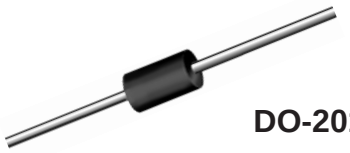
GENERAL SEMICONDUCTOR®

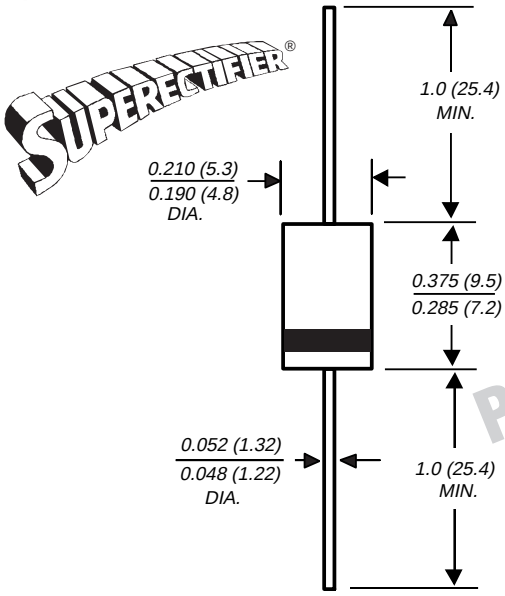
BY251GP thru BY255GP

Glass Passivated Junction Plastic Rectifier

Reverse Voltage 200 to 1300V
Forward Current 3.0A



DO-201AD



Dimensions in inches and (millimeters)
*****Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 and brazed-lead assembly by Patent No. 3,930,306*

New Product

Patented*

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High temperature metallurgically bonded construction
- Cavity-free glass passivated junction
- Capable of meeting environmental standards of MIL-S-19500
- 3.0 Ampere operation at T_A=55°C with no thermal runaway
- Typical I_R less than 0.1µA
- High temperature soldering guaranteed: 350°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

Case: JEDEC DO-201AD, molded plastic over glass body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any **Weight:** 0.04oz., 1.12g
Packaging Codes/Options:
1/Bulk – 1.5K per container, 15K/box
4/1.4K per 13" reel, 5.6K/box
23/1K per ammo mag., 9K/box

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	BY251GP	BY252GP	BY253GP	BY254GP	BY255GP	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 rectified current 10mm lead length at T_A = 55°C	$I_{F(AV)}$	3.0					A
Peak forward surge current 10ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	100					A
Maximum full load reverse current, full cycle average 10mm lead length at T_A = 55°C	$I_{R(AV)}$	100					µA
Typical thermal resistance(1)	$R_{\Theta JA}$ $R_{\Theta JL}$	20 10					°C/W
Operating junction and storage temperature range	T_J, T_{STG}	–65 to +175					°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	BY251GP	BY252GP	BY253GP	BY254GP	BY255GP	Unit
Maximum instantaneous forward voltage at 3.0A	V_F	1.1					V
Maximum reverse current at rated DC blocking voltage T_A = 25°C	I_R	5.0					µA
Maximum reverse recovery time I_F = 0.5A, I_R = 1.0V, I_{rr} = 0.25A	t_{rr}	3.0					µs
Typical junction capacitance at 4.0V, 1MHz	C_J	40					pF

Note: (1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5mm) lead length, P.C.B. mounted

5/25/00

BY251GP thru BY255GP

Glass Passivated Junction Plastic Rectifier

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig 1 - Forward Current Derating Curve

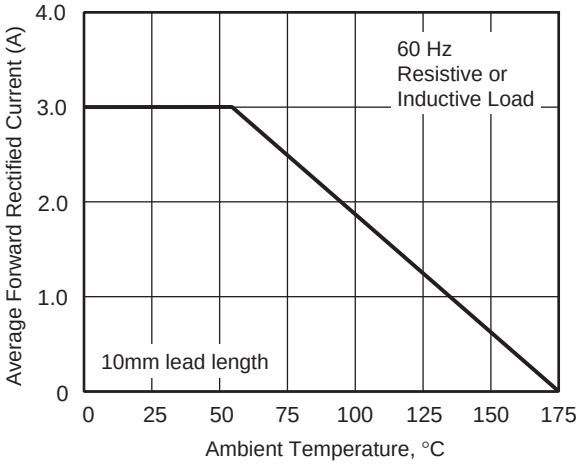


Fig 2 - Maximum Non-repetitive Peak Forward Surge Current

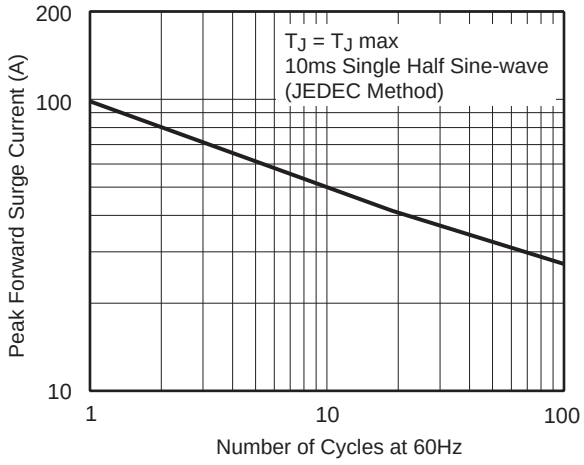


Fig 3 - Typical Instantaneous Forward Characteristics

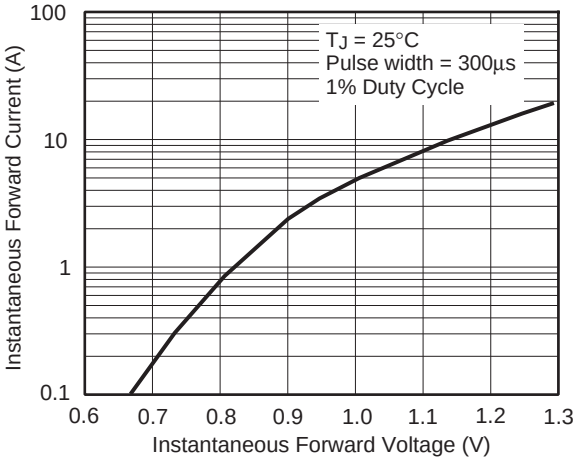


Fig 2 - Maximum Non-repetitive Peak Forward Surge Current

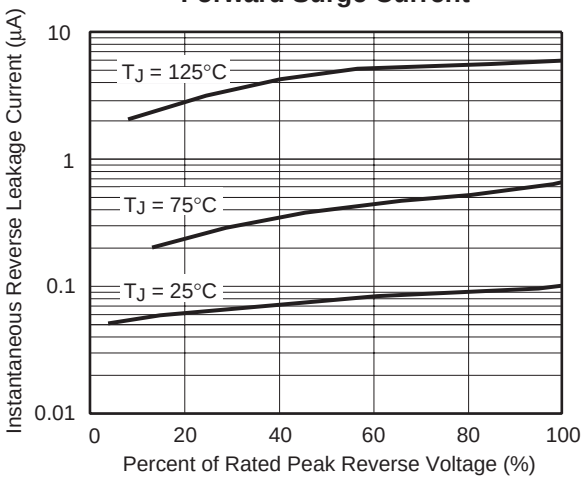


Fig 5 - Typical Junction Capacitance