

## BY251 THRU BY255

### TECHNICAL SPECIFICATIONS OF SILICON RECTIFIER VOLTAGE RANGE - 200 to 1300 Volts    CURRENT - 3.0 Amperes

#### FEATURES

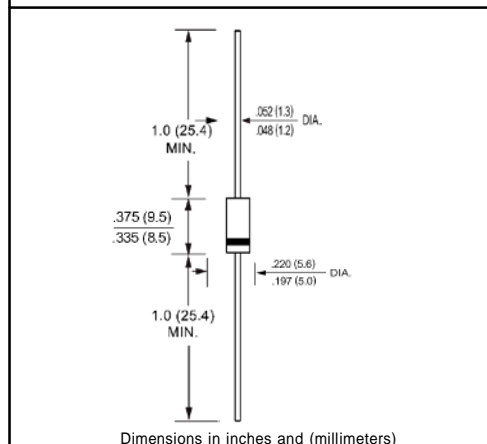
- \* The plastic package carries Underwriters Laboratory Flammability Classification 94V-0.
- \* Construction utilizes void-free molded plastic technique
- \* Low reverse leakage.
- \* High forward surge current capability
- \* High temperature soldering guaranteed: 260°C /10 seconds, 0.375" (9.5mm) lead length, 5lbs. (2.3kg) tension

#### MECHANICAL DATA

- \* Case: JEDEC DO-201AD molded plastic body.
- \* Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.04 ounce, 1.10 grams.



DO-27



**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 current by 20%.

	SYMBOL	BY251	BY252	BY253	BY254	BY255	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	200	400	600	800	1300	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	140	280	420	560	910	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	200	400	600	800	1300	Volts
Maximum Average Forward Rectified Current .375" (9.5mm) lead length at T <sub>L</sub> = 105°C	I <sub>(av)</sub>	3.0					Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	150					Amps
Maximum Instantaneous Forward Voltage at 3.0A DC	V <sub>F</sub>	1.1					Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@ T <sub>A</sub> = 25°C	10					uAmps
	@ T <sub>A</sub> = 100°C	500					
Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at T <sub>L</sub> = 75°C	I <sub>R</sub>	30					uAmps
Typical Junction Capacitance (Note)	C <sub>J</sub>	40					pF
Typical Thermal Resistance	R <sub>θJA</sub>	20					°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to + 150					°C

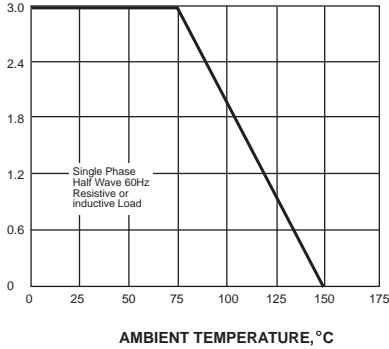
NOTES : 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C

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

# RATINGS AND CHARACTERISTIC CURVES BY251 THRU BY255

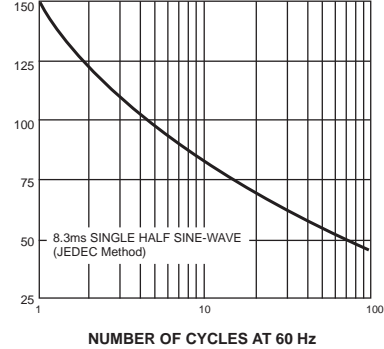
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



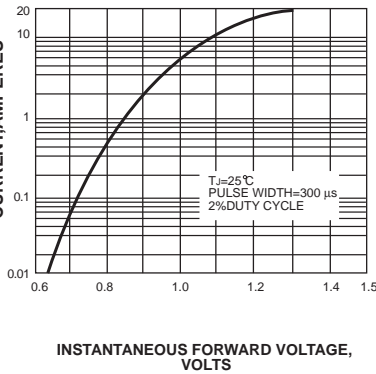
PEAK FORWARD SURGE CURRENT, AMPERES

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



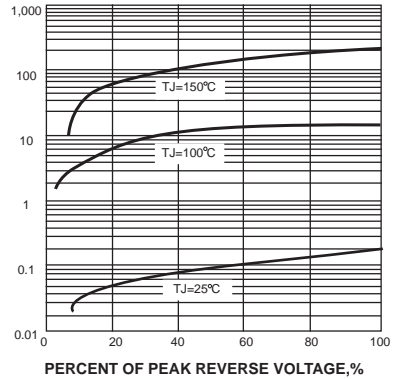
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



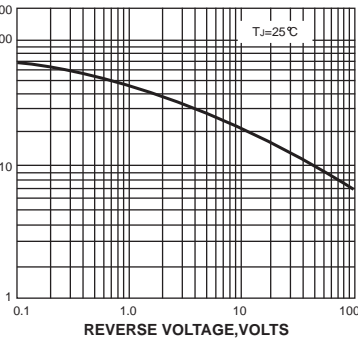
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4- TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5- TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE

