

SR5100SL

SUPER LOW VF SCHOTTKY RECTIFIERS



VOLTAGE 100 Volts **CURRENT** 5.0 Amperes **DO-27(DO-201AD)** Unit:Inch(mm)

FEATURES

- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High reliability
- ◆ High surge current capability
- ◆ Epitaxial construction

MECHANICAL DATA

Case : Molded plastic

Epoxy : UL 94V-0 rate flame retardant

Lead : Axial leads, solderable per MIL-STD-202, method 208 guaranteed

Polarity : Color band denotes cathode end

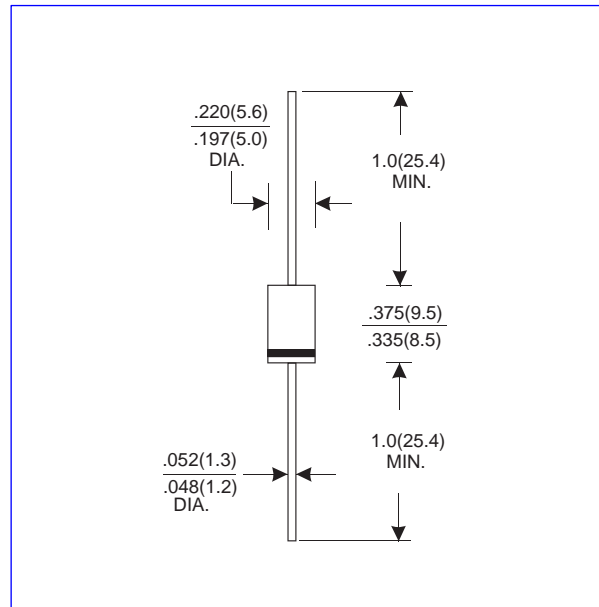
Mounting Position : Any

Weight : 1.10 grams

Both normal and Pb free product are available:

Normal:80~95%Sn,5~20%Pb

Pb free :99 Sn above can meet Rohs enviroment substance directive request



Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

MDD Catalog Number	SYMBOLS	SR5100SL	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	100	VOLTS
Maximum RMS voltage	V_{RMS}	70	VOLTS
Maximum DC blocking voltage	V_{DC}	70	VOLTS
Maximum average forward rectified current 0.375"(9.5mm) lead length(see fig.1)	$I_{(AV)}$	5.0	Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	250	Amps
Maximum instantaneous forward voltage at 3.0A @ 25 °C	V_F	0.58	Volts
Maximum DC reverse current $T_A=25^{\circ}C$ at rated DC blocking voltage $T_A=100^{\circ}C$	I_R	0.05 10.0	mA
Typical junction capacitance (NOTE 1)	C_J	290	pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	45	°C/W
Operating junction temperature range	T_J	-65 to +150	°C
Storage temperature range	T_{STG}	-65 to +150	°C

Note:1.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

2.Thermal resistance from junction to ambient at 0.375"(9.5mm)lead length,P.C.B. mounted

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RATING AND CHARACTERISTIC CURVES

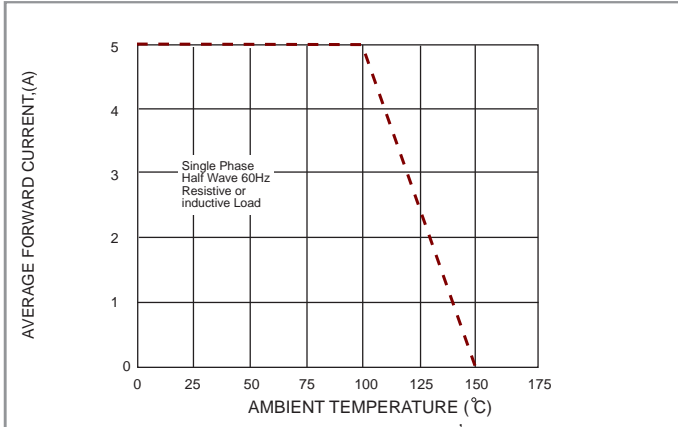


Fig. 1 FORWARD CURRENT DERATING CURVE

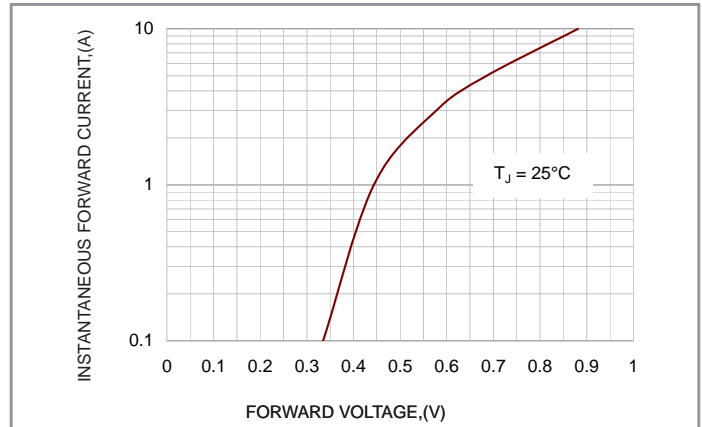


Fig. 2-TYPICAL INSTANTANEOUS FORWARD

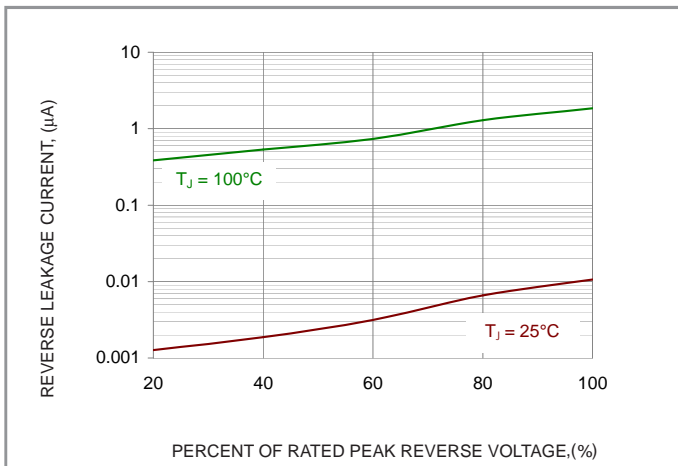


Fig. 3 TYPICAL REVERSE CHARACTERISTICS

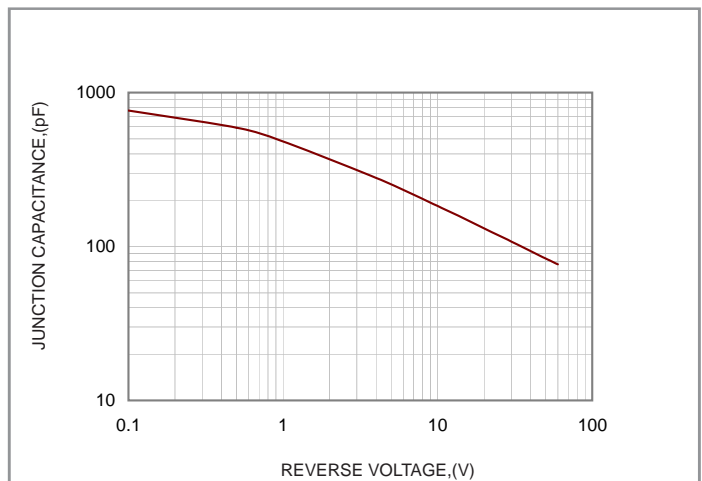


Fig. 4 TYPICAL JUNCTION CAPACITANCE

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• THERMAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

Parameter	Symbol	SR5100SL	Unit
Typical thermal resistance ³⁾	R _{θJA}	25.0	°C/W
	R _{θJL}	8.0	

3. Thermal resistance from junction to lead vertical P.C.B. mounted , 0.375"(9.5mm) lead length

• PACKING INFORMATION

Product code	Pack	Box Size L*W*H (mm)	Quantity (pcs/box)	Carton Size L*W*H (mm)	Quantity (box/carton)
SR5100SL-DO-27	T/B	264*74*145	1250	420*280*310	10

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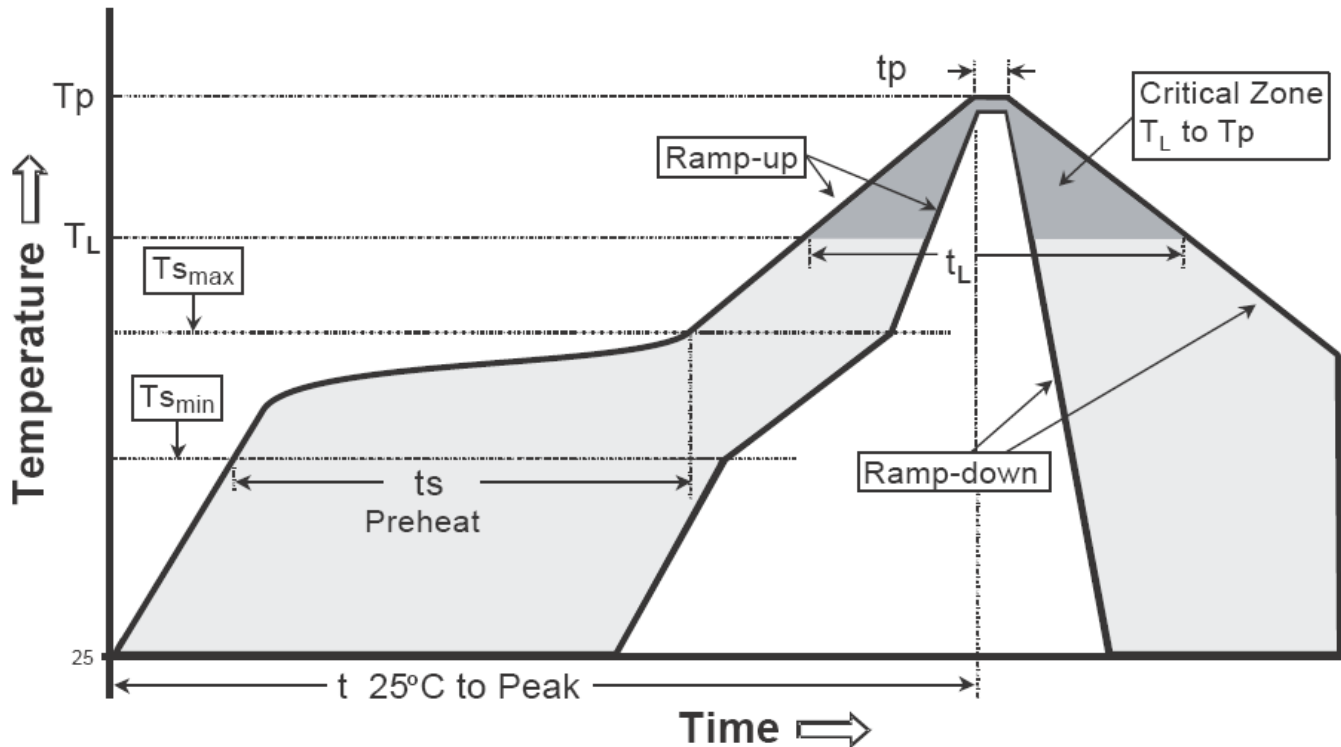
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Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min(T_s min)	100°C	150°C
-Temperature Max(T_s max)	150°C	200°C
-Time($t_{s \text{ min}}$ to $t_{s \text{ max}}$)	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (T_L)	183°C	217°C
- Time (t_L)	60-150 seconds	60-150 seconds
Peak Temperature(T_P)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(t_p)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

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