

## Glass Passivated Ultrafast Plastic Rectifier



DO-204AC (DO-15)

### FEATURES

- Superrectifier structure for high reliability condition
- Cavity-free glass passivated pellet chip junction
- Ultrafast reverse recovery time
- Low forward voltage drop
- Low switching losses, high efficiency
- 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](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.0 A
$V_{RRM}$	800 V, 1000 V
$I_{FSM}$	30 A
$t_{rr}$	75 ns
$V_F$ at $I_F$	1.3 V
$T_J$ max.	175 °C
Package	DO-204AC (DO-15)
Diode variation	Single die

### TYPICAL APPLICATIONS

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

### MECHANICAL DATA

**Case:** DO-204AC, 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

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)				
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 (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	$E_{RSM}^{(1)}$	10		mJ
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +175		°C

#### Note

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



ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	BYV26DGP	BYV26EGP	UNIT
Minimum avalanche breakdown voltage	100 μA		V <sub>BR</sub>	900	1100	V
Maximum instantaneous forward voltage	1.0 A	T <sub>J</sub> = 25 °C	V <sub>F</sub>	2.5		V
		T <sub>J</sub> = 175 °C		1.3		
Maximum DC reverse current at rated DC blocking voltage		T <sub>A</sub> = 25 °C	I <sub>R</sub>	5.0		μA
		T <sub>A</sub> = 165 °C		150		
Max. reverse recovery time	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A		t <sub>rr</sub>	75		ns
Typical junction capacitance	4.0 V, 1 MHz		C <sub>J</sub>	15		pF

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	BYV26DGP	BYV26EGP	UNIT
Typical thermal resistance	R <sub>θJA</sub> <sup>(1)</sup>	70		°C/W
	R <sub>θJL</sub> <sup>(2)</sup>	16		

Notes

- <sup>(1)</sup> Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, mounted on PCB with 0.5" x 0.5" (12 mm x 12 mm) copper pads
- <sup>(2)</sup> Thermal resistance from junction to lead at 0.375" (9.5 mm) lead length with both leads attached to heatsink

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
BYV26EGP-E3/54	0.428	54	4000	13" diameter paper tape and reel
BYV26EGP-E3/73	0.428	73	2000	Ammo pack packaging

**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

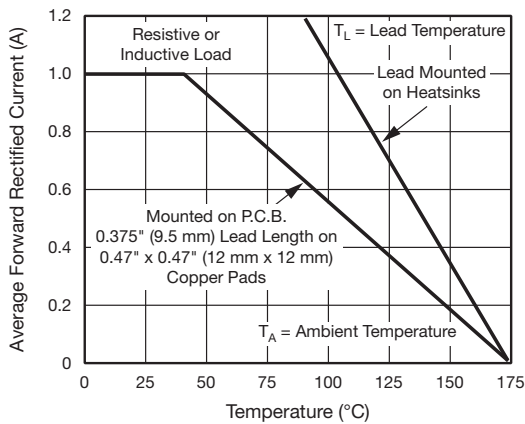


Fig. 1 - Maximum Forward Current Derating Curve

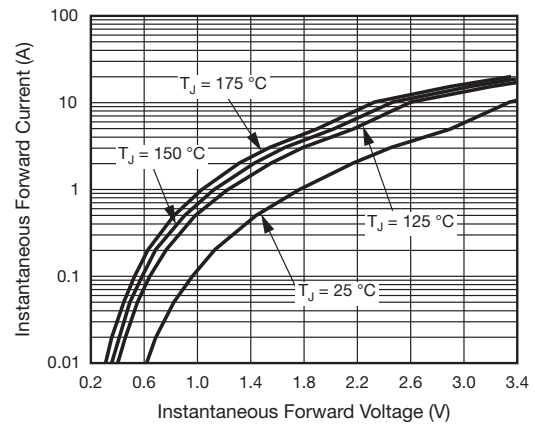


Fig. 4 - Typical Instantaneous Forward Voltage Characteristics

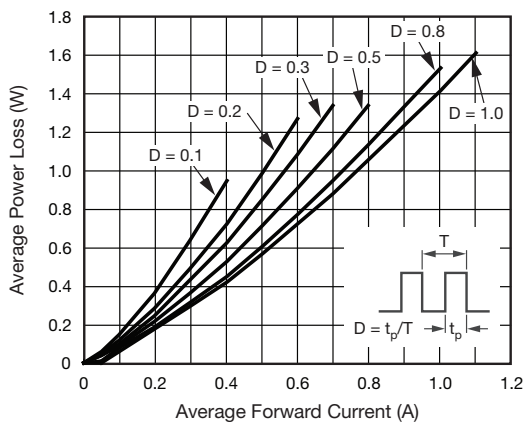


Fig. 2 - Forward Power Loss Characteristics

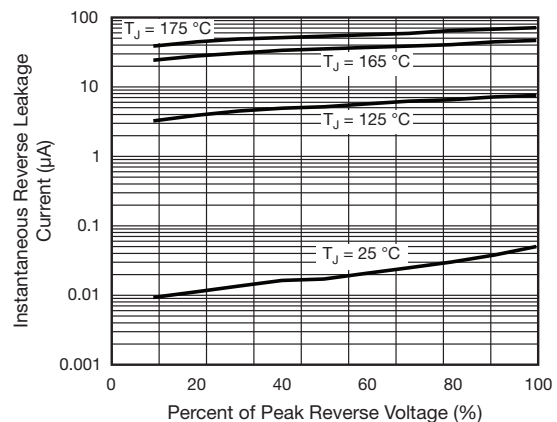


Fig. 5 - Typical Reverse Leakage Characteristics

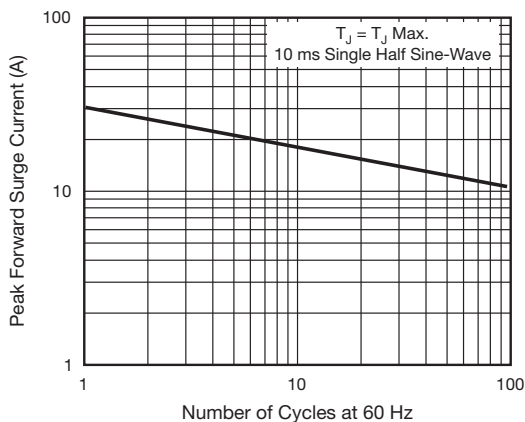


Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current

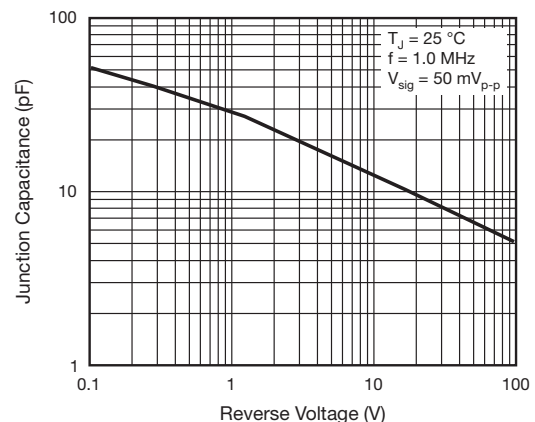


Fig. 6 - Typical Junction Capacitance

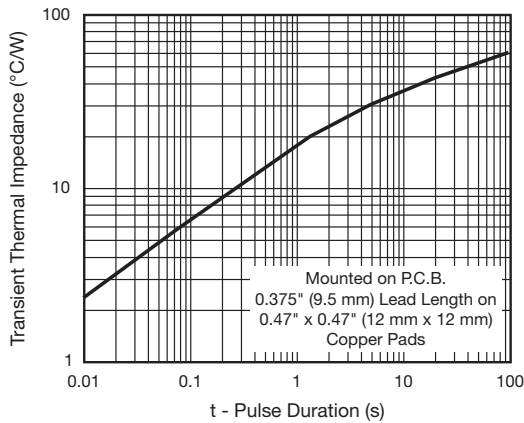
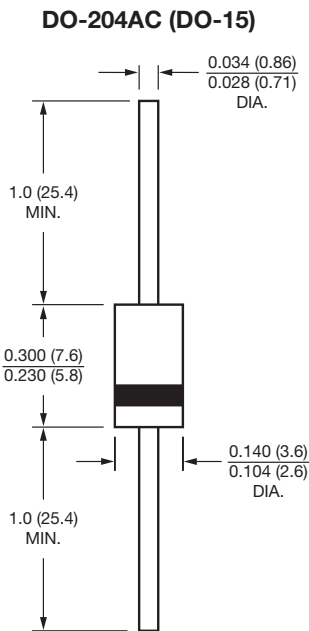


Fig. 7 - Typical Transient Thermal Impedance

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)





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