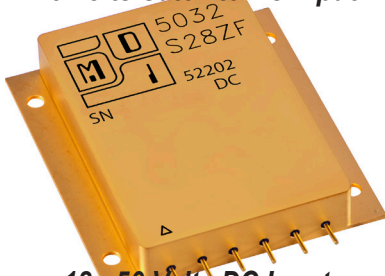


# Model 5032-S28

## Parallelable 100 Watt DC - DC Converter

### 28 Volts Satellite DC Input



### 18 - 50 Volts DC Input

#### Features:

- GaN HEMT design: Tolerant to radiation environments >100kRad(Si), no SEE for LETs >82MeV\*cm<sup>2</sup>/mg.
- Magnetic coupled RF feedback design eliminates optocouplers: inherently resistant to proton, neutron displacement effects.
- Precision output voltage droop mode control: reliable current sharing in N+1 redundant applications.
- Wide input voltage range; accommodates input voltage transient conditions.
- Self-contained, hermetic hybrid construction: no external electronics needed to achieve stated performance or paralleling claims.
- Internal MIL-STD-461C CE03 EMI filter: meets conducted emissions standard. Works with MDI external filters in applications where additional attenuation is needed: consult factory.
- Protected for open control loop and over current fault conditions: output OV and short circuit proof.
- Inhibit "Not" function: easy open collector on-off control. Coordinates seamlessly with MDI inrush limiters and bus controllers: consult factory
- Soft Start: output voltage ramps without overshoot.
- Sync and built in test options.

#### Specifications

Input: 28 VDC nominal

Range: 18 - 50 VDC Continuous full power operation

#### Isolation:

Input to case: 500VDC  
Input to output: 500VDC  
Output to case: 100VDC

#### Environment:

Temperature range, functional operating (Tcase): SE Grade -55°C to +125°C, derate Pout to zero at 135°C. EU, S Grades -55°C to +85°C, derate Pout to zero at 115°C.  
Temperature range, storage non-operating (Tcase): -60°C to +150°C.  
Shock: MIL-STD-810, Method 516.5 Procedure III (50Gs 11mS pulse, all axis)  
Random Vibration: MIL-STD-883, Method 2026, Test Condition 2H (32.3G, all axis)  
Acceleration: MIL-STD-883, Method 2001, Test Condition A1, Y1 direction, 500Gs

Weight: 160 grams typical

Model 5032 is a modular, parallelable, radiation tolerant hermetic hybrid designed for bulk power conversion of 28V input bus voltages to nominal 28 VDC regulated outputs. Each hybrid module provides 100 watts of output power and incorporates precision droop output voltage control to make paralleling multiple modules easy and straightforward without auxiliary interconnections or components. Up to five 5032 hybrids may be parallel connected to achieve very high load current; each module shares the total within ten percent provided the interconnecting load bus construction is evenly apportioned to minimize I<sup>2</sup>R losses. Output voltage is precision trimmed at the factory to within one tenth of one volt at half load to optimize current sharing; an adjust feature is provided to accommodate custom trims in application. GaN HEMT power conversion techniques make the model 5032 highly efficient and inherently radiation tolerant for gamma and single event effect environments.

### MODEL 5032-S28

#### Single Output

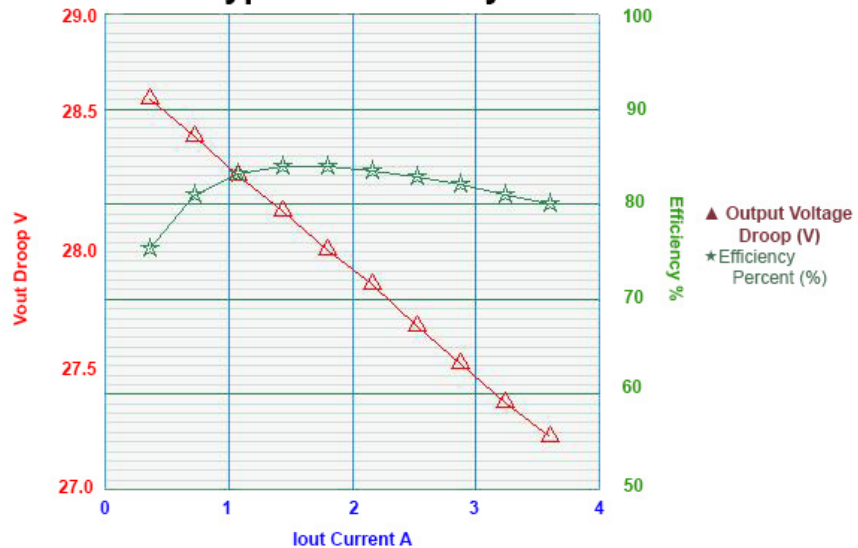
PARAMETER	CONDITION	MIN	TYP	MAX
Output voltage	Factory trim 50% load	+27.9	+28.0	+28.1
	Zero Load Droop	+28.9	+29.0	+29.1
	Full Load Droop	+26.9	+27.0	+27.1
Output Current	Vin Range 18 - 50 VDC, Full Load	—	—	3.6A
	Efficiency Range*	Pout 20W - 100W	80%	85%
Line Regulation	Vin Range 18 - 50 VDC	—	20mV	120mV
Load Regulation	No Load to Full Load VDC	+1	—	-1
	Droop (Vnom, about 50% Setpoint)			
Output Ripple (mVpp)	2MHz BW, Full Load	—	75	150

\* See efficiency curve - Efficiency vs. Vout Droop and output current for a typical representation.

#### Pin Outs Model 5032-S28

- Pin 1 Built In Test
- Pin 2 Inhibit Not
- Pin 3 Soft Start
- Pin 4 Sync Input
- Pin 5 Input +
- Pin 6 Input Rtn
- Pin 7 Adjust
- Pin 8 N/C
- Pin 9 N/C
- Pin 10 + Output
- Pin 11 N/C
- Pin 12 Output Return

### Typical Efficiency



Efficiency vs. Vout Droop and Output Current



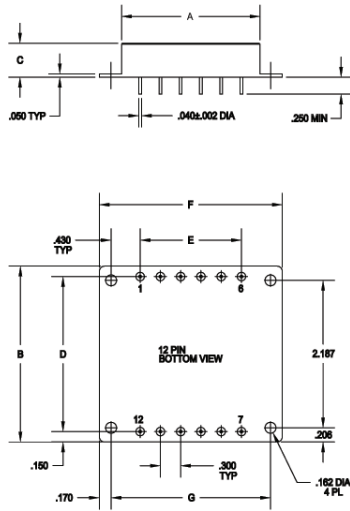
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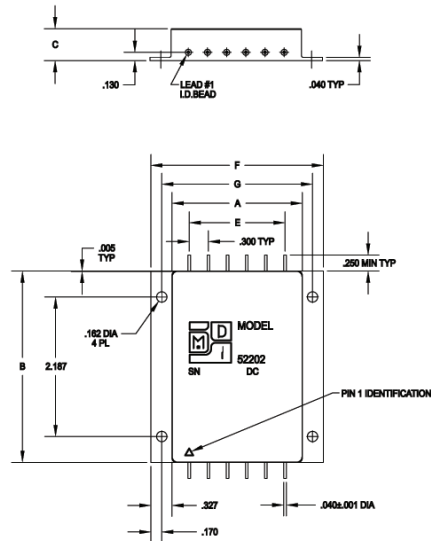
# Model 5032-S28

## Parallelable 100 Watt DC - DC Converter

CASE STYLE 7



CASE STYLE 9



**Case Dimensions**  
Units: inches | millimeters

DATA: 25°C case temperature values unless otherwise noted.  
TOLERANCES: ALL DIMENSIONS ±0.01, C = +0.01/-0.02; DRAWINGS IN INCHES.

Case Style	A	B	C	D	E	F	G
7 LF	2.040   51.816	2.610   66.294	0.495   12.573	2.300   58.420	1.500   38.100	2.710   68.834	2.360   59.944
9 ZF	2.040   51.816	3.010   76.454	0.495   12.573	—   —	1.500   38.100	2.710   68.834	2.360   59.944

Model No.	Case Style	Pin Count	Mounting	
5032	LF	7	12	Seam Weld PBC Mount with Flange
5032	ZF	9	12	Seam Weld Chassis Mount with Flange



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