



SYNSEMI SEMICONDUCTOR

BY251 thru BY255

3.0 Amps. General Purpose Plastic Rectifiers
Voltage Range 200 to 1300 Volts Forward Current 3.0 Amperes

Features

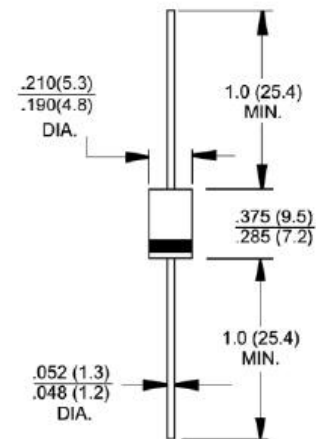
- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High reliability
- ◆ High surge current capability



DO-201AD

Mechanical Data

- ◆ Cases: Molded plastic
- ◆ Epoxy: UL 94V-0 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



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 @ $T_a=75^\circ\text{C}$	$I_{(AV)}$	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					μA
Maximum full load reverse current full cycle average, .375" (9.5mm) lead length @ $T_a=75^\circ\text{C}$	$I_{R(AV)}$	30					μA
Typical junction capacitance (Note 1)	C_J	60					pF
Typical thermal resistance (Note 2)	$R_{\theta JA}$	18					$^\circ\text{C/W}$
Operating temperature range	T_J	-65 to +125					$^\circ\text{C}$
Storage temperature range	T_{STG}	-65 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

BY251 thru BY255

RATINGS AND CHARACTERISTIC CURVES

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

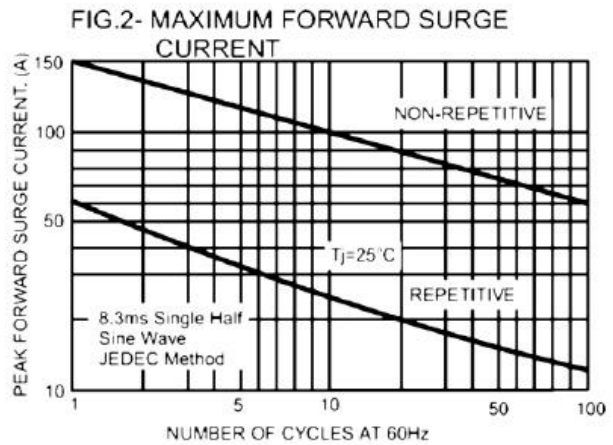
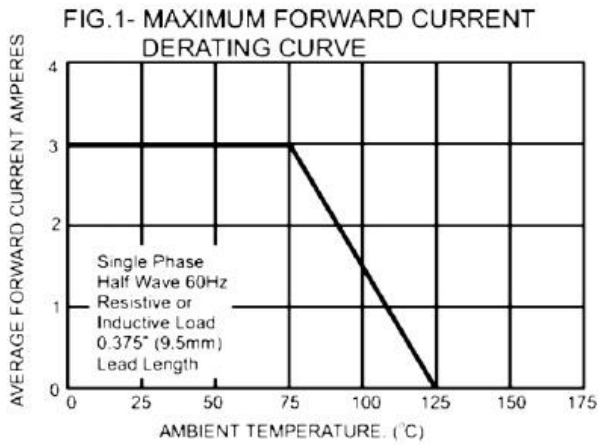


FIG.3- TYPICAL FORWARD CHARACTERISTICS

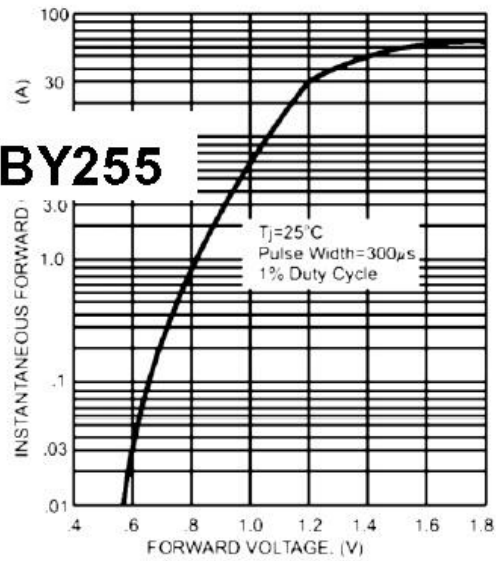


FIG.4- TYPICAL JUNCTION CAPACITANCE

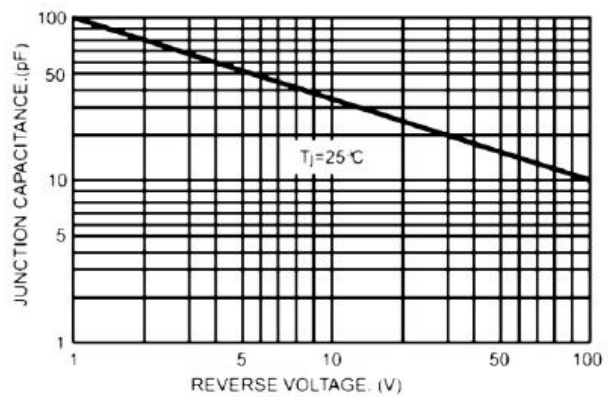


FIG.5- TYPICAL REVERSE CHARACTERISTICS

