TECHNICAL DATA
DATASHEET 5462, Rev. C

High Power TVS Module (20,000A) for Lightning Strike Protection

Application:

- **+28V DC systems**
- **Bi-Directional**

Protection Level:

- **Designed to meet RTCA/DO-160G, Section 16, Category B**
- **20,000 Amps surge capability**
- **100% tested for clamping performance to 1600A, 50/500 µs (Sec 22, Waveform 5B)**
- **Designed for chassis to be used as Electrical bus return**
- **Very low inductance to keep clamp voltage low**

Designed to meet the following DO-160G requirements:

Environmental Requirements	RTCA/DO-160G	Aircraft Zone and Category
Temperature	Section 4	D2 Operating: -55°C to 55°C Short Time Operating: -55°C to 70°C Non-Operating: -55°C to 85°C
Altitude	Section 4	D2 (50'000 feet)
Temperature Variation	Section 5	B (5°C per minute)
Humidity	Section 6	B
Operational Shocks	Section 7	A
Crash Safety	Section 7	N/A (Not Applicable)
Vibration	Section 8	S (Curve C)
Explosion Proofness	Section 9	N/A
Water Proofness	Section 10	W (N/A if hermitically sealed)
Fluid Susceptibility	Section 11	N/A
Sand & Dust	Section 12	S
Fungus Resistance	Section 13	F
Salt Spray	Section 14	S
Magnetic Effect	Section 15	N/A
Power Input	Section 16	N/A
Voltage Spike	Section 17	N/A
Audio Frequency Conductive Susceptibility	Section 18	N/A
Induced Signal Susceptibility	Section 19	N/A
Radio Frequency Susceptibility	Section 20	N/A
Emission of Radio Frequency Energy	Section 21	N/A
Lightning Induced Transient Susceptibility	Section 22	Functional Requirement
Lightning Direct Effects	Section 23	N/A
Icing	Section 24	N/A
Electro Static Discharge	Section 25	N/A
Fire, Flammability	Section 26	C
Bench Handling	MIL-STD 810F	Procedure VI
Solar Radiation	MIL-STD 810F	N/A

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Protection Level:
DO-160 Section 22 Waveform 5 Level 5A/5B waveform Compliant

Electrical Characteristics:

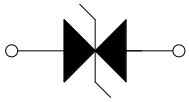
$T_j = 25^0C$ unless otherwise specified

PARAMETER		SYMBOL	MIN	TYP	MAX	UNIT
Peak Pulse Power	50/500 µs waveform	P_{PPM}	-	100	-	KW
Peak Pulse Current	50/500 µs waveform	I_{PPM}	1600	-	-	A
Clamp Voltage @ I_{PPM}	50/500 µs waveform	V_{CL}	-	56	60	V
Reverse Standoff Voltage		V_{RWM}	33	-	-	V
Reverse Leakage Current @ V_{RWM}		I_R	-	-	30	µA
Breakdown Voltage @ I_T = 10mA		V_{BR}	36.7	-	41	V

Package Characteristics

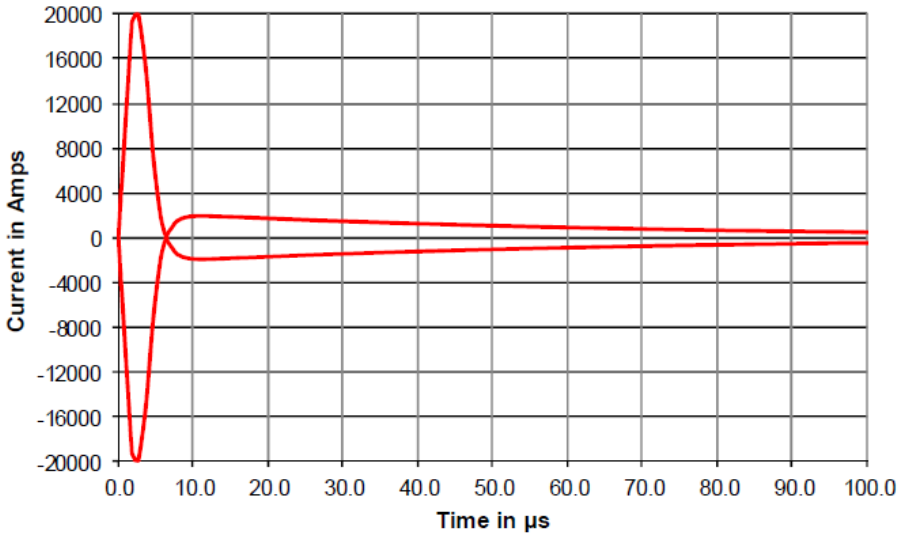
Recommended Operating Temperature Range	T_{OP}	- 40	-	85	^OC
Junction Temperature Range	T_J	-40	-	150	^OC
Storage Temperature Range	T_S	- 55	-	150	^OC
Module Weight	M	-	-	260	grams

Electrical Schematic - Note: The baseplate is the electrical RETURN



Qualification Testing:

The part can withstand a current of 20,000A for 6.5µs followed by opposite 2000A for 100µs. The wave shape is close to waveform 2 of DO-160G, Sec 22.



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MECHANICAL OUTLINE