

## SCHOTTKY BARRIER RECTIFIERS

### Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Idea for printed circuit board
- ◆ Fast switching for high efficiency
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed 250 °C/10 seconds at terminals

### Mechanical Data

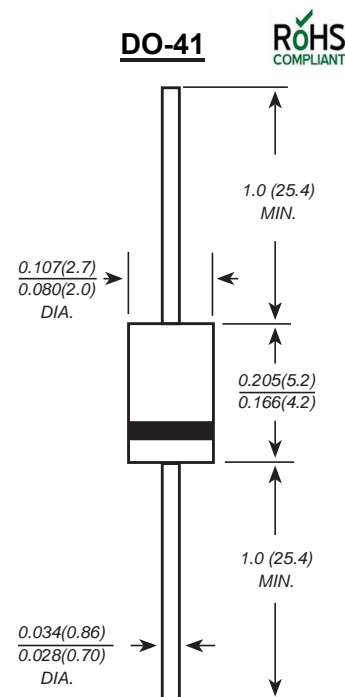
**Case** : JEDEC DO-41 Molded plastic body

**Terminals** : Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity** : Polarity symbol marking on body

**Mounting Position** : Any

**Weight** : 0.012 ounce, 0.33 grams



Dimensions in inches and (millimeters)

### 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%.

Parameter	SYMBOLS	MDD SR120L	MDD SR130L	MDD SR140L	MDD SR150L	MDD SR160L	MDD SR180L	MDD SR1100L	UNITS	
Marking Code										
Maximum repetitive 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 at $T_A=75^\circ\text{C}$	$I_{(AV)}$	1.0							A	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	40							A	
Maximum instantaneous forward voltage at 1.0A	$V_F$	0.45			0.50		0.70		V	
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	0.5 10.0					0.2 5.0		mA	
Typical junction capacitance (NOTE 1)	$C_J$	110				80			pF	
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	50.0							°C/W	
Operating junction temperature range	$T_J$	-55 to +125						-55 to +150		°C
Operating junction and storage temperature range	$T_{STG}$	-55 to +150							°C	

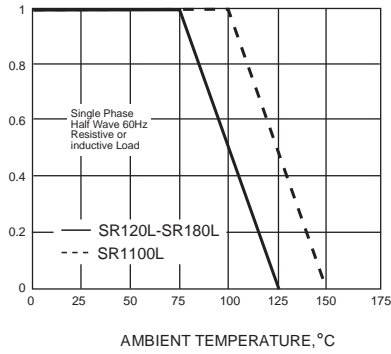
**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

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

## Ratings And Characteristic Curves

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

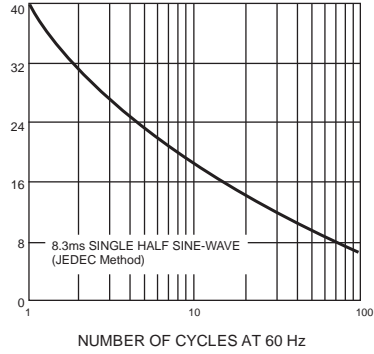
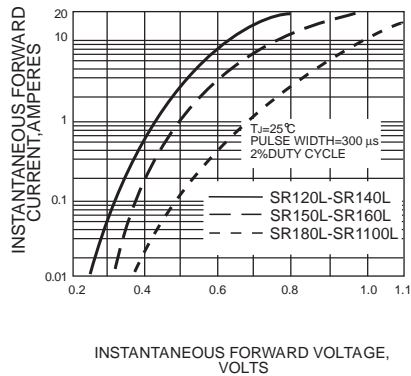


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

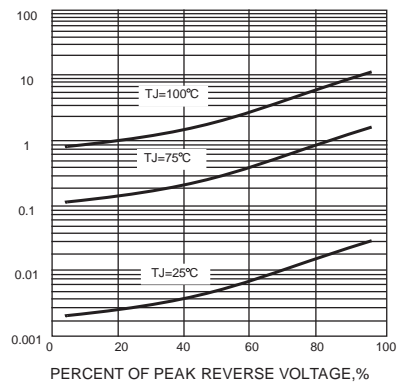
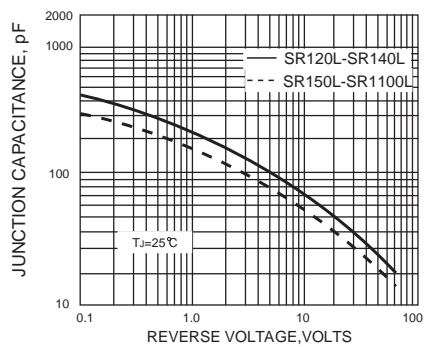
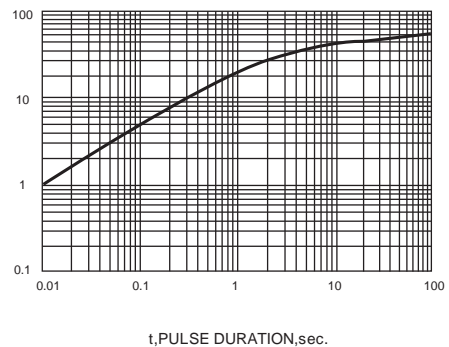


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.