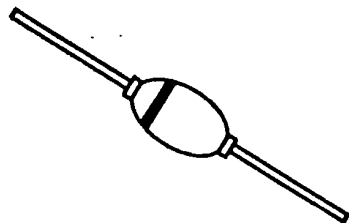


SAM60F THRU SAM90F SAM60UF THRU SAM90UF .5 AMP, HIGH VOLTAGE ULTRA FAST RECOVERY RECTIFIER 6000-9000 VOLTS

SSDI

14830 Valley View Avenue
La Mirada, California 90638
(213) 921-9660
TWX 910-583-4807
FAX 213-921-2396

CASE STYLE



FEATURES

- HERMETICALLY SEALED
- METALLURGICALLY BONDED
- SUBMINIATURE PACKAGE
- HIGH CURRENT
- AVALANCHE CHARACTERISTICS
- LOW LEAKAGE @ 125°C
- HI REL VERSIONS AVAILABLE

PART NUMBER	PEAK INVERSE VOLTAGE PIV	AVERAGE RECTIFIED CURRENT I _O		MAXIMUM REVERSE CURRENT @ PIV I _R		MAXIMUM FORWARD VOLTAGE V _F	MAX SURGE CURRENT 1 CYCLE I _{FS}	MAX REVERSE RECOVERY TIME T _{RR}	MAXIMUM JUNCTION CAPACITANCE C _J	TYPICAL THERMAL IMPEDANCE θ _{J-L}
		55°C	100°C	25°C	125°C					
	VOLTS	mA	mA	uA	uA	VOLTS	AMPS	nsec	pf	°C/W
SAM 60F	6000	500	250	1.0	15	13	25	150	10	18
SAM 70F	7000	500	250	1.0	15	13	25	150	10	18
SAM 80F	8000	500	250	1.0	15	13	25	150	10	18
SAM 90F	9000	500	250	1.0	15	13	25	150	10	18
SAM 60UF	6000	400	200	1.0	15	14	25	60	10	18
SAM 70UF	7000	400	200	1.0	15	14	25	60	10	18
SAM 80UF	8000	400	200	1.0	15	14	25	60	10	18
SAM 90UF	9000	400	200	1.0	15	14	25	60	10	18

*Reverse recovery test conditions: IF= .5A, IR= 1A, IRR= .25A.

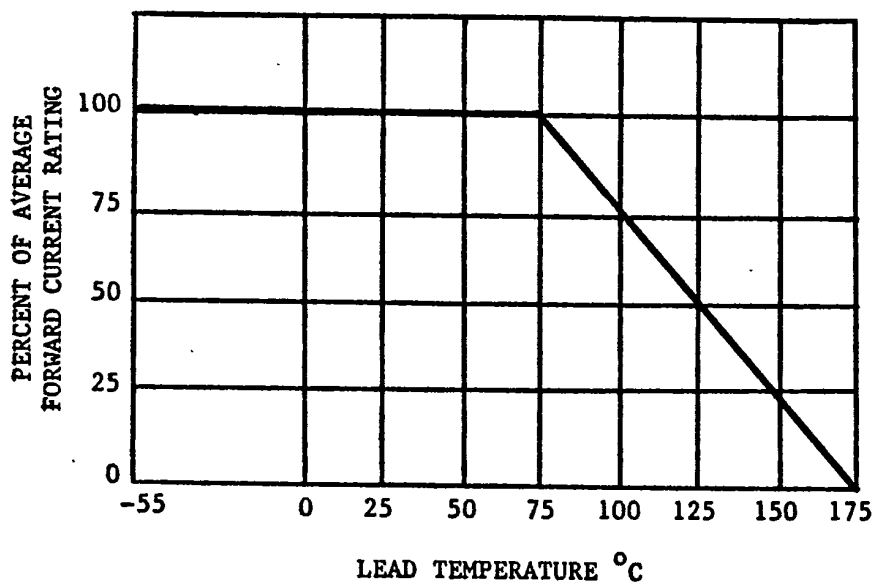
1. Operating and testing over 10,000 V/inch may require encapsulation or immersion in a suitable dielectric material.
2. Maximum forward voltage measured with instantaneous forward pulse of 8.3 mS.
3. Maximum lead temperature for soldering is 250°C, 3/8 inch from case for 5 seconds maximum.
4. Operating and storage temperature -65° to +175°C.

NOTE: All specifications subject to change without notice.

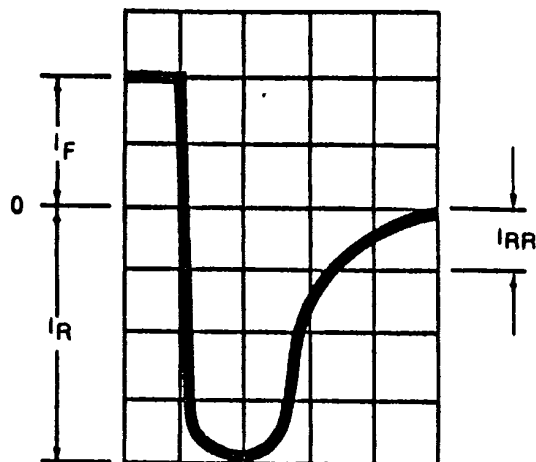
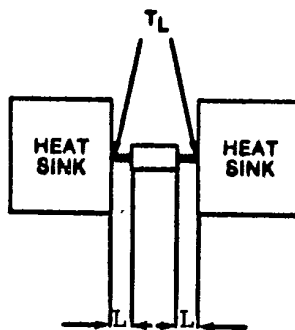
T-03-09

T-03-11

MAXIMUM FORWARD CURRENT VS. LEAD TEMPERATURE



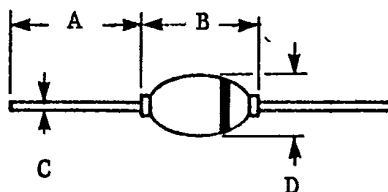
REVERSE RECOVERY WAVE FORM

THERMAL IMPEDANCE
● J-L INFORMATION

HEAT SINKS ARE INFINITE
 T_L = LEAD TEMP. ADJACENT TO
 HEAT SINK

T_J = TEMP. OF CENTER JUNCTION.
 EXPOSED PORTION OF LEADS
 SHALL BE FREE OF PAINT,
 GREASE, OR COATINGS OF
 ANY KIND.

BODY MATERIAL = GLASS
 LEAD MATERIAL = TIN PLATE
 COPPER



A = 1.0 MIN.

B = .425 MAX.

C = .047 - .053

D = .30 MAX.

SSD II

SOLID STATE DEVICES, INC.

T-01-09

1N5181 THRU 1N5184

.1 AMP

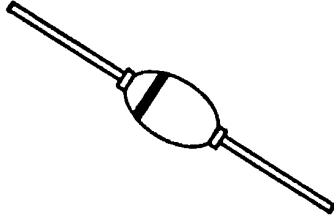
STANDARD RECOVERY RECTIFIER

4000-10,000 VOLTS



14830 Valley View Avenue
La Mirada, California 90638
(213) 921-9660
TWX 910-583-4807
FAX 213-921-2396

CASE STYLE



FEATURES

- HERMETICALLY SEALED GLASS PACKAGE
- SOLID SILVER LEADS
- 175°C OPERATING
- MATCHED JUNCTION CHARACTERISTICS
- METALLURGICALLY BONDED JUNCTIONS
- SUBMINIATURE PACKAGE
- FOR FAST RECOVERY DEVICES CONSULT FACTORY

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage and DC Blocking Voltage	$V_{RM} (rep)$ V_R	4000 5000 7500 10000	Volts
RMS Reverse Voltage	V_r	2800 3500 5250 7000	Volts
Half Wave Rectified Forward Current, Averaged Over Full Cycle (Resistive Load, 60Hz, Sine Wave, $T_C = 55^\circ C$)	I_J	100	mAmps
Peak Repetitive Forward Current ($T_A = 55^\circ C$, 8.3 ms Pulse, Allow Junction to Reach Equilibrium Between Pulses)	$I_{FM} (rep)$	1	Amps
Peak Surge Current ($T_A = 55^\circ C$, Superimposed on Rated Current at Rated Voltage, 8.3 ms Pulse)	$I_{FM} (surge)$	10	Amps
Operating and Storage Temperature	T_J, T_{stg}	-65 to +175	°C

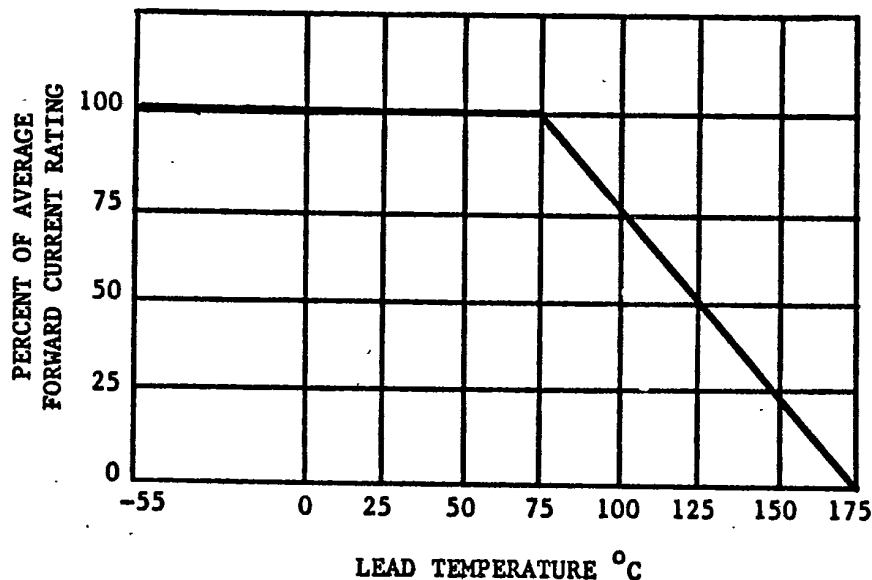
THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal Resistance, Junction to Leads, $L = 3/8"$	$R_{\theta JL}$	80	°C/W

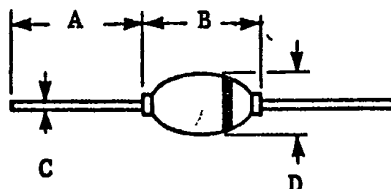
ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Max Full Cycle Forward Voltage Drop, Averaged Over Full Cycle (I_O (Max), 60 Hz, Square Wave, $T_A = 55^\circ\text{C}$)	$V_{F(AV)}$	5	Vdc
Max Instantaneous Forward Voltage Drop ($I_F = 100\text{mA}$, $T_A = 25^\circ\text{C}$, 300 μs Pulse)	V_F	10	Vdc
Max Full Cycle Reverse Leakage Current, Averaged Over Full Cycle (Rated V_R , 60Hz, Square Wave, $T_A = 100^\circ\text{C}$)	$I_{R(AV)}$	20	μA dc
Max Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$)	I_R	1	μA dc
Max Junction Capacitance ($V_R = 100\text{V}$, $T_A = 25^\circ\text{C}$)	C_J	4 2	pf
1N5181 & 1N5182 1N5183 & 1N5184			

MAXIMUM FORWARD CURRENT VS. LEAD TEMPERATURE



BODY MATERIAL = GLASS
LEAD MATERIAL = SILVER



A= 1.0 MIN.

B= .415 MAX.

C= .029 $\pm$.002 DIA.

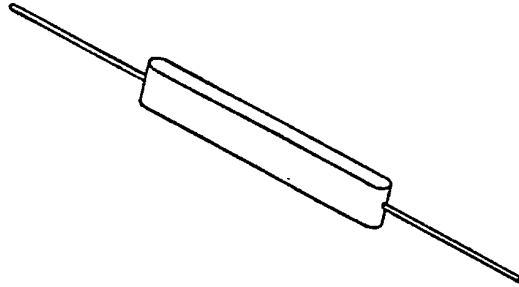
D= .145 MAX.

SSDI

SOLID STATE DEVICES, INC.

.5 AMP RECTIFIER ASSEMBLY**SDA 5000 thru SDA 25000** T-23-05

- * AVERAGE OUTPUT CURRENT .5 AMPS
- * PIV 5000 TO 25000 VOLTS
- * LOW REVERSE LEAKAGE
- * LOW FORWARD VOLTAGE DROP
- * CORONA FREE
- * SUPERIOR THERMAL SHOCK RESISTANCE
- * ALSO AVAILABLE IN FAST RECOVERY TIMES



SSDI introduces a new and complete series of high Density, High Voltage Rectifier Assemblies for use in industrial and military applications. Designed to be corona free, these rectifiers are capable of meeting stringent electrical, mechanical and environmental specifications.

Consult your factory representative for engineering assistance.

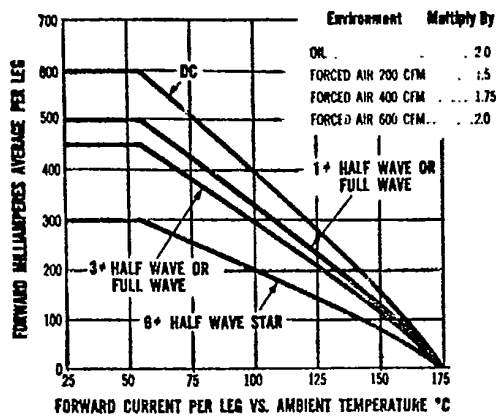
SEMTECH EQUIVALENT: SCH5000 through SCH25000

UNITRODE EQUIVALENT: HVH5000 through HVH25000

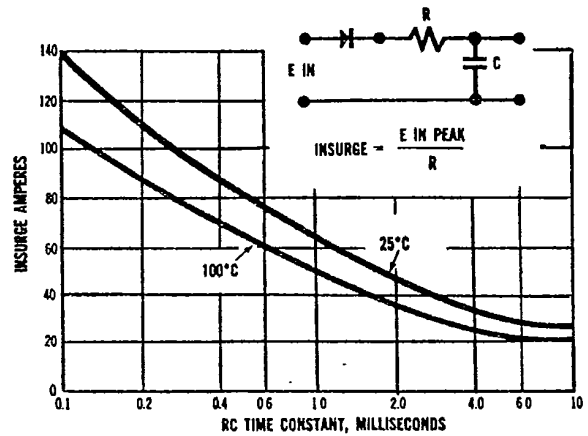
Type	PIV per leg	Average DC Output Amps TC = (case temp.)		Reverse * Recovery Time T _{rr}	Peak 1 Cycle Forward Surge	VF Max per leg @ 500mA	Reverse Current (I _R Max. per leg. @ PIV)		Case Size		
		55°C	100°C				25°C	100°C	Inches		
	VOLTS	AMPS	AMPS	us	AMPS	VOLTS	UA	UA	A	B	C
SDA 5000	5000	.5	.33	5	50	5	1	50	1.125	.250	.50
SDA 7500	7500	.5	.33	5	50	7.5	1	50	1.625	.250	.50
SDA 10000	10000	.5	.33	5	50	10	1	50	2.000	.250	.50
SDA 12500	12500	.5	.33	5	50	12.5	1	50	2.375	.250	.50
SDA 15000	15000	.5	.33	5	50	15	1	50	2.750	.250	.50
SDA 20000	20000	.5	.33	5	50	20	1	50	3.500	.250	.50
SDA 25000	25000	.5	.33	5	50	25	1	50	4.250	.250	.50


SOLID STATE DEVICES, INC.

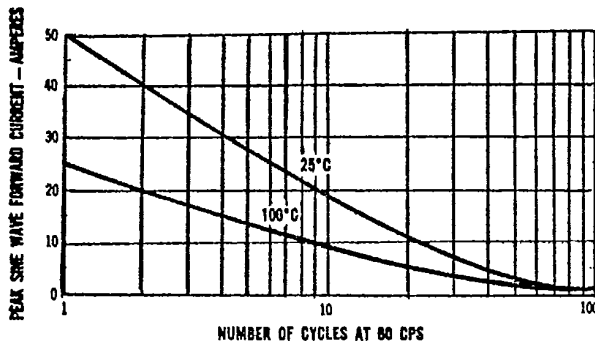
MAXIMUM FORWARD CURRENT VS. AMBIENT TEMPERATURE



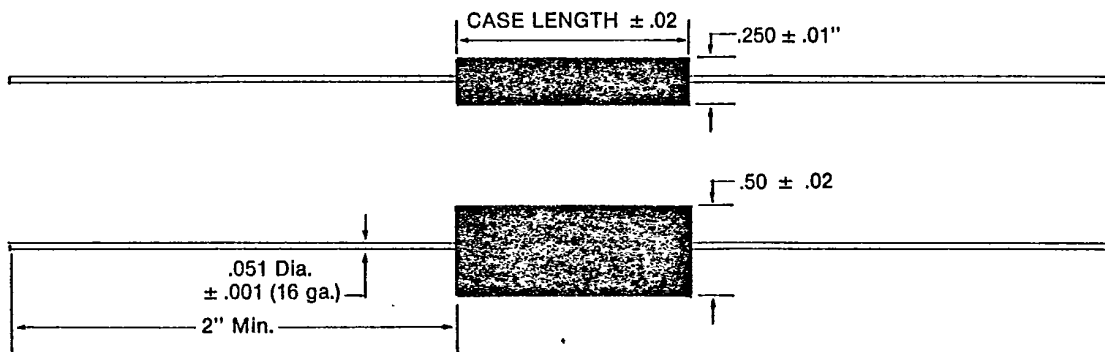
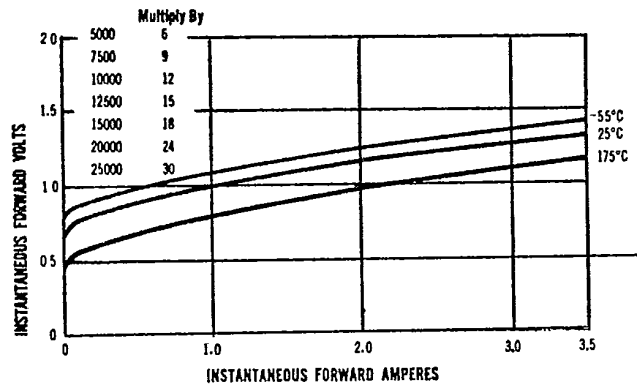
MAXIMUM RATINGS FOR CAPACITY LOADS



NON-RECURRENT FORWARD CURRENT SURGE CURVE



TYPICAL FORWARD CHARACTERISTICS PER JUNCTION



SSD SOLID STATE DEVICES, INC.