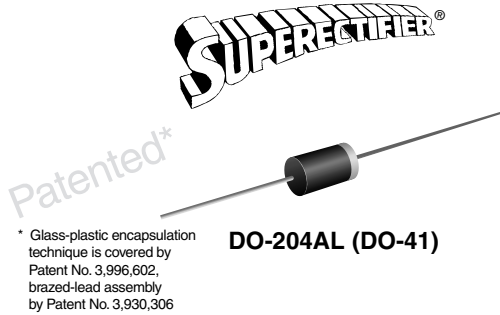


Glass Passivated Junction Rectifier



FEATURES

- Superelectifier structure for high reliability application
- Cavity-free glass-passivated junction
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



RoHS
COMPLIANT

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-204AL, molded epoxy over glass body
Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.0 A
V_{RRM}	100 V to 800 V
I_{FSM}	30 A
I_R	200 nA
V_F	1.0 V
$T_J \text{ max.}$	175 °C

MAXIMUM RATINGS ($T_A = 25\text{ °C}$ unless otherwise noted)							
PARAMETER	SYMBOL	BYW27-100GP	BYW27-200GP	BYW27-400GP	BYW27-600GP	BYW27-800GP	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	100	200	400	600	800	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length (Fig. 1)	$I_{F(AV)}$	1.0					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30					A
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175					°C



ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	BYW27-100GP	BYW27-200GP	BYW27-400GP	BYW27-600GP	BYW27-800GP	UNIT
Maximum instantaneous forward voltage	1.0 A	T _A = 25 °C	V _F			1.0			V
Maximum reverse current	rated V _R	T _A = 25 °C	I _R			200			nA
Typical reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{tr} = 0.25 A		t _{rr}			3.0			μs
Typical junction capacitance	4.0 V, 1 MHz		C _J			8.0			pF

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	BYW27-100GP	BYW27-200GP	BYW27-400GP	BYW27-600GP	BYW27-800GP	UNIT	
Typical thermal resistance ⁽¹⁾	R _{θJA}	55						°C/W

Note:

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

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
BYW27-600E3/54	0.33	54	5500	13" diameter paper tape and reel
BYW27-600HE3/54 ⁽¹⁾	0.33	54	5500	13" diameter paper tape and reel

Note:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

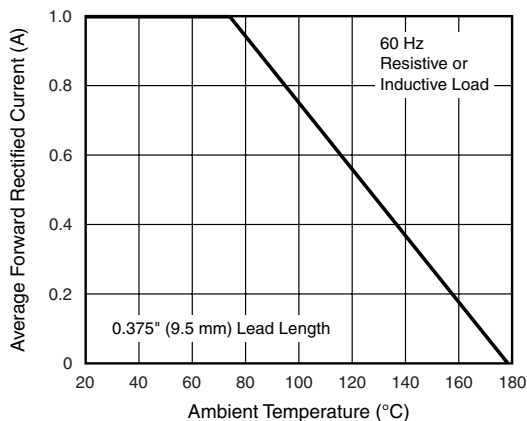


Figure 1. Forward Current Derating Curve

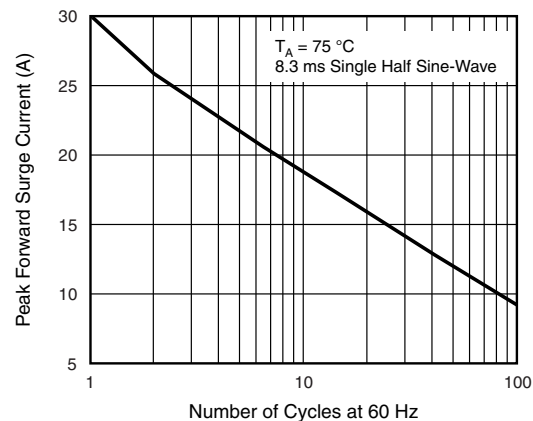


Figure 2. Maximum Non-repetitive Peak Forward Surge Current

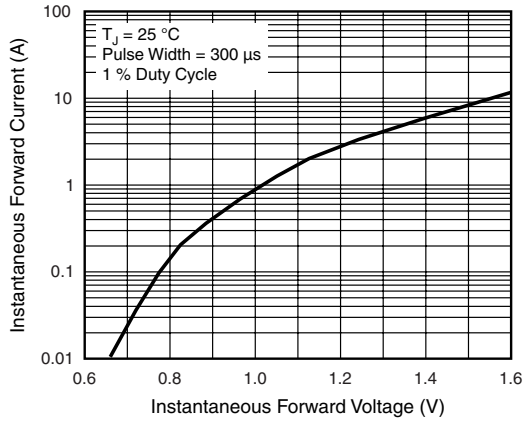


Figure 3. Typical Instantaneous Forward Characteristics

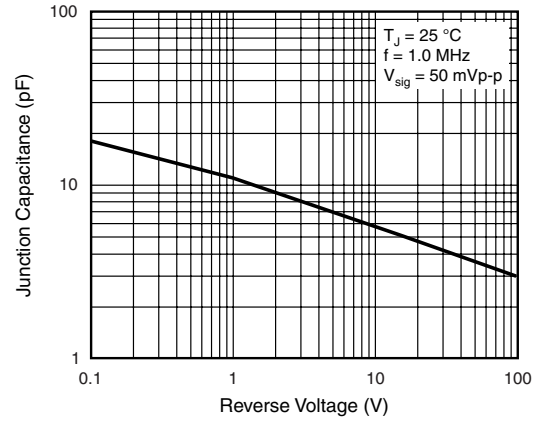


Figure 5. Typical Junction Capacitance

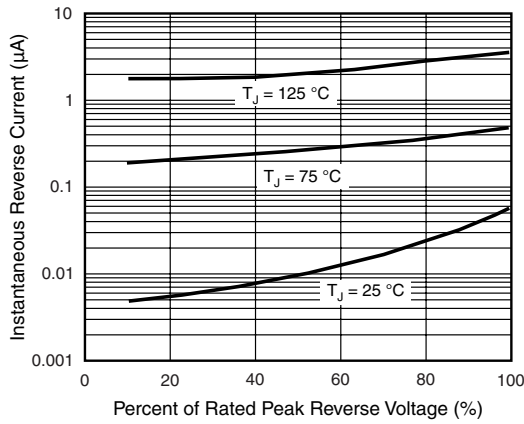
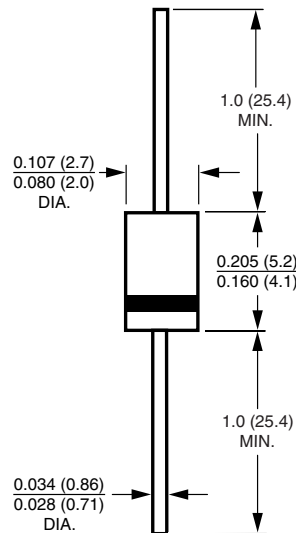


Figure 4. Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AL (DO-41)





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