



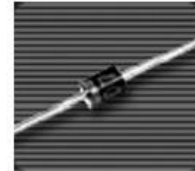
SYNSEMI SEMICONDUCTOR

# 1K2 thru 1K6

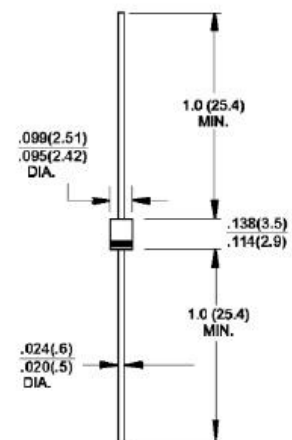
1.0 Amp. Schottky Barrier Rectifiers  
Voltage Range 20 to 60 Volts Forward Current 1.0 Ampere

## Features

- ◆ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High current capability, low forward voltage drop
- ◆ High surge capability
- ◆ Guardring for overvoltage protection
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ High temperature soldering guaranteed:  
250°C/10Seconds, 0.375" (9.5mm) lead length at 5 lbs. (2.3Kg) tension



R-1



Dimensions in inches and (millimeters)

## Mechanical Data

- ◆ Cases: Molded plastic body
- ◆ Terminals: Plated Axial leads, solderable per MIL-STD-750, Method 2026
- ◆ Polarity: Color band denotes cathode end
- ◆ Mounting position: Any
- ◆ Weight: 0.007 ounce, 0.20 gram

## Maximum Ratings and Electrical Characteristics

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

Parameter	Symbols	1K2	1K3	1K4	1K5	1K6	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	Volts
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	Volts
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	Volts
Maximum average forward rectified current See Fig. 1	$I_{(AV)}$	1.0					Amp
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	40.0					Amps
Maximum instantaneous forward voltage @ 1.0A	$V_F$	0.55			0.70		Volts
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		mA
Typical thermal resistance (Note 1)	$R_{\theta JA}$	50					$^\circ\text{C/W}$
Typical junction capacitance (Note 2)	$C_j$	110			80		pF
Operating junction temperature range	$T_J$	-65 to +125			-65 to +150		$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-65 to +150					$^\circ\text{C}$

- Notes:**
1. Thermal Resistance from Junction to Ambient at .375" (9.5mm) Lead Length, PC Board Mounted.
  2. Measured at 1.0 MHz and Applied  $V_R = 4.0$  Volts

# 1K2 thru 1K6

## RATINGS AND CHARACTERISTIC CURVES

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

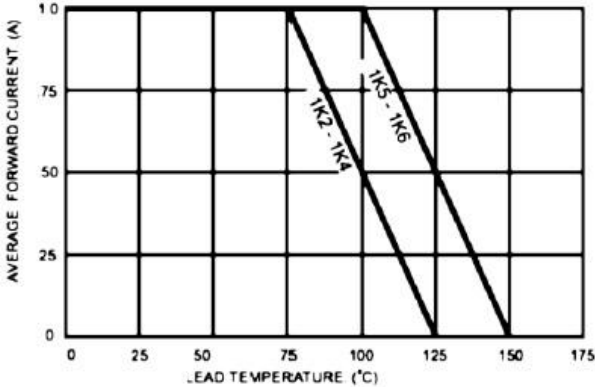


FIG. 2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

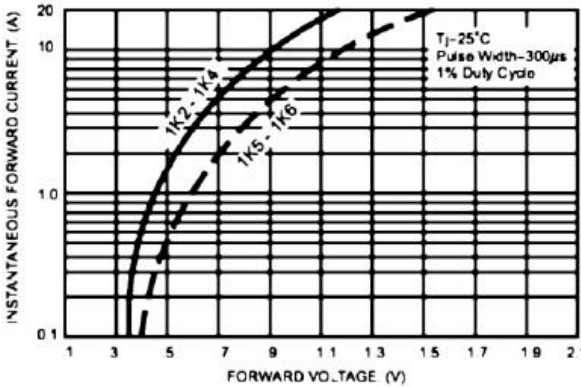


FIG. 3- TYPICAL REVERSE CHARACTERISTICS

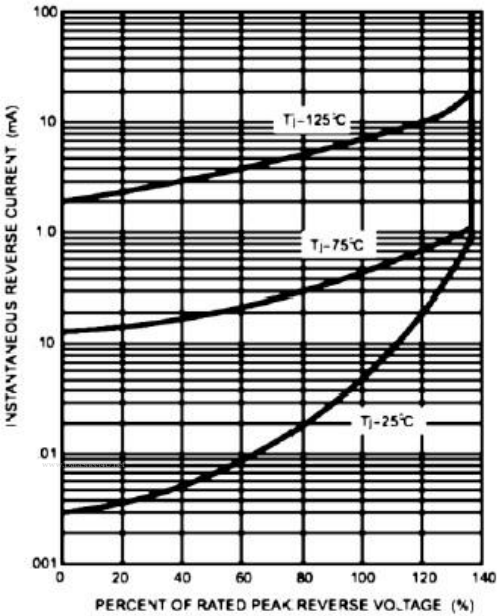


FIG. 4- TYPICAL JUNCTION CAPACITANCE

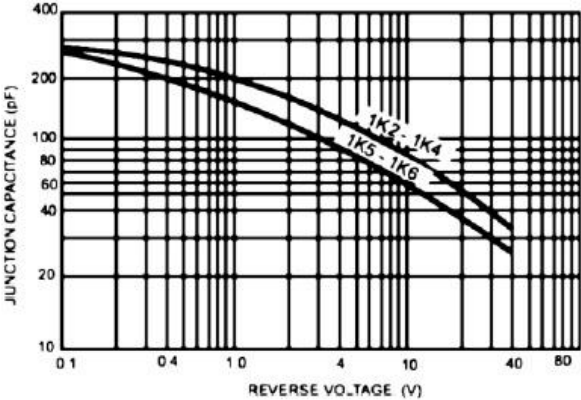


FIG. 5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

