

Rectifiers, High Efficiency, Glass Passivated, 2.0 A

EGP20A - EGP20K



AXIAL LEAD DO 204
CASE 017AJ

Features

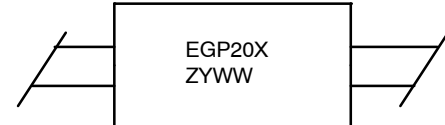
- Glass–Passivated Cavity–Free Junction
- High Surge Current Capability
- Low Leakage Current
- Super–Fast Recovery Time for High Efficiency
- Low Forward Voltage, High Current Capability

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------------------------------|--|------------|------|
| I _{F(AV)} | Average Rectified Current 0.375 inch lead length at T _A = 55°C | 2.0 | A |
| I _{FSM} | Peak Forward Surge Current 8.3 ms single half–sine–wave Superimposed on rated load (JEDEC method) | 75 | A |
| T _J , T _{STG} | Junction and Storage Temperature Range | –65 to 150 | °C |

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

MARKING DIAGRAM



EGP20X = Specific Device Code
X = A/B/C/D/F/G/J/K
Z = Assembly Code
YWW = Date Code (Year & Week)

ORDERING INFORMATION

See detailed ordering and shipping information on page 3 of this data sheet.

THERMAL CHARACTERISTICS

| Symbol | Parameter | Value | Unit |
|------------------|---|-------|-------|
| P _D | Total Device Dissipation | 3.13 | W |
| | Derate above 25°C | 25 | mW/°C |
| R _{θJA} | Thermal Resistance, Junction to Ambient | 40 | °C/W |
| R _{θJL} | Thermal Resistance, Junction to Lead | 15 | °C/W |

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

| Parameter | Device | | | | | | | | Unit |
|---|------------------------|-----|-----|-----|------|-----|-----|-----|------|
| | 20A | 20B | 20C | 20D | 20F | 20G | 20J | 20K | |
| Peak Repetitive Reverse Voltage | 50 | 100 | 150 | 200 | 300 | 400 | 600 | 800 | V |
| Maximum RMS Voltage | 35 | 70 | 105 | 140 | 210 | 280 | 420 | 560 | V |
| DC Reverse Voltage (Rated V _R) | 50 | 100 | 150 | 200 | 300 | 400 | 600 | 800 | V |
| Maximum Reverse Current at Rated V _R | T _A = 25°C | 5.0 | | | | | | | μA |
| | T _A = 125°C | 100 | | | | | | | μA |
| Maximum Reverse Recovery Time I _F = 0.5 A, I _R = 1.0 A, I _{tr} = 0.25 A | 50 | | | | | | 75 | | nS |
| Maximum Forward Voltage @ 2.0 A | 0.95 | | | | 1.25 | | 1.7 | | V |
| Typical Junction Capacitance V _R = 4.0 V, f = 1.0 MHz | 70 | | | | 45 | | | | pF |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

*Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2%.

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TYPICAL PERFORMANCE CHARACTERISTICS

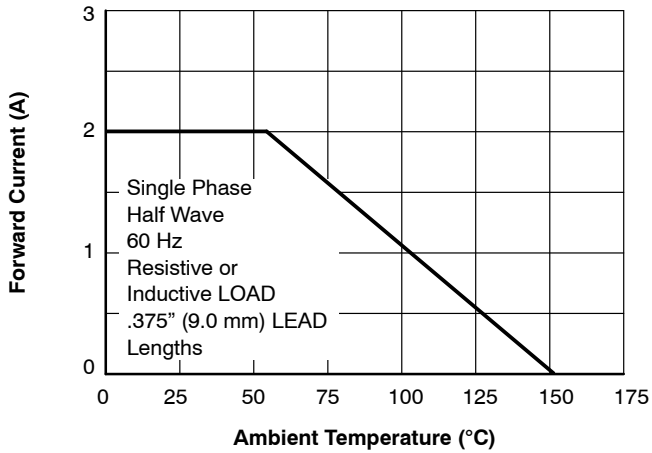


Figure 1. Forward Current Derating Curve

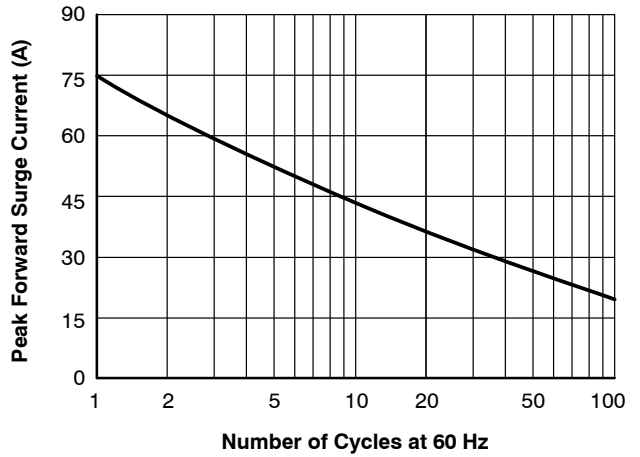


Figure 2. Non-Repetitive Surge Current

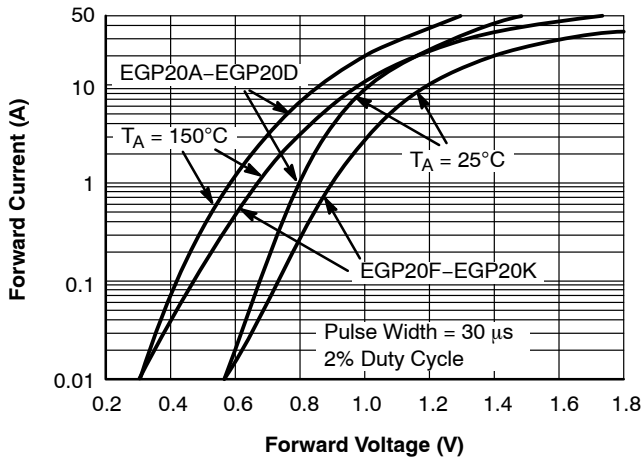


Figure 3. Forward Characteristics

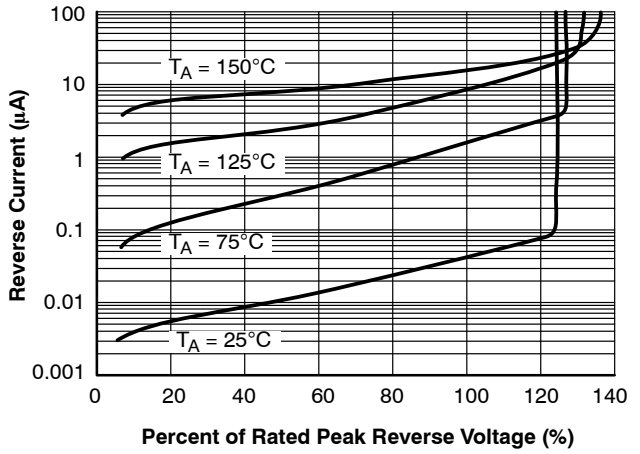


Figure 4. Reverse Characteristics

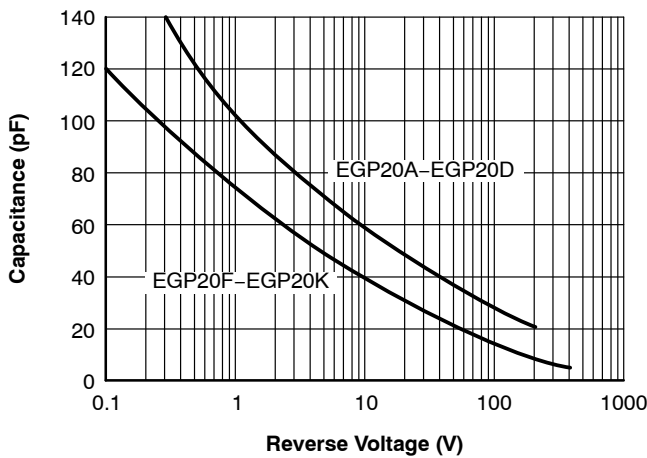
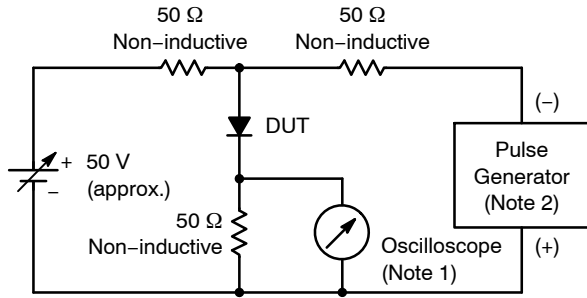


Figure 5. Junction Capacitance

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Reverse Recovery Time Characteristic and Test Circuit Diagram



Notes:

1. Rise time = 7.0 ns max; Input impedance = 1.0 MΩ 22 pF.
2. Rise time = 10 ns max; Source impedance = 50 Ω.

Figure 6. Test Circuit Diagram

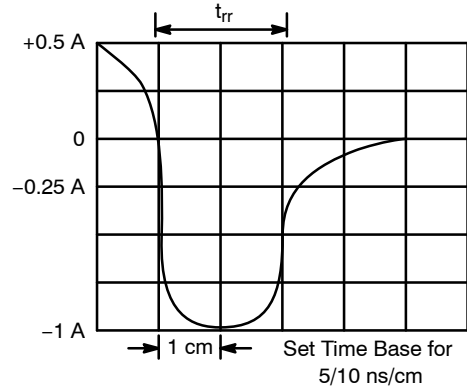


Figure 7. Reverse Recovery Time Characteristics

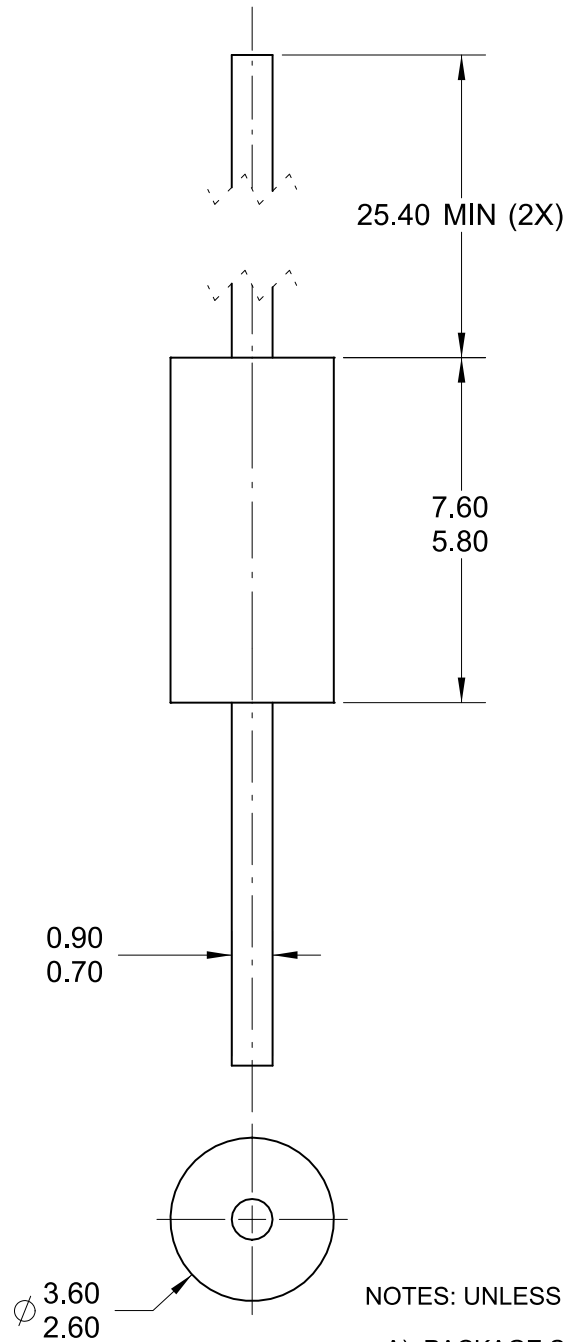
ORDERING INFORMATION

| Device | Package | Shipping† |
|--------|----------------------------------|--------------------|
| EGP20A | Axial Lead / DO-204 (Pb-Free) | 4000 / Tape & Reel |
| EGP20B | | |
| EGP20C | | |
| EGP20D | | |
| EGP20F | | |
| EGP20G | | |
| EGP20J | | |
| EGP20K | | |

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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ISSUE O


DATE 30 NOV 2016



NOTES: UNLESS OTHERWISE SPECIFIED

- A) PACKAGE STANDARD REFERENCE:
JEDEC DO-204 VARIATION AC.
- B) PLASTIC PACKAGE BODY.
- D) ALL DIMENSIONS ARE IN MILLIMETERS.

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