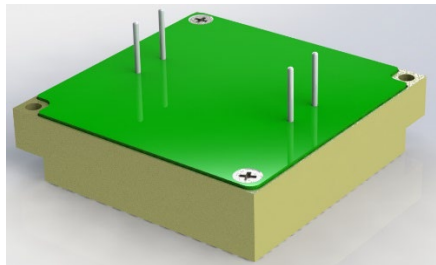




MDC201 SERIES

Datasheet Rev A 3/15/23

SINGLE OUTPUT DC/DC CONVERTER



- Small Footprint, Low Profile 12.5mm Height
- MIL-STD-810F Compliant
- Efficiency >80% Full Load
- MIL-STD-461E Compliance for EMI
- 1275A for Input Transients
- Onboard Protection Features

DESCRIPTION:

This compact, ruggedized, single output design utilizes an Active Clamp Forward converter topology with Synchronous Output Rectification to achieve the highest possible efficiency. This power supply has built-in MIL-STD-461E/F EMI filtering including output over voltage, over current, over temperature, and input surge protections. All fitting in a rugged aluminium enclosure that is under a half an inch tall (12.5mm).

GENERAL SPECIFICATIONS	
INPUT VOLTAGE	18-40 VDC
OPERATING FREQUENCY	300 - 500 KHz (fixed)
*OUTPUT VOLTAGE / CURRENT	OUT 1
PN: MDC201-101	+5V/4A
OUTPUT POWER (Max)	Up to 20W
PHYSICAL SIZE	1.99" (50.5mm) L x 1.99" (50.5mm) W x 0.49" (12.5mm) H
OPERATING TEMPERATURE	-55 C to +85 C (Baseplate)
WEIGHT	< 50g
MTBF	>150,000 hours, calculated per MIL-STD-217F

*: OTHER OUTPUTS AVAILABLE

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SALES@PRIME-POWER.COM

PRIME POWER INC: (603) 329-4675.
1 OWENS CT.
HAMPSTEAD NH, 03841.



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PHYSICAL CHARACTERISTICS	
MAXIMUM CASE SIZE	1.99" (50.5mm) L x 1.99" (50.5mm) W x 0.49" (12.5mm) H
COOLING METHOD	Conduction
ENCAPSULATION	Conformal Coat
ENCLOSURE FINISH	Yellow Chromate
BASEPLATE FINISH	N/A
INPUT/OUTPUT TERMINATION	.040" Gold Plated Brass Pins
MOUNTING	(2x) M2 through
WEIGHT	< 50g

ELECTRICAL SPECIFICATIONS	
LINE REGULATION	1% (Lo Line to Hi Line)
LOAD REGULATION	1% (1/2-FL W/SENSE)
PARD (RIPPLE NOISE)	20.0mVp-p typical (1% max.)
OVERCURRENT SETPOINT	150% typ (from nom.)
OVERVOLTAGE PROTECTION	>50V no dam./80V 100mS/100V 50ms; 120% of nom., passive
REVERSE POLARITY	-40Vdc, Indefinite
LOAD STEP RECOVERY	<10% of nom. Vout for 200ms (1/2 to F.L.)
EFFICIENCY (TYP.)	>85% at maximum load
ISOLATION	200Vdc between primary input and output and case
EMI FILTERING	MIL-STD-461E/F for CE101 and CE102

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*ENVIRONMENTAL SPECIFICATIONS		
ALTITUDE	MIL-STD-810	Method 500.1, Procedure 1
HIGH TEMPERATURE	MIL-STD-810	Method 501.4 Procedure 1 & 2
LOW TEMPERATURE	MIL-STD-810	Method 502.4 Procedure 1 & 2
HUMIDITY	MIL-STD-202	Method 103B
FUNGUS	MIL-STD-810	Method 508, Condition A
SALT FOG	MIL-STD-202	Method 101 E, Test Condition A
SAND AND DUST	MIL-STD-810	Method 501.4, Procedure 1 & 2
EXPLOSIVE ATMOSPHERE	MIL-STD-810	Method 511, Condition A
ACCELERATION	MIL-STD-810	Method 513.5, Procedure 1 & 2
VIBRATION	MIL-STD-810	Method 514.2
SHOCK	MIL-STD-883	Method 2002.4

**Designed to meet.*

TEMPERATURE SPECIFICATIONS	
OPERATING TEMPERATURE	-55 C to +85 C
STORAGE TEMPERATURE	-55 C to +125 C
THERMAL SHUTDOWN	Shut Down: + 105°C (±5° C) Auto Recovery: <95°C(±5°C)
POWER DERATING	Full Rated Power at: +85 C Baseplate Derate > +85 C Baseplate: 2.0 W/°C
TEMPERATURE COEFFICIENT	.02%/°C

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