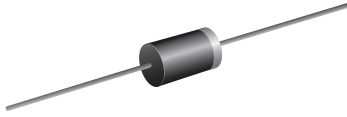


Glass Passivated Junction Fast Switching Rectifier

SUPERECTIFIER®

DO-204AL (DO-41)

FEATURES

- Superectifier structure for high reliability application
- Cavity-free glass-passivated junction
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


**RoHS
COMPLIANT**

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-204AL, molded epoxy over glass body
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS compliant, commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

Polarity: Color band denotes cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.0 A
V_{RRM}	100 V, 200 V, 400 V, 600 V, 800 V
I_{FSM}	30 A
t_{rr}	3.0 μ s
I_R	200 nA
V_F	1.0 V
T_J max.	175 °C
Package	DO-204AL (DO-41)
Diode variation	Single die

MAXIMUM RATINGS ($T_A = 25$ °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 _{rr} = 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	R _{θJA} ⁽¹⁾	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

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

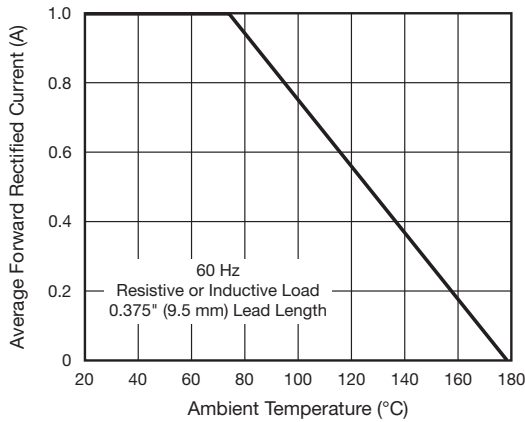


Fig. 1 - Forward Current Derating Curve

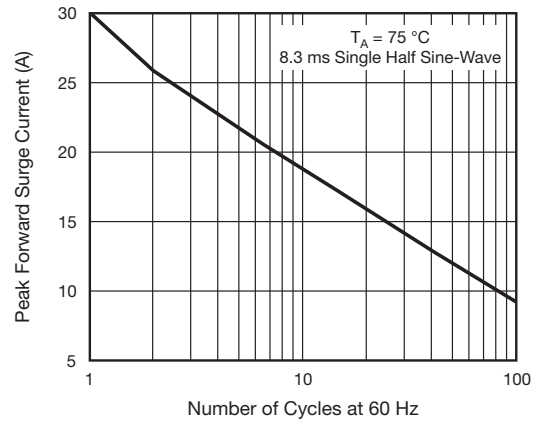


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

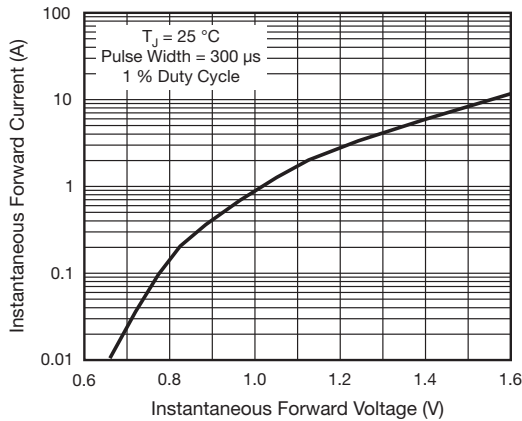


Fig. 3 - Typical Instantaneous Forward Characteristics

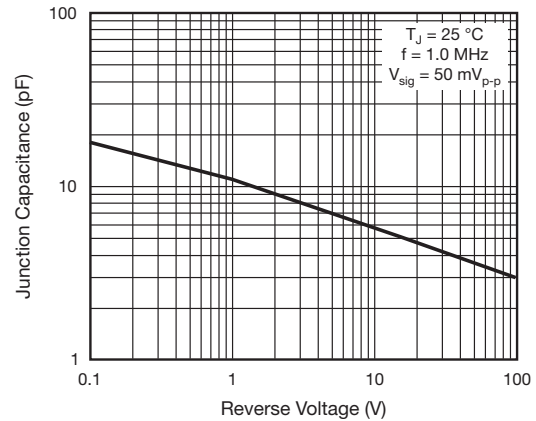


Fig. 5 - Typical Junction Capacitance

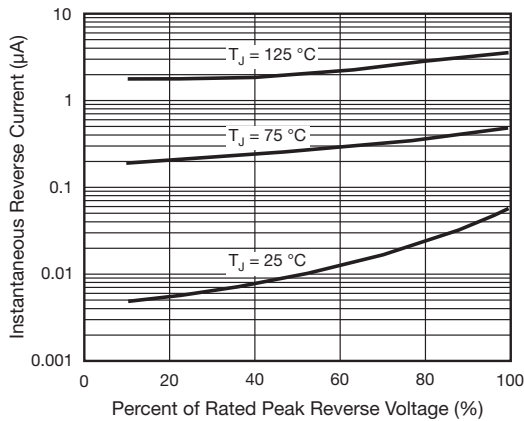
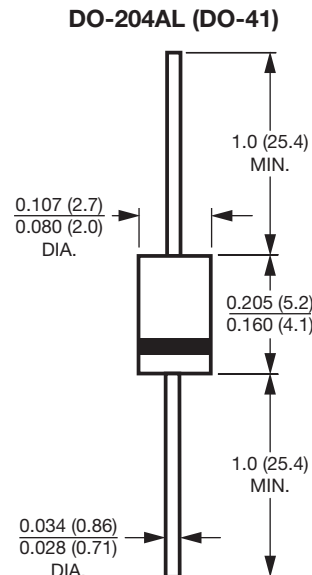


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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