

Rectifiers, High Efficiency, Glass Passivated, 2.0 A

EGP20A - EGP20K

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 TA = 55°C | 2.0 | Α |
| I _{FSM} | Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method) | 75 | Α |
| 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.



AXIAL LEAD DO 204 CASE 017AJ

MARKING DIAGRAM



EGP20X = Specific Device Code X = A/B/C/D/F/G/J/K Z = Assembly Code

YWW = Assembly Code = 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 |
| $R_{	heta JA}$ | Thermal Resistance, Junction to Ambient | 40 | °C/W |
| $R_{	heta JL}$ | Thermal Resistance, Junction to Lead | 15 | °C/W |

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

| | | Device | | | | | | | | |
|---|---------------------------------|--------|----------------|------|-----|-----|-----|-----|-----|------|
| Parameter | | 20A | 20B | 20C | 20D | 20F | 20G | 20J | 20K | Unit |
| Peak Repetitive Reverse | 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 | | | | | | μΑ | | |
| | T _A = 125°C | 100 | | | | | | μΑ | | |
| Maximum Reverse Recovery Time $I_F = 0.5 \text{ A}, I_R = 1.0 \text{ A}, I_{rr} = 0.25 \text{ A}$ | | 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 $\leq 300 \mu s$, Duty Cycle $\leq 2\%$.

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TYPICAL PERFORMANCE CHARACTERISTICS

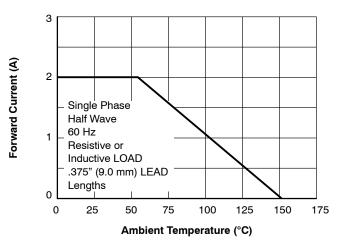


Figure 1. Forward Current Derating Curve

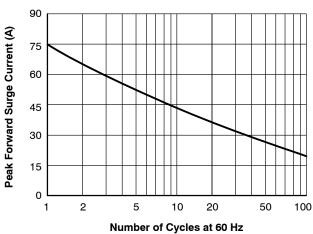


Figure 2. Non-Repetitive Surge Current

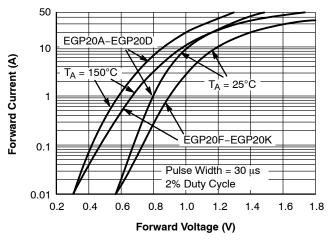


Figure 3. Forward Characteristics

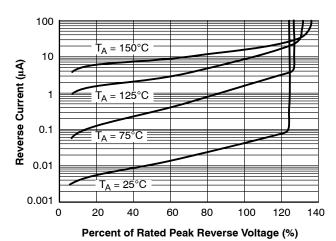


Figure 4. Reverse Characteristics

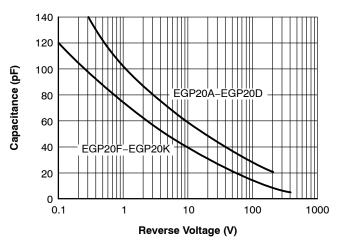
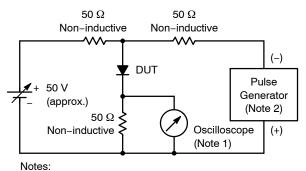


Figure 5. Junction Capacitance

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Reverse Recovery Time Characteristic and Test Circuit Diagram



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

Figure 6. Test Circuit Diagram

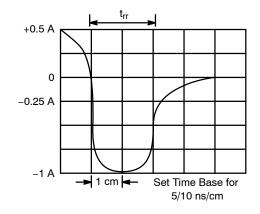


Figure 7. Reverse Recovery Time Characteristics

ORDERING INFORMATION

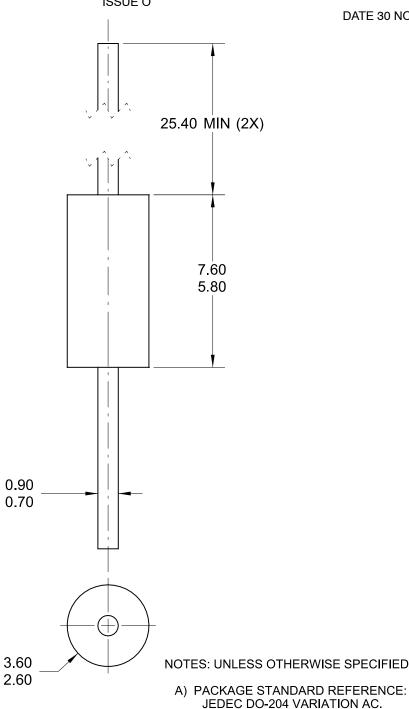
| Device | Package | Shipping [†] | |
|--------|---------------------|-----------------------|--|
| EGP20A | Axial Lead / DO-204 | 4000 / Tape & Reel | |
| EGP20B | (Pb-Free) | (PD-Free) | |
| EGP20C | | | |
| EGP20D | | | |
| EGP20F | | | |
| EGP20G | | | |
| EGP20J | | | |
| EGP20K | | | |

[†]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.



CASE 017AJ ISSUE O

DATE 30 NOV 2016



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|---|-------------------|--|-------------|
| DESCRIPTION: | AXIAL LEAD DO 204 | | PAGE 1 OF 1 |

B) PLASTIC PACKAGE BODY.

D) ALL DIMENSIONS ARE IN MILLIMETERS.

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