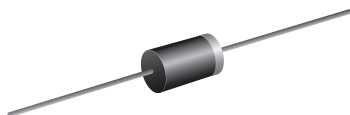




Glass Passivated Junction Rectifier

SUPERECTIFIER®



DO-41 (DO-204AL)

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



TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-41 (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-41 (DO-204AL) |
| Circuit configuration | Single |

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** ($T_A = 25\text{ }^\circ\text{C}$ 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 | $T_A = 25\text{ }^\circ\text{C}$ | V_F | | | 1.0 | | | V |
| Maximum reverse current | Rated V_R | $T_A = 25\text{ }^\circ\text{C}$ | I_R | | | 200 | | | nA |
| Typical reverse recovery time | $I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{rr} = 0.25\text{ A}$ | | t_{rr} | | | 3.0 | | | μs |
| Typical junction capacitance | 4.0 V, 1 MHz | | C_J | | | 8.0 | | | pF |

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

| PARAMETER | SYMBOL | BYW27-100GP | BYW27-200GP | BYW27-400GP | BYW27-600GP | BYW27-800GP | UNIT |
|----------------------------|-----------------------|-------------|-------------|-------------|-------------|-------------|--------------------|
| Typical thermal resistance | $R_{\theta JA}^{(1)}$ | | | 55 | | | $^\circ\text{C/W}$ |

Note

(1) Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, PCB 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 ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

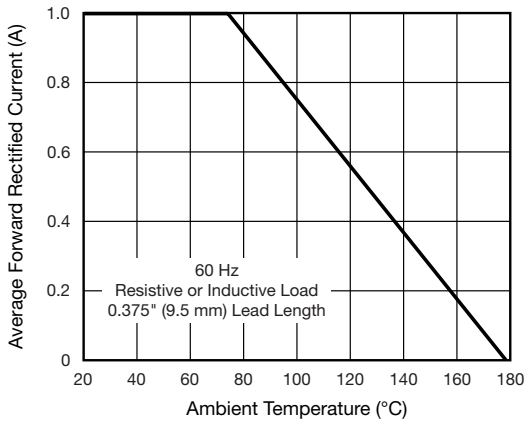


Fig. 1 - Forward Current Derating Curve

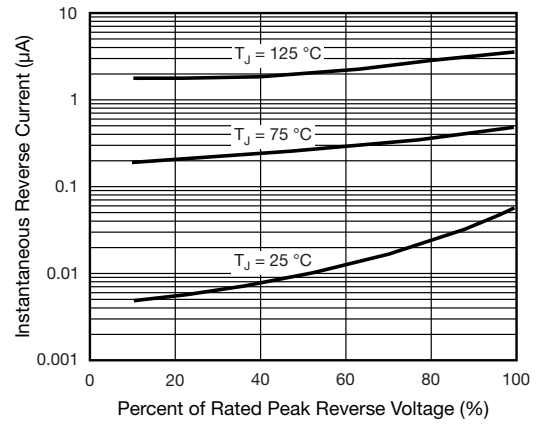


Fig. 4 - Typical Reverse Characteristics

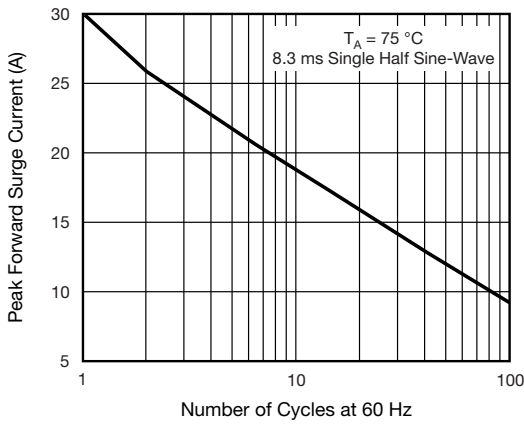


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

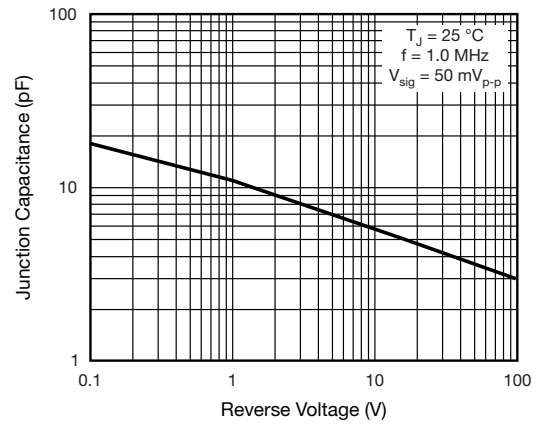


Fig. 5 - Typical Junction Capacitance

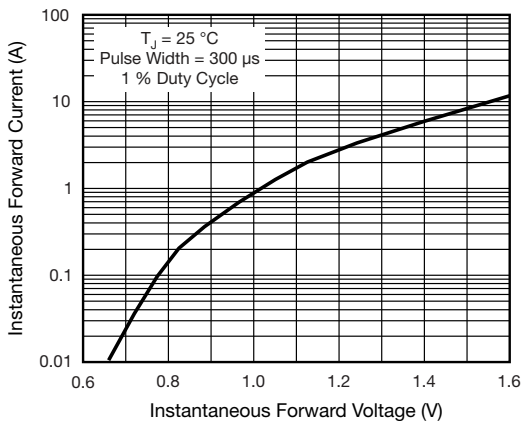
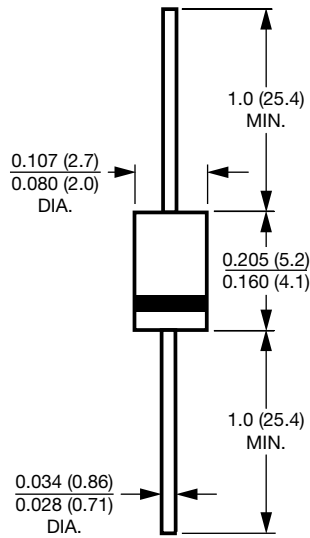


Fig. 3 - Typical Instantaneous Forward Characteristics



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-41 (DO-204AL)





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