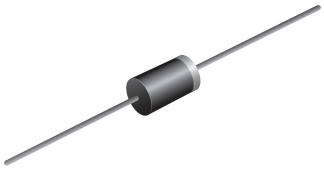
Glass Passivated Ultrafast Plastic Rectifier

Superectifier®



DO-15 (DO-204AC)

FEATURES

- Superectifier 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

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-15 (DO-204AC)
Circuit configuration	Single

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-15 (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 μs

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ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)						
PARAMETER	**TEST CONDITIONS**		**SYMBOL**	**BYV26DGP**	**BYV26EGP**	**UNIT**
Minimum avalanche breakdown voltage	100 μA		V_{BR}	900	1100	V
Maximum instantaneous forward voltage	1.0 A	T_J = 25 °C	V_F	2.5		V
		T_J = 175 °C		1.3		
Maximum DC reverse current at rated DC blocking voltage		T_A = 25 °C	I_R	5.0		μA
		T_A = 165 °C		150		
Max. reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		t_{rr}	75		ns
Typical junction capacitance	4.0 V, 1 MHz		C_J	15		pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)				
PARAMETER	**SYMBOL**	**BYV26DGP**	**BYV26EGP**	**UNIT**
Typical thermal resistance	$R_{\theta JA}$ (1)	70		°C/W
	$R_{\theta JL}$ (2)	16		

Notes

(1) 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

(2) 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

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

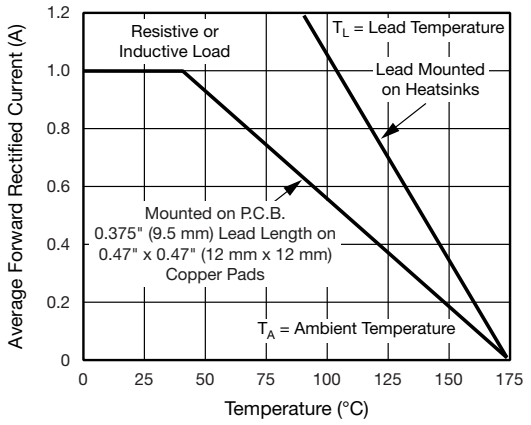

Fig. 1 - Maximum Forward Current Derating Curve

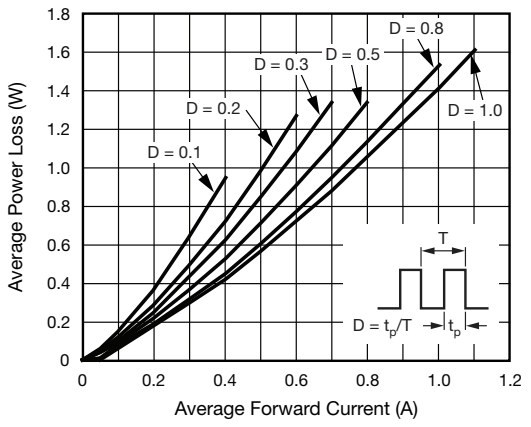

Fig. 2 - Forward Power Loss Characteristics

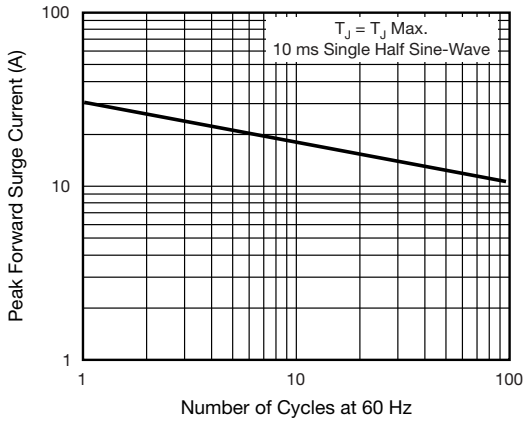

Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current

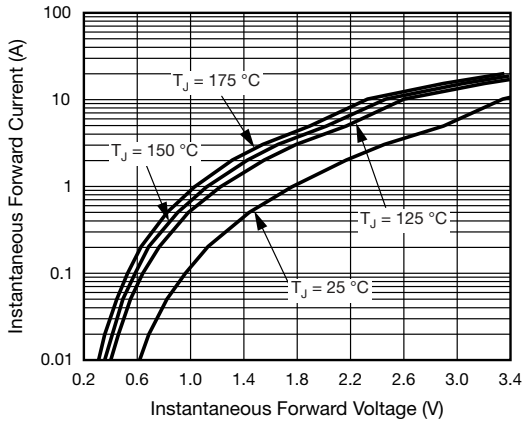

Fig. 4 - Typical Instantaneous Forward Voltage Characteristics

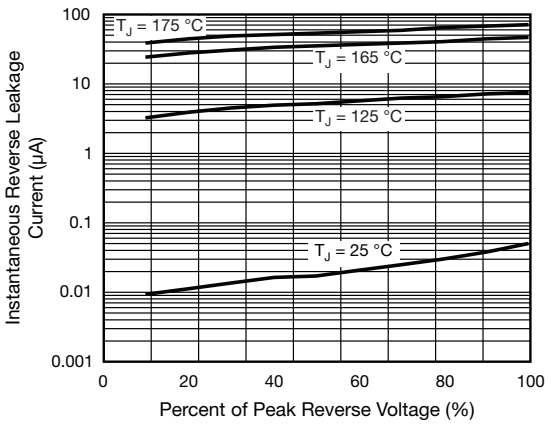

Fig. 5 - Typical Reverse Leakage Characteristics

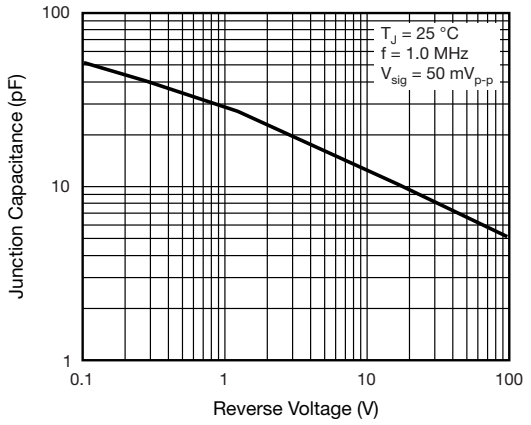

Fig. 6 - Typical Junction Capacitance

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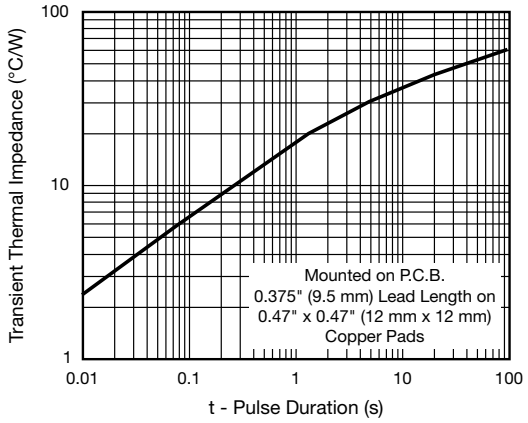
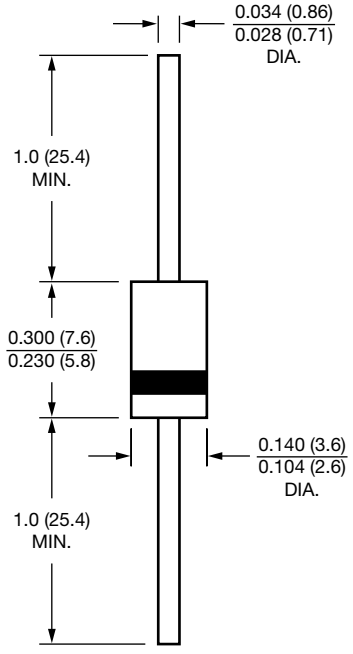


Fig. 7 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-15 (DO-204AC)



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