Solid State Devices, Inc.
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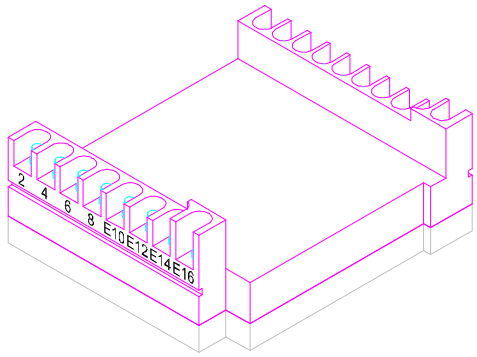
SPA547-01

Designer's Data Sheet

HYPERFAST HIGH VOLTAGE DIODE BRIDGE ASSEMBLY 10.5 kV / 1.5A

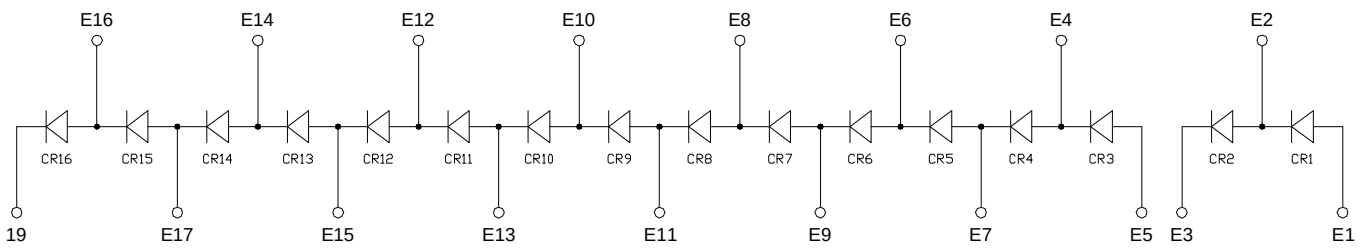
FEATURES:

- **100kHz Operation**
- **Airborne Application up to 50,000 ft**
- **High Efficiency**
- **Low EMI / Corona Discharge**
- **Thermally Conductive Aluminum Base Plate**
- **Helicoil Mounting Inserts**
- **ESS Screening Available. Consult Factory.**
- **Exterior Surfaces Sandblasted to Promote Adhesion of Encapsulation in Subsequent Assembly**



MAXIMUM RATINGS (Per Leg, Unless Otherwise Specified)	Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	V_{RRM} V_R	3,000	**Volts**
Half Wave Rectified Forward Current Averaged Over Fully Cycle (Resistive Load, 60 Hz, Sine Wave, T_C =100°C)	I_O	0.8	**Amps**
Peak Surge Current (T_C =55°C, 8.3 ms Pulse, Superimposed on Rated Current at Rated Voltage)	I_{FSM}	40	**Amps**
Maximum Individual Partial Discharge (V = 15kV, t = 1min, All Terminals in Common to Base)		10	**pC**
Maximum Dielectric Voltage	V_{DIEL}	15,000	**Volts**
Operating Temperature Range (Base plate)	$T_{OP\ BASE}$	-45 to +100	**°C**
Storage Temperature Range	T_{STG}	-55 to +150	**°C**
Maximum Thermal Resistance (Per Diode) Junction to Case	R_{qJC}	15	**°C/W**

Electrical Schematic



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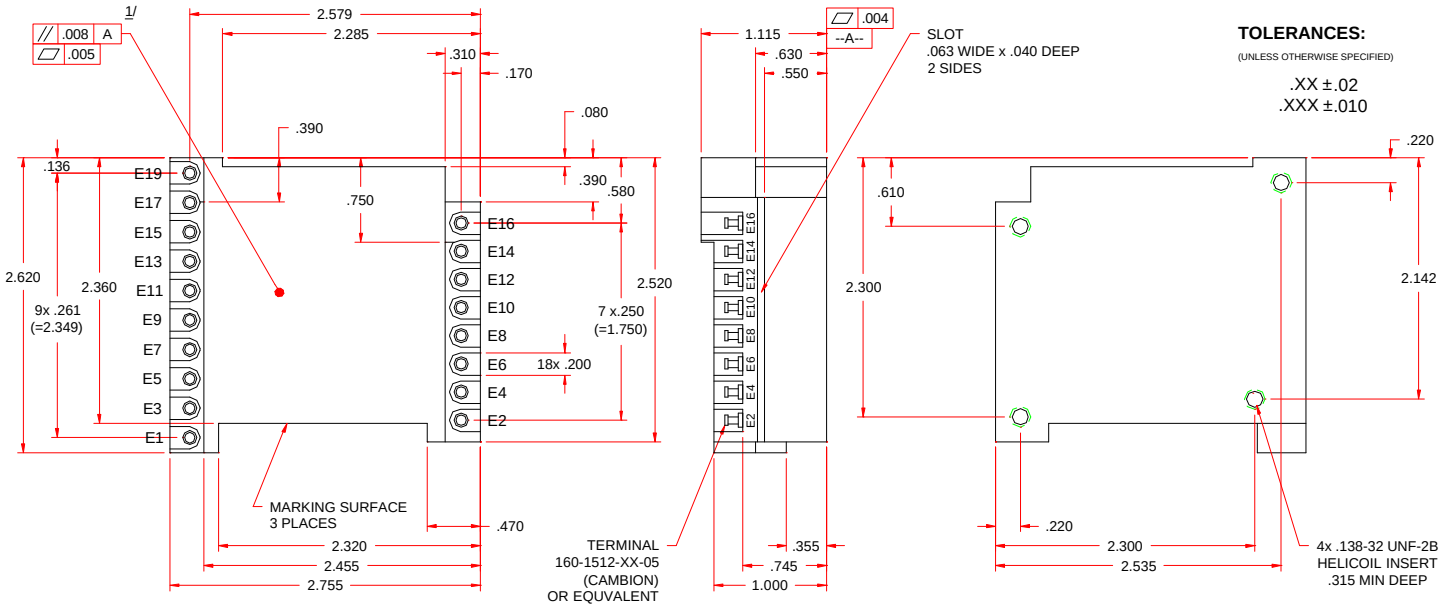
ELECTRICAL CHARACTERISTICS (Per Leg)	Symbol	Max	Unit
Max Instantaneous Forward Voltage Drop (I_F = 1.0 Adc, T_C = 25°C, 300µs Pulse)	V_F	8.2	V
Max Reverse Leakage Current (V_R = 3kV, T_C = 25°C)	I_{R1}	1	µA
Max Reverse Leakage Current (V_R = 3kV, T_C = 100°C)	I_{R2}	50	µA
Maximum Junction Capacitance (f = 1 MHz, V_R =100 V, T_C = 25°C)	C_J	12	pF
Maximum Pin to Ground Capacitance (f = 1 MHz, V_R =100 V, T_C = 25°C)	C_B	30	pF
Maximum Reverse Recovery Time (I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A, T_C = 25°C)	t_{RR}	40	nsec

NOTES:

1. Maximum forward voltage measured with instantaneous forward pulse of 300 µsec minimum.
2. For information on curves, contact the Factory Representative for Engineering Assistance

PACKAGE OUTLINE:



NOTE:

1/ Specified Flatness and Parallelism applies to the area of 2.620 x 2.140" min.