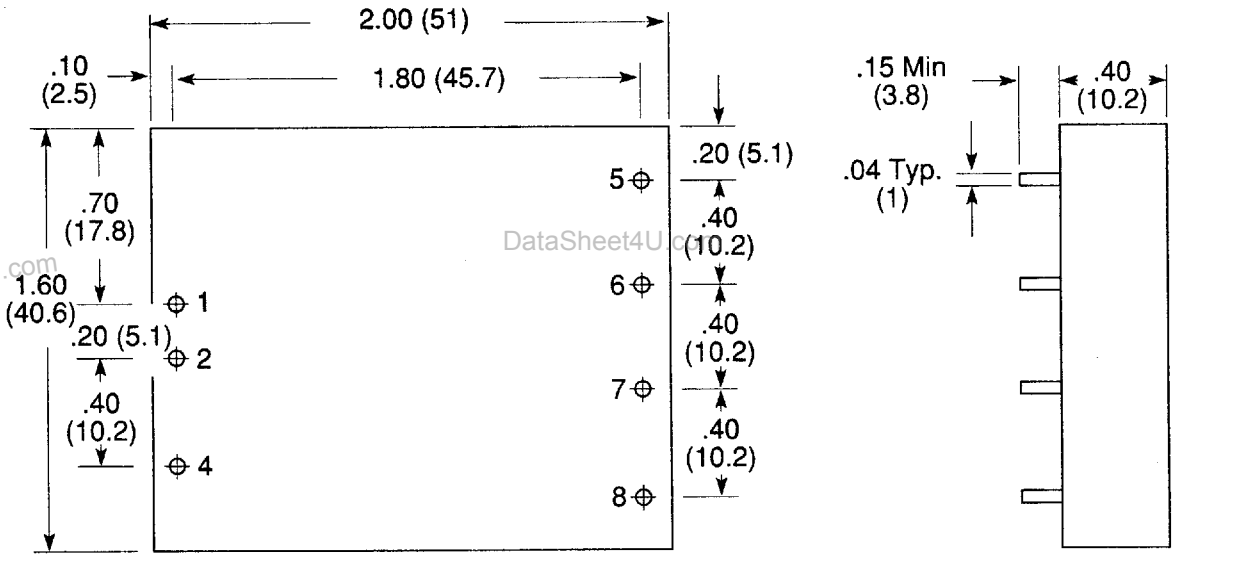
Ordering Information

	Input Voltage	Output Voltage	Output Current	Model Number	SCI Equivalent Model Number	Regulation % Line ±	Load ±
Single	20 - 72 V	5 Vdc	3000 mA	MRS2300-9	GA11-300-48	0.5	1.0
	20 - 72 V	12 Vdc	1250 mA	MRS3125-9	GA12-125-48	0.5	1.0
	20 - 72 V	15 Vdc	1000 mA	MRS4100-9	GA13-100-48	0.5	1.0
Dual	20 - 72 V	± 12 Vdc	± 625 mA	MRD4100-9	GA22-125-48	0.5	1.0
	20 - 72 V	± 15 Vdc	± 500 mA	MRD3125-9	GA23-100-48	0.5	1.0

Drawings



Bottom View

Pin Assignments

Single Output		*Dual Output*	
Pin 1	+Vdc in	Pin 1	+Vdc in
Pin 2	-Vdc in	Pin 2	-Vdc in
Pin 4	Remote on/off	Pin 4	Remote on/off
Pin 5	No pin	Pin 5	+Vdc out
Pin 6	+Vdc out	Pin 6	Output common
Pin 7	-Vdc out	Pin 7	-Vdc out
Pin 8	Trim	Pin 8	Trim

Notes

1. All dimensions are in inches and (mm).
2. Seven pins 0.040 (1.0) dia X 0.20 (5.1) length (min).
3. Remote On / Off (Pin 4)
   Referenced to input minus (Pin 2)
   ON - TTL high (> 2.4 Vdc) or open
   OFF - TTL low (< 1.8 Vdc) or jumper
   Open collector compatible.
4. Case Connection:
   Case connected to input plus (Pin 1).
5. External Output Trimming:
   Output may be externally trimmed ± 10% with a resistor or trimpot as shown: