



## GENERAL PURPOSE RECTIFIER

# BY251 THRU BY255

VOLTAGE RANGE  
CURRENT

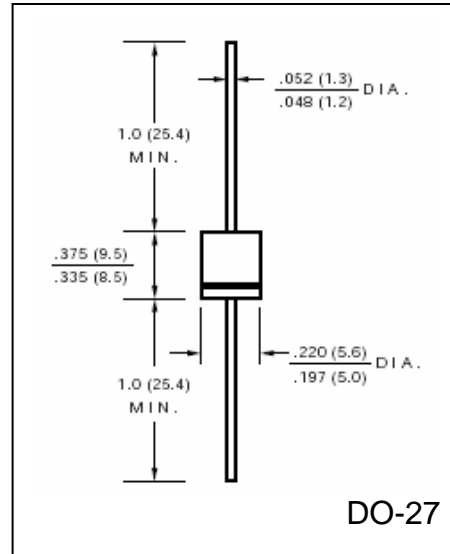
200 to 1000 Volts  
3.0 Ampere

### FEATURES

- Low reverse leakage
- Low forward voltage
- High forward surge current capacity
- High temperature soldering guaranteed:  
260 /10 seconds, 0.375" (9.5mm) lead length

### MECHANICAL DATA

- Case: transfer molded plastic
- Epoxy: UL94V – 0 rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: any
- Weight: 0.042 ounce, 1.19 gram



### 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 derate current by 20%

	SYMBOLS	BY251	BY252	BY253	BY254	BY255	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current, 0.375" (9.5mm) lead length at $T_A = 75^\circ\text{C}$	$I_{(AV)}$	3.0					Amps
Peak Forward Surge Current							
8.3mS single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	150					Amps
Maximum Instantaneous Forward Voltage @ 3.0A	$V_F$	1.1					Volts
Maximum DC Reverse Current at Rated $T_A = 25^\circ\text{C}$	$I_R$	10.0					$\mu\text{A}$
DC Blocking Voltage per element $T_A = 150^\circ\text{C}$		500					
Maximum Full Load Reverse Current, full cycle Average 0.375" (9.5mm) lead length at $T_L = 105^\circ\text{C}$	$I_{R(AV)}$	500					$\mu\text{A}$
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)	$C_J$	40					pF
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	30					$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_J$	(-65 to +175)					$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	(-65 to +175)					$^\circ\text{C}$

### Notes:

1. Thermal resistance from junction to ambient with 0.375" (9.5mm) lead length, PCB mounted with 0.8" x 0.8" (20mm x 20mm) copper pads



## RATINGS AND CHARACTERISTIC CURVES BY251 THRU BY255

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

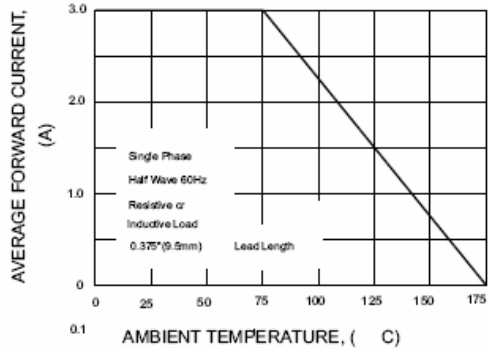


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

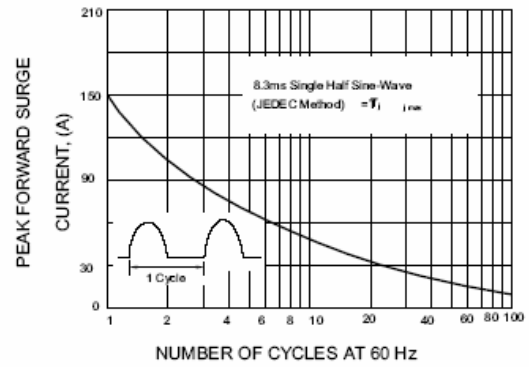


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

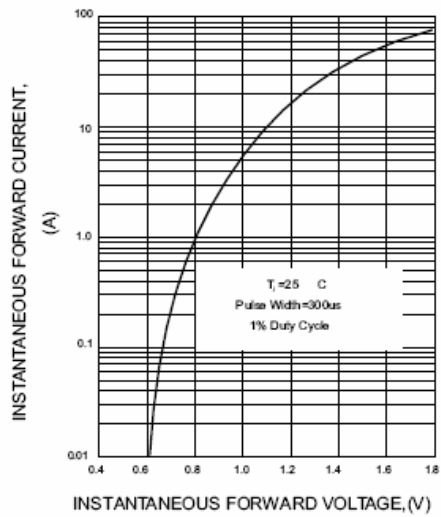


FIG.4-TYPICAL REVERSE CHARACTERISTICS

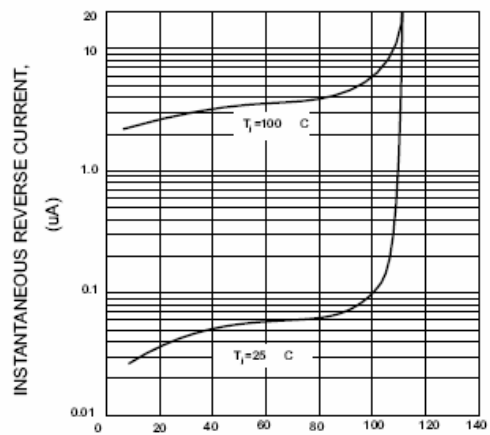


FIG.5-TYPICAL JUNCTION CAPACITANCE

