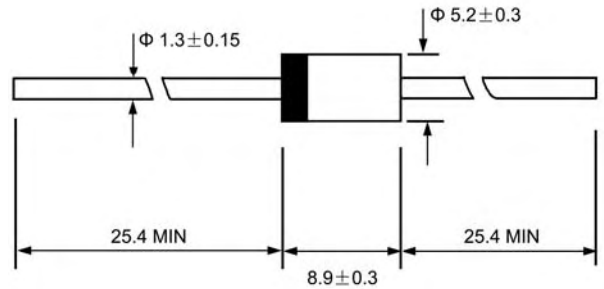



**DO - 27**


Dimensions in millimeters

**Features**

- ◇ Metal-semiconductor junction with guard ring
- ◇ Epitaxial construction
- ◇ Low forward voltage drop, low switching losses
- ◇ High surge capability
- ◇ For use in low voltage, high frequency inverters free wheeling, and polarity protection applications
- ◇ The plastic material carries U/L recognition 94V-0

**Mechanical Data**

- ◇ Case: JEDEC DO-27, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.041 ounces, 1.15 grams
- ◇ Mounting position: Any

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

		SR520	SR530	SR540	SR550	SR560	SR580	SR5A0	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	20	30	40	50	60	80	100	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	56	70	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	80	100	V
Maximum average forward rectified current 9.5mm lead length, (see fig.1)	$I_{F(AV)}$	5.0							A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	$I_{FSM}$	150.0							A
Maximum instantaneous forward voltage @ 5.0A (Note 1)	$V_F$	0.55			0.7		0.85		V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	$I_R$	2.5				25.0			mA
		50.0			25.0				
Typical junction capacitance (Note2)	$C_J$	500				400			pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	25							°C/W
Operating junction temperature range	$T_J$	- 55 ---- + 125				- 55 ---- + 150			°C
Storage temperature range	$T_{STG}$	- 55 ---- +150							°C

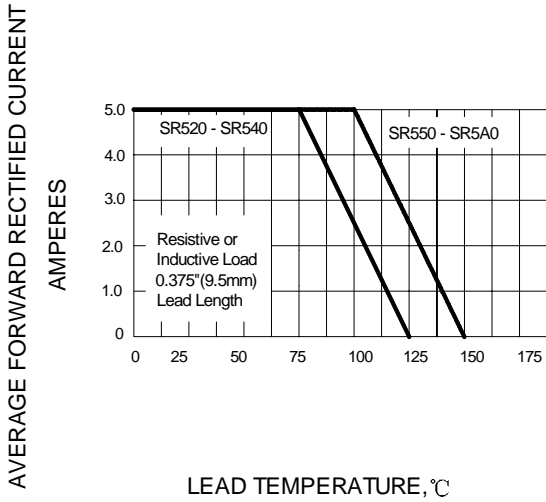
NOTE: 1. Pulse test: 300us pulse width, 1% duty cycle.

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

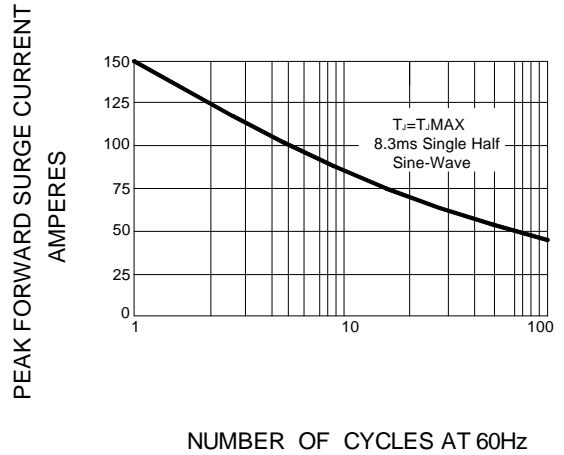
3. Thermal resistance junction to ambient

## Ratings AND Characteristic Curves

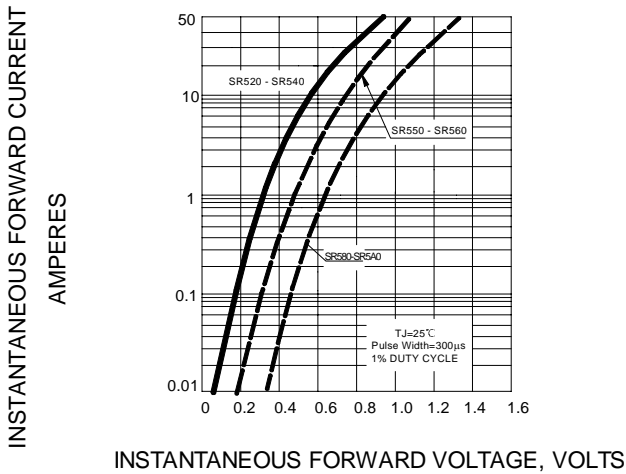
**FIG.1 -- FORWARD CURRENT DERATING CURVE**



**FIG.2 -- PEAK FORWARD SURGE CURRENT**



**FIG.3 -- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG.4 -- TYPICAL JUNCTION CAPACITANCE**

