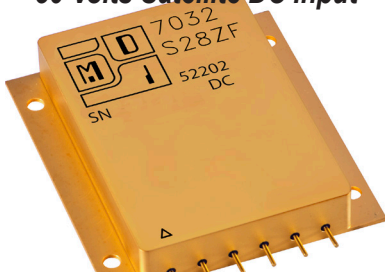


# Model 7032-S28

## Parallelable 100 Watt DC - DC Converter

### 50 Volts Satellite DC Input



### 30 - 75 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 50V satellite 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:** 50 VDC satellite nominal

**Range:** 30 - 75 VDC Continuous full power operation

#### Isolation:

Inputs to Outputs: 10 Mohms minimum at 500 VDC

Inputs and Outputs to Case: 10 Mohms minimum at 100 VDC

#### 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 7032 is a modular, parallelable, radiation tolerant hermetic hybrid designed for bulk power conversion of 50V satellite or 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 7032 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 7032 highly efficient and inherently radiation tolerant for gamma and single event effect environments.

### MODEL 7032-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 30 - 75 VDC, Full Load	—	—	3.6A
	Pout 100W	84%	87%	89%
Line Regulation	Vin Range 30 - 75 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

#### Pin Outs Model 7032-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	Output Adjust
Pin 8	N/C
Pin 9	N/C
Pin 10	Main Output +
Pin 11	N/C
Pin 12	Main Output Rtn

#### Case Dimensions

Units: inches | millimeters

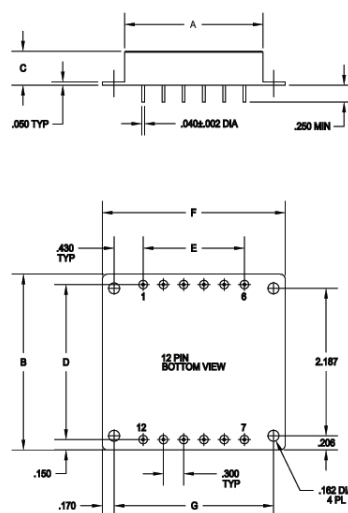
DATA: 25°C case temperature values unless otherwise noted.

TOLERANCES: ALL DIMENSIONS ±0.01, C = +0.01/-0.02; DRAWINGS IN INCHES.

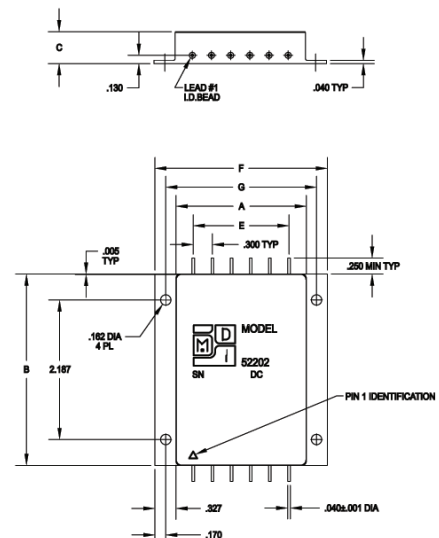
Case Style	A	B	C	D	E	F	G
7 LF	2.040   51.816	2.610   66.294	0.495   12.573	2.300   58.420	1.500   38.100	2.710   68.834	2.360   59.944
9 ZF	2.040   51.816	3.010   76.454	0.495   12.573	—   —	1.500   38.100	2.710   68.834	2.360   59.944

Model No.	Case Style	Pin Count	Mounting
7032	LF	7	Seam Weld PBC Mount with Flange
7032	ZF	9	Seam Weld Chassis Mount with Flange

#### CASE STYLE 7



#### CASE STYLE 9



**Modular Devices, Inc.**

Power Conversion for Space and Military/Aerospace