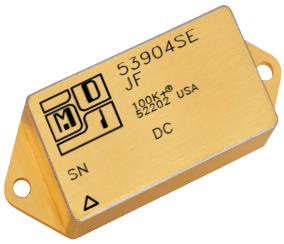
Model 53904

Battery Charger DC-DC Converter



This 40 watt DC-DC converter operates from a nominal 28 VDC bus and delivers an isolated and user adjustable 20 VDC to 36 VDC output to charge a Lithium Ion Battery. Other uses include RF Amplification, Capacitor Charging, Electric Propulsion or any other use where a wide adjustable output range is needed.

The output voltage command is referenced to the output side. 1 VDC commands 20 VDC output. 3.3 VDC commands a 36 VDC output.

Features:

- Output voltage user controlled from 20 to 36 VDC
- Rad Hard, TID>100 kRads(Si)
- GaN HEMT design
- No SEE LET > 82MeV*cm²/mg
- Proton resistant Magnetic coupled feedback design
- Specifically designed for Lithium Ion battery charging
- Hermetic thick film hybrid construction
- No external filter capacitors needed
- Fully Input/Output isolated
- "inhibit not" function
- Turn on soft start
- Built in EMI Filter meets MIL-STD-461C
- Short circuit and overvoltage protection
- External sync and BIT pin

Specifications:

Input:

Input voltage 28 VDC nominal
Range 20 VDC to 45 VDC

Output:

20 VDC ±0.5 VDC with 1 VDC command
36 VDC ±0.5 VDC with 3.3 VDC command
Delivers 100 watts at 36 VDC
Maximum Output Current 2.77A
Ripple 100 mV p-p typical,
300 mV p-p maximum at 36 VDC
Ripple 50 mV p-p typical,
200 mV p-p maximum 20 VDC

Isolation:

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

Environment:

Storage temperature:	-55°C to +150°C
Shock:	50G's
Acceleration:	500G's
Vibration:	30G's

Grades EU, L, & S:

Full Power Output at T_{case} = +85°C
Linearly derates to zero at T_{case} = +115°C

Grades LE & SE:

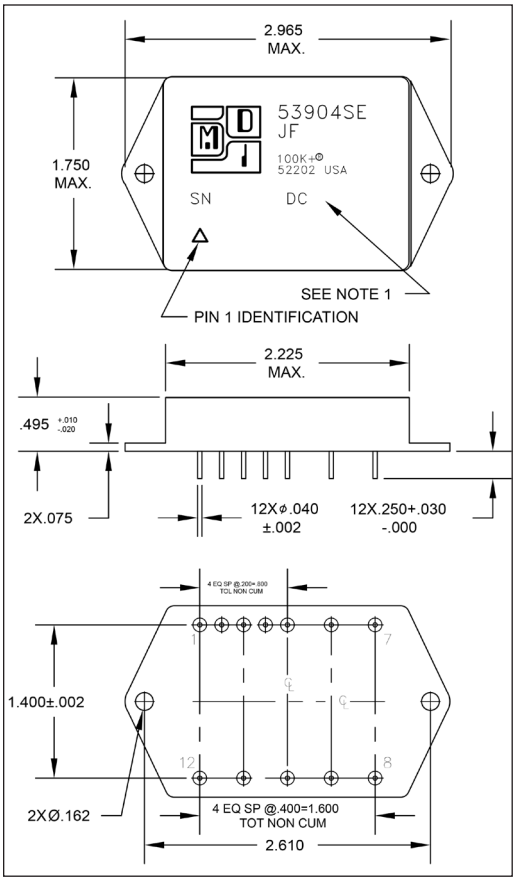
Full Power Output at T_{case} = +125°C
Linearly derates to zero at T_{case} = +135°C

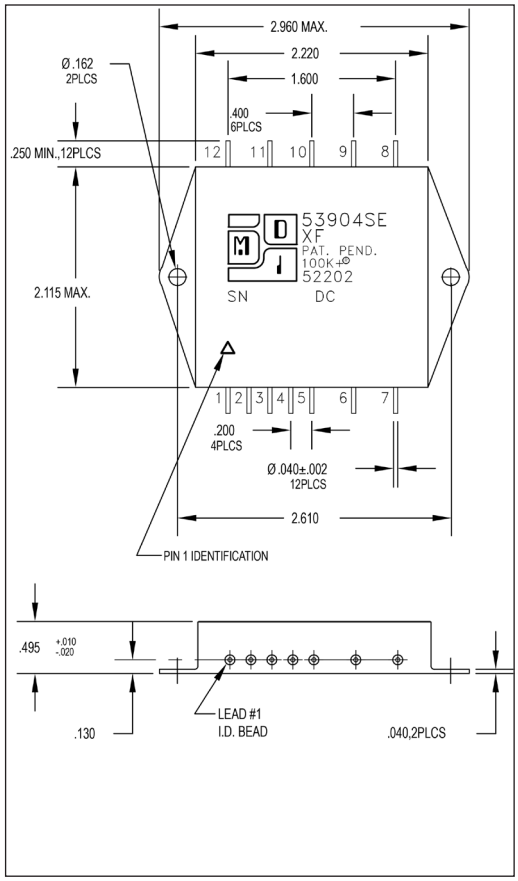
Grades L & LE:

TID up to 45kRad(Si)
No SEE up to 60MeV*cm²/mg

Weight:

90 grams typical





TOLERANCES: Drawings in Inches. All dimensions ±0.01 except F = max, C = +0.01/-0.020. For Custom Packages, Contact MDI Engineering

Pin #	Designation
1	BIT
2	Inhibit-Not
3	Soft Start
4	Sync
5	Program: 1VDC to 3.3VDC
6	Input Return
7	+20VDC – 45VDC Input
8	N/C
9	N/C
10	Positive Output
11	N/C
12	Output Return

Similar Models available for 28, 50, 70 and 100VDC Bus Voltage.

Modular Devices, Inc.
Power Conversion for Space and Military/Aerospace

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