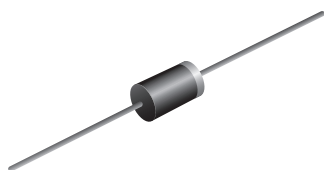




## Glass Passivated Ultrafast Plastic Rectifier

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](http://www.vishay.com/doc?99912)



### 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

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

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25\text{ }^{\circ}\text{C}$  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** ( $T_A = 25\text{ }^{\circ}\text{C}$  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              |

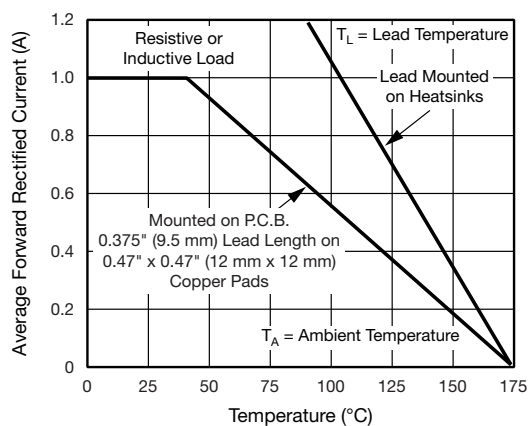
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Fig. 1 - Maximum Forward Current Derating Curve

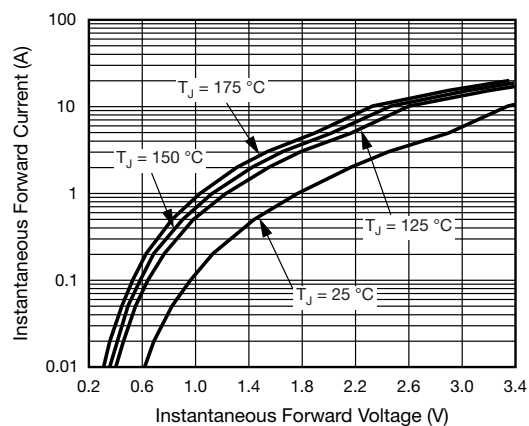


Fig. 4 - Typical Instantaneous Forward Voltage Characteristics

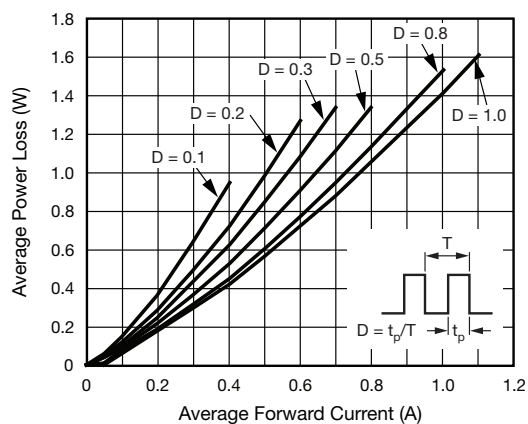


Fig. 2 - Forward Power Loss Characteristics

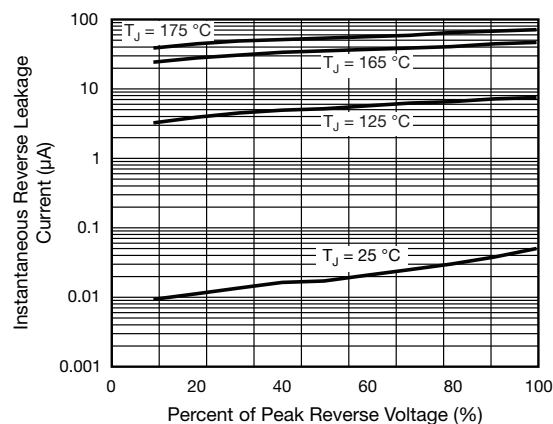


Fig. 5 - Typical Reverse Leakage Characteristics

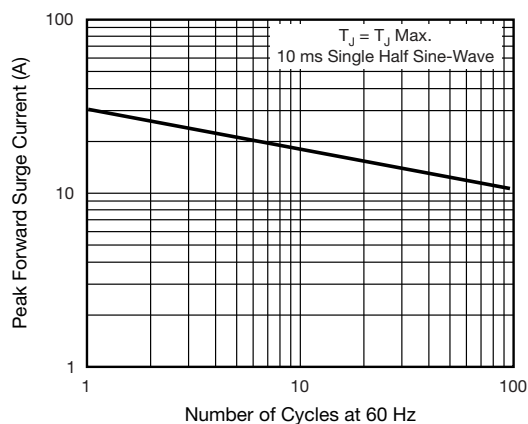


Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current

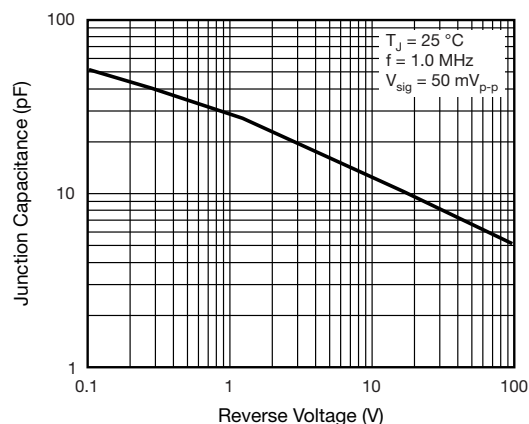


Fig. 6 - Typical Junction Capacitance

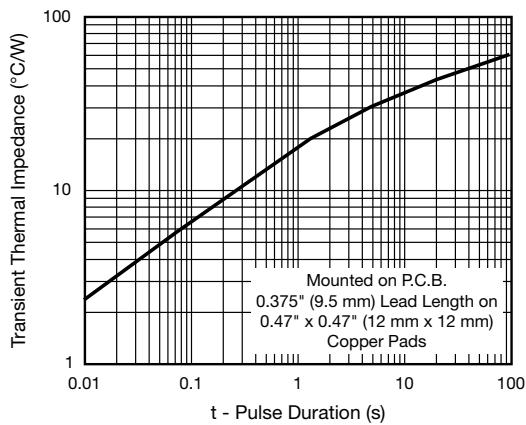
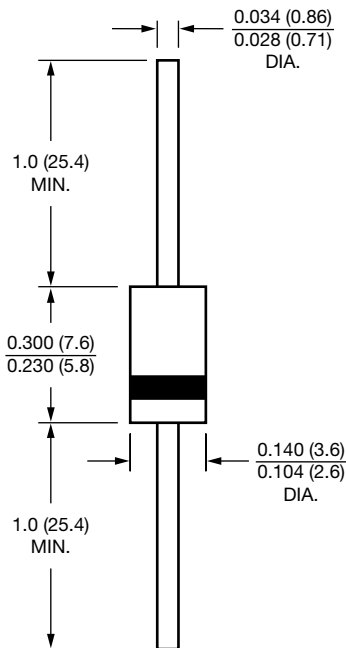


Fig. 7 - Typical Transient Thermal Impedance

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)**DO-15 (DO-204AC)**



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