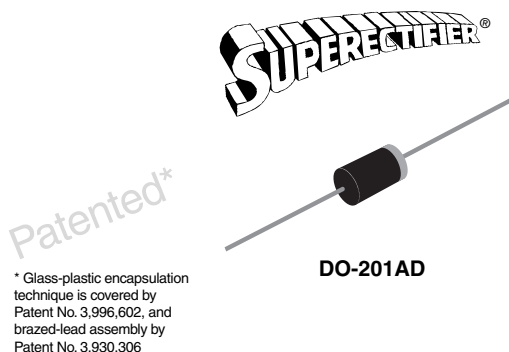


Glass Passivated Junction Plastic Rectifier


DO-201AD

FEATURES

- Superectifier structure for High Reliability application
- Cavity-free glass-passivated junction
- Low forward voltage drop
- Low leakage current, I_R less than 0.1 μA
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes for both consumer and automotive applications.

MECHANICAL DATA

Case: DO-201AD, molded epoxy over glass body

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: Color band denotes cathode end

MAJOR RATINGS AND CHARACTERISTICS

$I_{F(AV)}$	3.0 A
V_{RRM}	200 V to 1300 V
I_{FSM}	100 A
I_R	5.0 μA
V_F	1.1 V
T_j max.	175 °C

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)

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 10 mm lead length at $T_A = 55$ °C	$I_{F(AV)}$	3.0					A
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	I_{FSM}	100					A
Maximum full load reverse current, full cycle average 10 mm lead length at $T_A = 55$ °C	$I_{R(AV)}$	100					μA
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175					°C

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	BY251GP	BY252GP	BY253GP	BY254GP	BY255GP	UNIT
Maximum instantaneous forward voltage	at 3.0 A	V_F	1.1					V
Maximum reverse current at rated DC blocking voltage	$T_A = 25^\circ\text{C}$	I_R	5.0					μA
Typical reverse recovery time	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ V}$, $I_{rr} = 0.25\text{ A}$	t_{rr}	3.0					μs
Typical junction capacitance	at 4.0 V, 1 MHz	C_J	40					pF

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	BY251GP	BY252GP	BY253GP	BY254GP	BY255GP	UNIT
Typical thermal resistance ⁽¹⁾	R _{θJA}	20					°C/W
	R _{θJL}	10					

Note:

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

ORDERING INFORMATION				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
BY253GP-E3/54	1.28	54	1400	13" Diameter Paper Tape & Reel
BY253GP-E3/73	1.28	73	1000	Ammo Pack Packaging

RATINGS AND CHARACTERISTICS CURVES

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

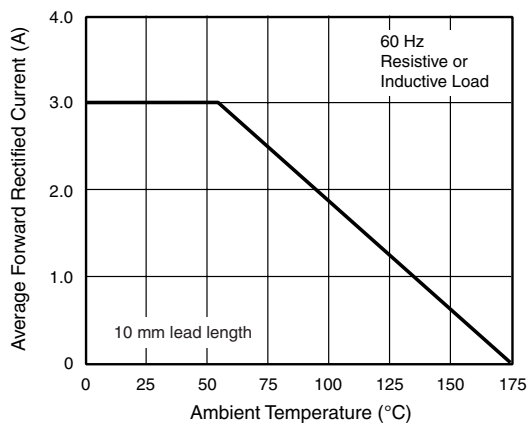


Figure 1. Forward Current Derating Curve

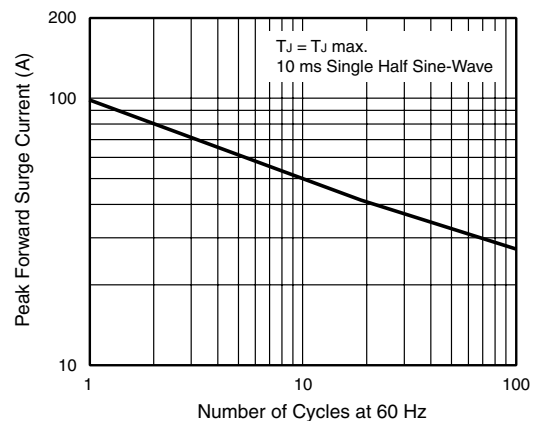


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

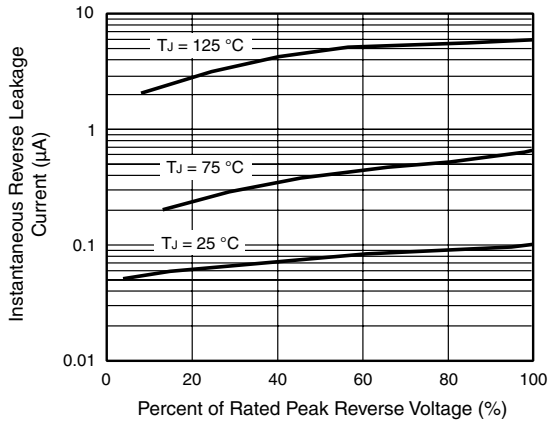


Figure 3. Maximum Non-Repetitive Peak Forward Surge Current

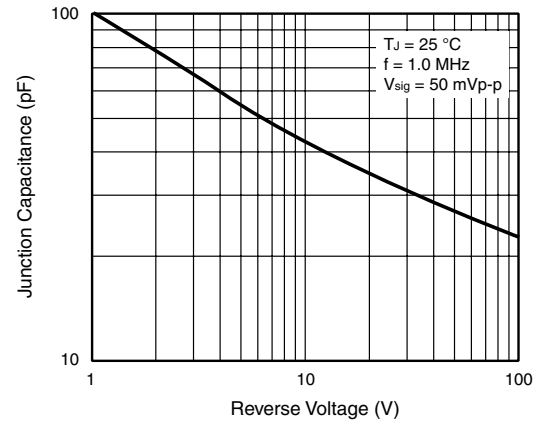


Figure 5. Typical Junction Capacitance

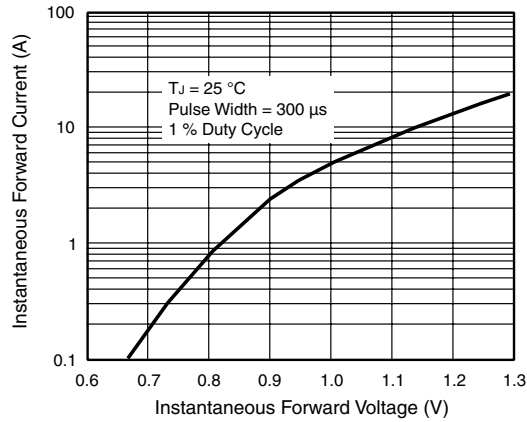
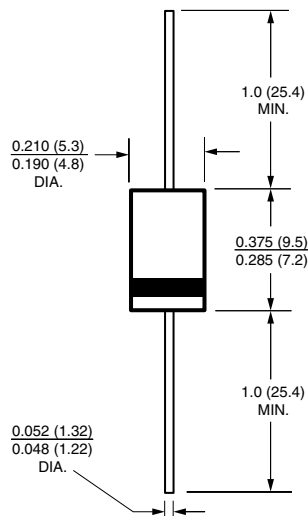


Figure 4. Typical Instantaneous Forward Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-201AD





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