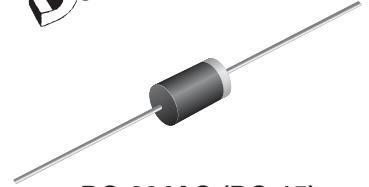




Glass Passivated Ultrafast Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	1.0 A
V_{RRM}	800 V, 1000 V
I_{FSM}	30 A
t_{rr}	75 ns
V_F	1.3 V
$T_j \text{ max.}$	175 °C



DO-204AC (DO-15)

Patented*

* Glass Encapsulation technique is covered by Patent No. 3,996,602, brazed-lead assembly to Patent No. 3,930,306

Features

- Cavity-free glass-passivated junction
- Ultrafast reverse recovery time
- Low forward voltage drop
- Low switching losses, high efficiency
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder Dip 260 °C, 40 seconds



Mechanical Data

Case: DO-204AC, 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

Typical Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and Telecommunication

Maximum Ratings

$T_A = 25\text{ °C}$ unless otherwise specified

Parameter	Symbol	BYV26DGP	BYV26EGP	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	800	1000	V
Maximum RMS voltage	V_{RMS}	560	700	V
Maximum DC blocking voltage	V_{DC}	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length (See Fig. 1)	$I_{F(AV)}$	1.0		A
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	I_{FSM}	30		A
Non repetitive peak reverse energy ⁽¹⁾	E_{RSM}	10		mj
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175		°C

Notes:

(1) Peak reverse energy measured at $I_R = 400\text{ mA}$, $T_J = T_J \text{ max.}$ on inductive load, $t = 20\text{ }\mu\text{s}$

Electrical Characteristics

$T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Test condition	Symbol	BYV26DGP	BYV26EGP	Unit
Minimum avalanche breakdown voltage	at 100 μA	V_{BR}	900	1100	V
Maximum instantaneous forward voltage	at 1.0 A $T_J = 25\text{ }^\circ\text{C}$ $T_J = 175\text{ }^\circ\text{C}$	V_F		2.5 1.3	V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 165\text{ }^\circ\text{C}$	I_R		5.0 150	μA
Max. reverse recovery time	at $I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{rr} = 0.25\text{ A}$	t_{rr}		75	ns
Typical junction capacitance	at 4.0 V, 1 MHz	C_J		15	pF

Thermal Characteristics

$T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	BYV26DGP	BYV26EGP	Unit
Typical thermal resistance (1,2)	$R_{\theta JA}$ $R_{\theta JL}$		70 16	$^\circ\text{C/W}$

Notes:

(1) Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, mounted on P.C.B. with 0.5 x 0.5" (12 x 12 mm) copper pads

(2) Thermal resistance from junction to lead at 0.375" (9.5 mm) lead length with both leads attached to heatsink

Ratings and Characteristics Curves

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

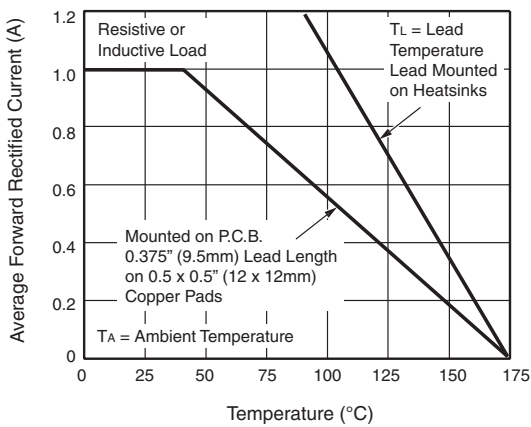


Figure 1. Maximum Forward Current Derating Curve

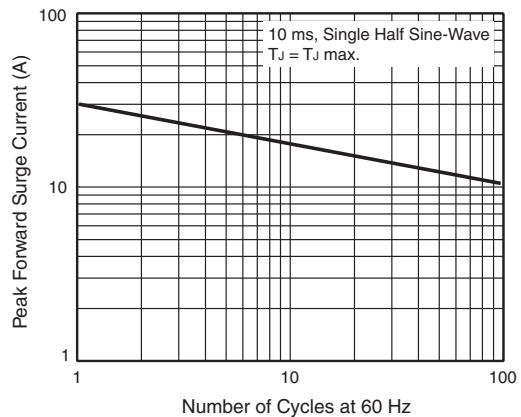


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

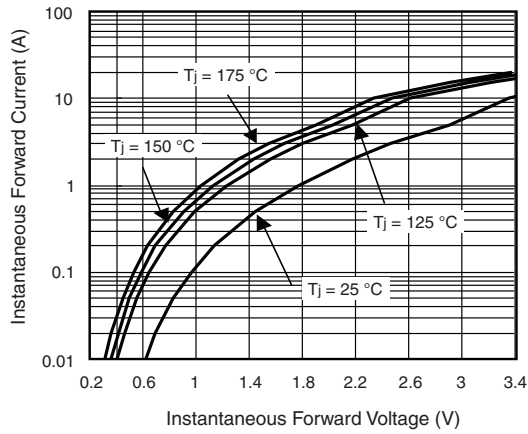


Figure 3. Typical Instantaneous Forward Voltage Characteristics

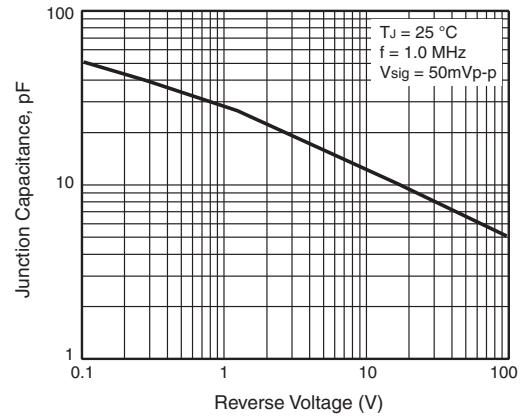


Figure 5. Typical Junction Capacitance

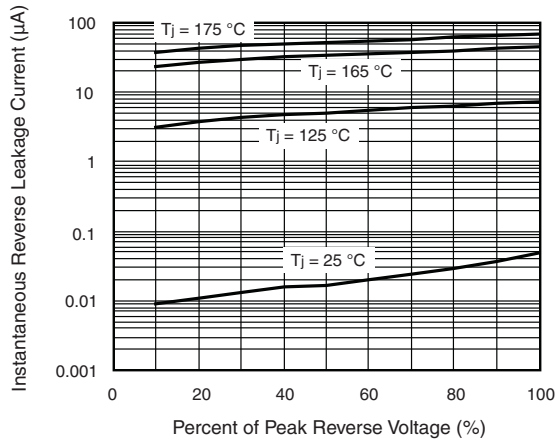


Figure 4. Typical Reverse Leakage Characteristics

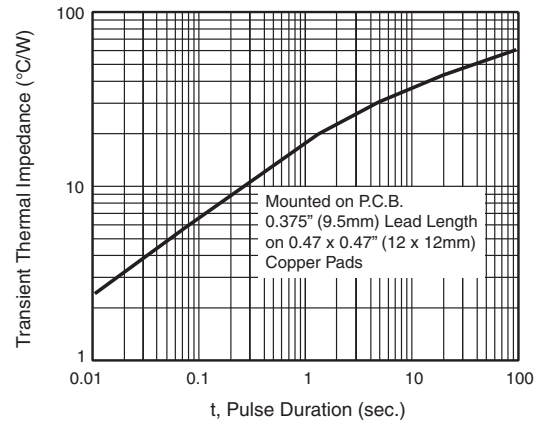
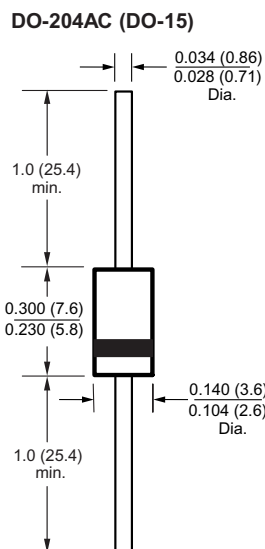


Figure 6. Typical Transient Thermal Impedance

Package outline dimensions in inches (millimeters)





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