



Solid State Devices, Inc.

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SDA160A thru SDA160F

**40 AMPS 50 – 300 VOLTS
 HYPER FAST RECOVERY
 THREE PHASE BRIDGE RECTIFIER**

Designer's Data Sheet

Part Number/Ordering Information ^{1/}
SDA160 — — —
 L **Screening ^{2/}**
 — = Not Screened
 TX = TX Level
 TXV = TXV
 S = S Level
 L **Terminals** — = Spade Terminals
 T = Turret Terminals
 L **Peak Inverse Voltage (per leg)**
 A = 50V, B = 100V, C = 150V,
 D = 200V, E = 250V, F = 300V,

- FEATURES:**
- Hyper Fast Reverse Recovery Time 40 ns Max ^{4/}
 - Average Output Current 40 Amps @ 55°C
 - PIV 50 to 300 Volts Per Leg
 - Available with Turret or Spade Terminals
 - High Surge Rating- 250A
 - Thermally Superior Encapsulant
 - Hermetically Sealed Diode Cells
 - Replacement for Unitrode 800 Series
 - Aluminum Case, Electrically Insulated
 - Available in Higher Voltages
 - Available in Hyper Fast Recovery Times

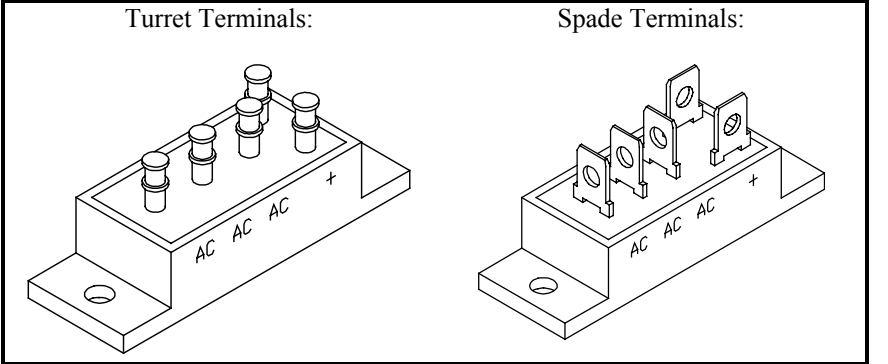
MAXIMUM RATINGS ^{3/}

RATING	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage ^{5/} (per leg) And DC Blocking Voltage (per leg)	SDA160A SDA160B SDA160C SDA160D SDA160E SDA160F V_{RM(REP)} VR	50 100 150 200 250 300	Volts
Half Wave Rectified Forward Current, Averaged Over Full Cycle (Resistive Load, 60 Hz, Sine Wave, T _C = 55°C)	I_O	40	Amps
Peak Repetitive Forward Current (per leg) (T _C = 55°C, 8.3 msec Pulse, Allow Junction to Reach Equilibrium Between Pulses)	I_{FM(REP)}	150	Amps
Peak Surge Current (per assembly) (T _C = 55°C, Superimposed on Rated Current at Rated Voltage, 8.3 msec Pulse)	I_{FM(SURGE)}	250	Amps
Operating & Storage Temperature	T_{OP} and T_{STG}	-65 to +150	°C
Thermal Resistance, Junction to Case	R_{θJC}	1.5	°C/W

SDA160 Packages:

NOTES:

- ^{1/} For Ordering Information, Price, and Availability- Contact Factory.
- ^{2/} Screened to MIL-PRF-19500.
- ^{3/} Unless Otherwise Specified, All Electrical Characteristics @25°C.
- ^{4/} Recovery Conditions:
I_F = 0.5 Amp, I_R = 1.0 Amp rec. to .25 Amp.
- ^{5/} For RMS Reverse Voltage, multiply V_R values by .707



NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: RA0089A

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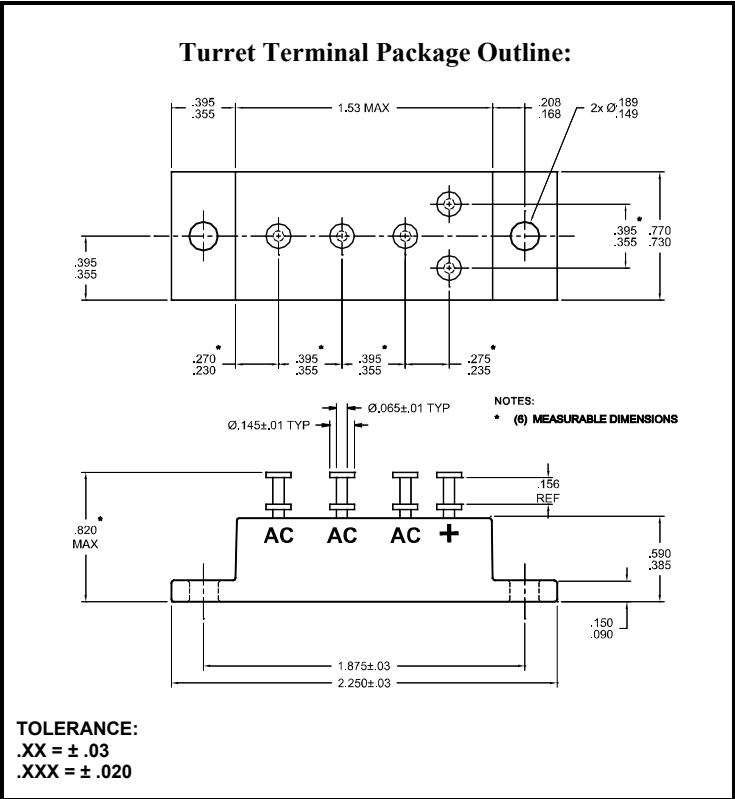
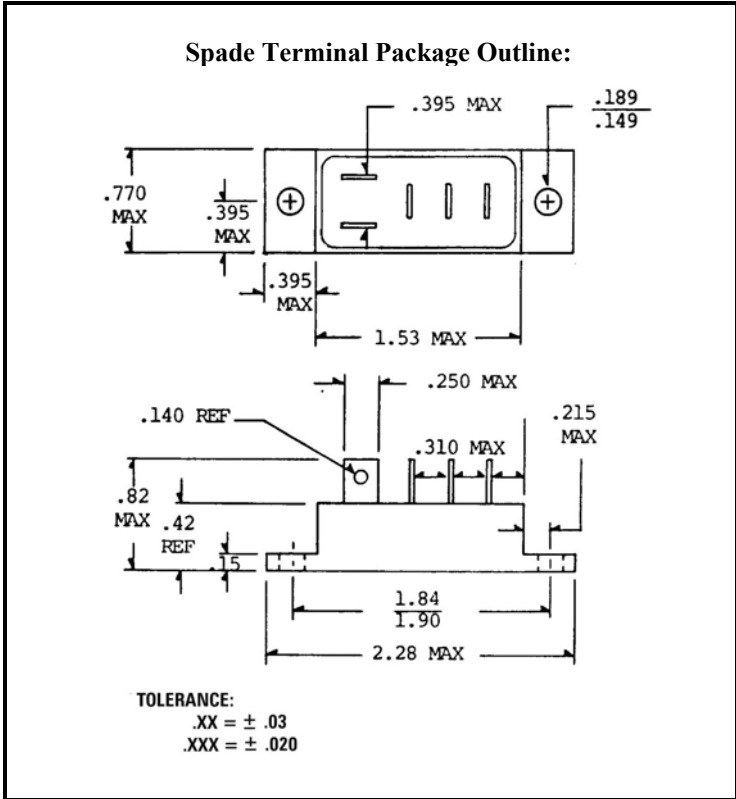
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SDA160A thru SD160F

ELECTRICAL CHARACTERISTICS (per leg) ^{3/} ^{6/}

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Maximum Instantaneous Forward Voltage Drop ($I_F = 10A, 60Hz, 300 \mu s$ Pulse, $T_C = 25^\circ C$)	V_F	1.2	Volts
Maximum Reverse Leakage Current (Rated $V_R, T_C = 25^\circ C$)	I_{R1}	20	μA
Maximum Reverse Leakage Current (Rated $V_R, T_C = 100^\circ C$)	I_{R2}	2	mA
Maximum Reverse Recovery Time ($I_F = 500mA, I_R = 1A, I_{RR} = 250mA$)	t_{rr}	40	ns



NOTES:

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- 2/ Screened to MIL-PRF-19500.
- 3/ Unless Otherwise Specified, All Electrical Characteristics @25°C.
- 4/ Recovery Conditions: $I_F = 0.5$ Amp, $I_R = 1.0$ Amp rec. to .25 Amp.
- 5/ For RMS Reverse Voltage, multiply V_R values by .707
- 6/ For information on operating curves, contact Factory.