



# BY251 thru BY255

General Purpose Plastic Rectifiers  
Reverse Voltage 200 to 1300 Volts Forward Current 3.0 Amperes

## Features

- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High reliability
- ◆ High surge current capability
- ◆  $T_J$  is 150°C (Max.) and  $T_{STG}$  is 175°C (Max.) with PI glue



DO-201AD

## Mechanical Data

- ◆ Cases: Molded plastic
- ◆ Epoxy: UL 94V-O rate flame retardant
- ◆ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ◆ Polarity: Color band denotes cathode end
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds .375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ◆ Weight: 0.042 ounce, 1.2 grams



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

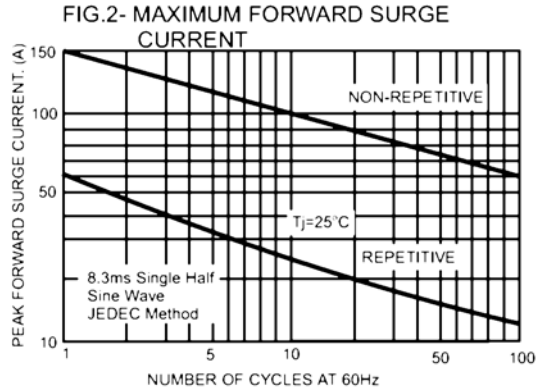
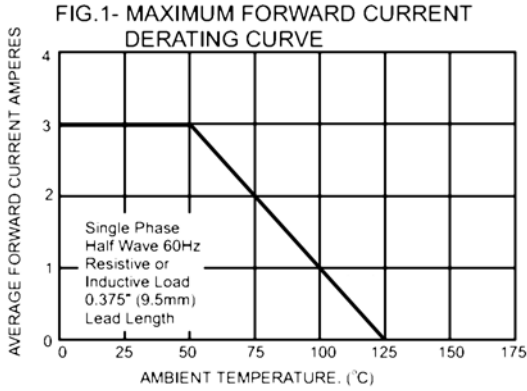
Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%

Parameter	Symbols	BY251	BY252	BY253	BY254	BY255	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	400	600	800	1300	Volts
Maximum RMS voltage	$V_{RMS}$	140	280	420	560	910	Volts
Maximum DC blocking voltage	$V_{DC}$	200	400	600	800	1000	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length @ $T_A=50^\circ\text{C}$	$I_{(AV)}$	3.0					Amp
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	100.0					Amps
Maximum instantaneous forward voltage @ 3.0A	$V_F$	1.1					Volts
Maximum DC reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	$I_R$	5.0 100					$\mu\text{A}$
Maximum full load reverse current full cycle average, .375" (9.5mm) lead length @ $T_A=75^\circ\text{C}$	$I_{R(AV)}$	30					$\mu\text{A}$
Typical junction capacitance (Note 1)	$C_J$	60					pF
Typical thermal resistance (Note 2)	$R_{\theta JA}$	18					$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-55 to +125					$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150					$^\circ\text{C}$

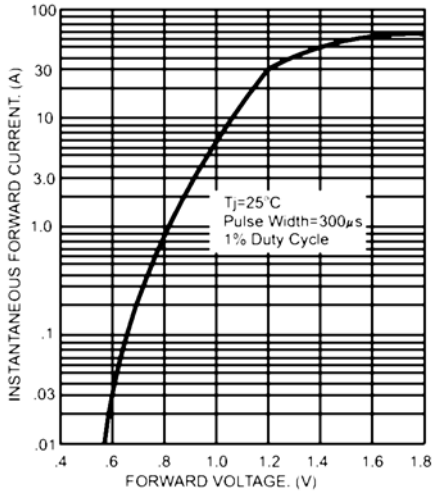
- Notes:**
1. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.
  2. Thermal Resistance from Junction to Ambient .375" (9.5mm) Lead Length

# RATINGS AND CHARACTERISTIC CURVES

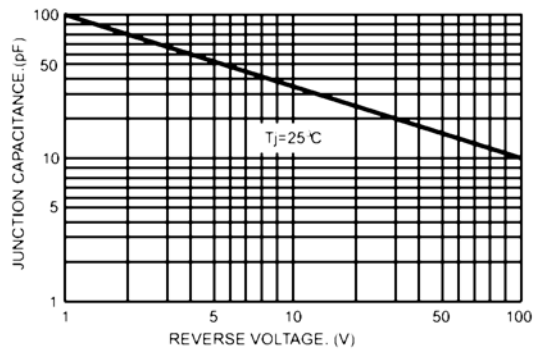
( $T_a = 25^\circ\text{C}$  unless otherwise noted)



**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



**FIG.4- TYPICAL JUNCTION CAPACITANCE**



**FIG.5- TYPICAL REVERSE CHARACTERISTICS**

