Solid State Devices, Inc.
14701 Firestone Blvd * La Mirada, Ca 90638
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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 ___ ___ ___

- **Screening** [2/]
  - __ = Not Screened
  - TX = TX Level
  - TXV = TXV
  - S = S Level
- **Terminals**
  - _ = Spade Terminals
  - T = Turret Terminals
- **Peak Inverse Voltage** (per leg)
  - A = 50V, B = 100V, C = 150V,
  - D = 200V, E = 250V, F = 300V,

FEATURES:

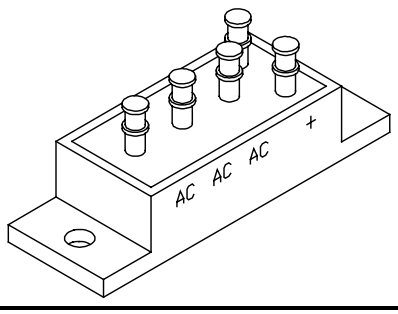
- **Hyper Fast Reverse Recovery Time 40 ns Max** [4/]
- **Average Output Current 40 Amps @ 55°C**
- **PIV 50 to 300 Volts Per Leg**
- **Available with Turret or Spade Terminals**
- **High Surge Rating- 250A**
- **Thermally Superior Encapsulant**
- **Hermetically Sealed Diode Cells**
- **Replacement for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

MAXIMUM RATINGS [3/]

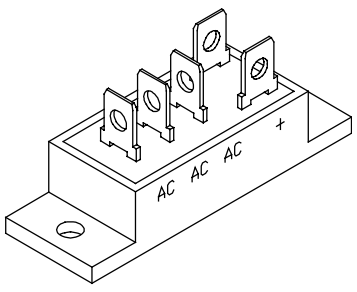
RATING		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage [5/] (per leg) And DC Blocking Voltage (per leg)	SDA160A SDA160B SDA160C SDA160D SDA160E SDA160F	$V_{RM\ (REP)}$ **VR**	50 100 150 200 250 300	Volts
Half Wave Rectified Forward Current, Averaged Over Full Cycle (Resistive Load, 60 Hz, Sine Wave, 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		$R_{\theta JC}$	1.5	°C/W

SDA160 Packages:

Turret Terminals:



Spade Terminals:



NOTES:

1/ For Ordering Information, Price, and Availability- Contact Factory.

2/ Screened to MIL-PRF-19500.

3/ Unless Otherwise Specified,

All Electrical Characteristics @25ºC.

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**	**DOC**

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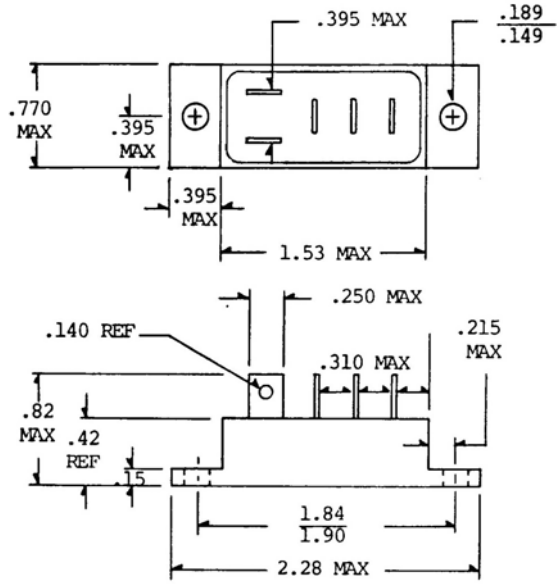
SDA160A thru SD160F

ELECTRICAL CHARACTERISTICS (per leg) 3/ 6/

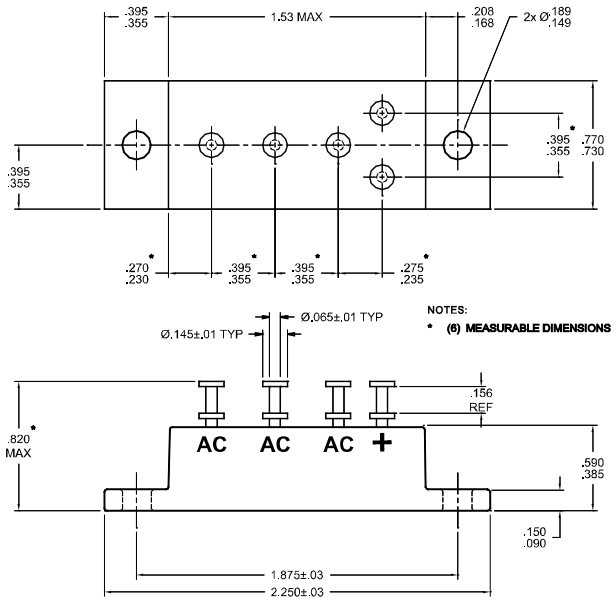
CHARACTERISTICS	SYMBOL	VALUE	UNIT
Maximum Instantaneous Forward Voltage Drop (I_F = 10A, 60Hz, 300 µs Pulse, T_C = 25°C)	V_F	1.2	Volts
Maximum Reverse Leakage Current (Rated V_R, T_C = 25°C)	I_{R1}	20	µA
Maximum Reverse Leakage Current (Rated V_R, T_C = 100°C)	I_{R2}	2	mA
Maximum Reverse Recovery Time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

Spade Terminal Package Outline:



TOLERANCE:
.XX = ± .03
.XXX = ± .020

Turret Terminal Package Outline:



TOLERANCE:
.XX = ± .03
.XXX = ± .020

NOTES:

1/ For Ordering Information, Price, and Availability- Contact Factory.
2/ Screened to MIL-PRF-19500.
3/ Unless Otherwise Specified, All Electrical Characteristics @25ºC.
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.