

# SILICON RECTIFIER DIODES

# BY251 - BY255

Vishaymas Semiconductors

## FEATURES

- High current capability
- High surge current capability
- High reliability
- Low reverse current
- Low forward voltage drop

## MECHANICAL DATA

**Case :** DO-27 Molded plastic

**Epoxy :** UL94V-O rate flame retardant

**Lead :** Axial lead solderable per

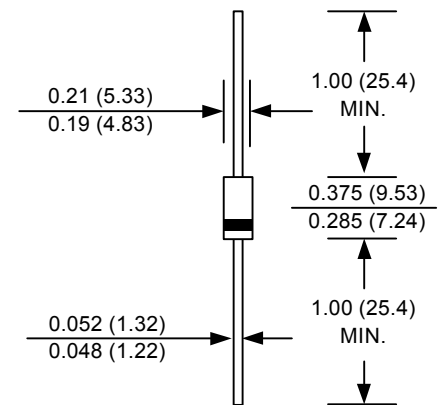
MIL-STD-202, Method 208 guaranteed

**Polarity :** Color band denotes cathode end

**Mounting position :** Any

**Weight:** 0.929 grams

## DO - 27



Dimensions in inches and(millimeters)

## 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%.

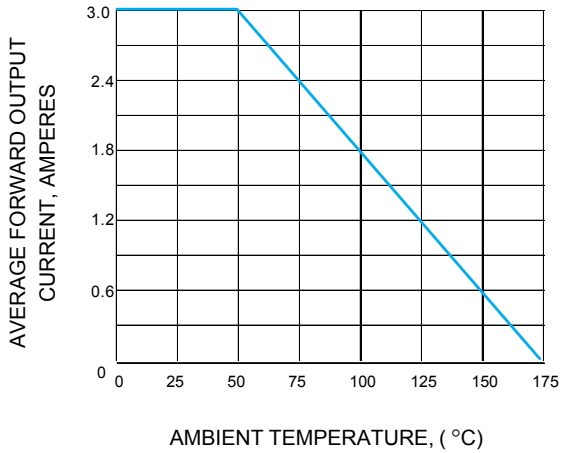
RATING	SYMBOL	BY251	BY252	BY253	BY254	BY255	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	200	400	600	800	1300	V
Maximum RMS Voltage	$V_{RMS}$	140	280	420	560	910	V
Maximum DC Blocking Voltage	$V_{DC}$	200	400	600	800	1300	V
Maximum Average Forward Current 0.375"(9.5mm) Lead Length $T_a = 50\text{ }^\circ\text{C}$	$I_F$	3.0					A
Peak Forward Surge Current 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method)	$I_{FSM}$	100					A
Maximum Forward Voltage at $I_F = 3.0$ Amps.	$V_F$	1.1					V
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at rated DC Blocking Voltage $T_a = 100\text{ }^\circ\text{C}$	$I_R$	20					$\mu\text{A}$
	$I_{R(H)}$	50					$\mu\text{A}$
Typical Junction Capacitance (Note1)	$C_J$	50					pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$	18					$^\circ\text{C/W}$
Junction Temperature Range	$T_J$	- 65 to + 175					$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	- 65 to + 175					$^\circ\text{C}$

## Notes :

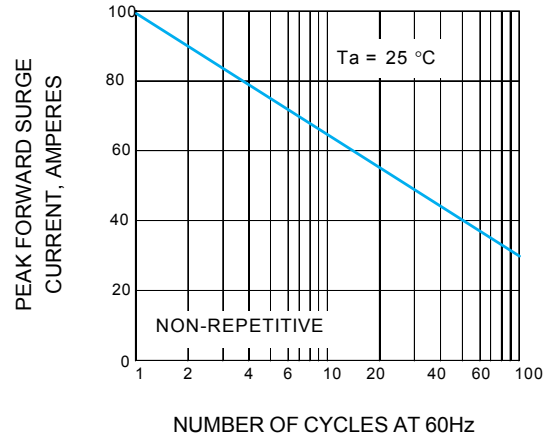
(1) Measured at 1.0 MHz and applied reverse voltage of 4.0V<sub>DC</sub>

(2) Thermal resistance from Junction to Ambient at 0.375" (9.5mm) Lead Lengths, P.C. Board Mounted.

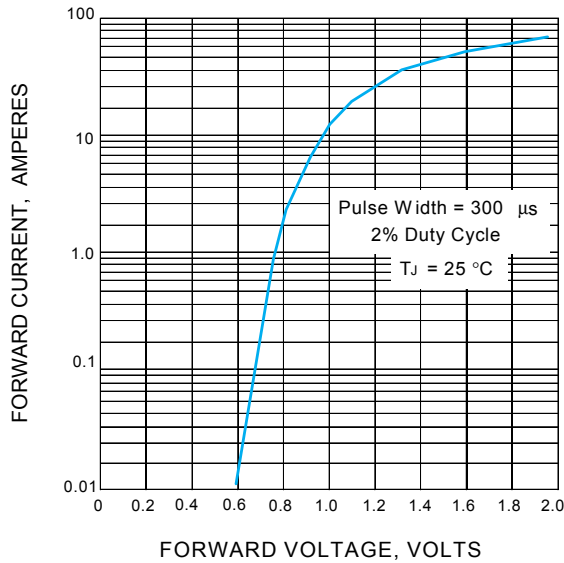
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



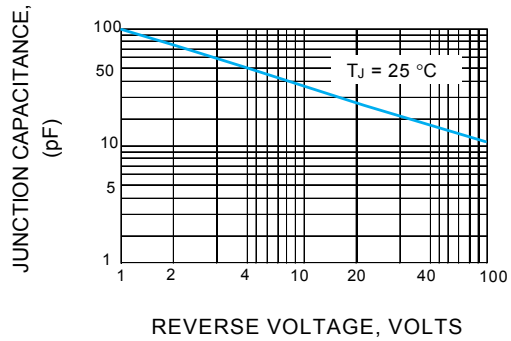
**FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL JUNCTION CAPACITANCE**



**FIG.5 - TYPICAL REVERSE CHARACTERISTICS**

