

# High Efficiency Rectifier 1.0 A Glass Passivated



## EGP10A - EGP10K

### Features

- Superfast Recovery Time for High Efficiency
- Low Forward Voltage, High Current Capability
- Low Leakage Current
- High Surge Current Capability

### ABSOLUTE MAXIMUM RATINGS $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol                | Parameter                                                                                                  | Value     | Units      |
|-----------------------|------------------------------------------------------------------------------------------------------------|-----------|------------|
| $I_O$                 | Average Rectified Current<br>0.375 " lead length @ $T_L = 75^\circ\text{C}$                                | 1.0       | A          |
| $I_{f(\text{surge})}$ | Peak Forward Surge Current<br>8.3 ms single half-sine-wave<br>Superimposed on rated load<br>(JEDEC method) | 30        | A          |
| $P_D$                 | Total Device Dissipation<br>Derate above $25^\circ\text{C}$                                                | 2.5<br>17 | W<br>mW/°C |
| $\theta_{JA}$         | Thermal Resistance, Junction to Ambient                                                                    | 50        | °C/W       |
| $T_J, T_{STG}$        | Junction and Storage Temperature Range                                                                     | -65 ~ 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.

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

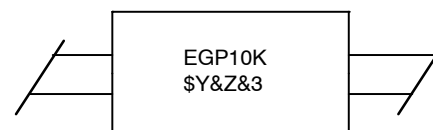
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AXIAL LEAD / DO-41  
CASE 017AH

### MARKING DIAGRAM



EGP10K = Specific Device Code  
\$Y = ON Semiconductor Logo  
&Z = Assembly Code  
&3 = Date Code

### ELECTRICAL CHARACTERISTICS $T_A = 25^\circ\text{C}$ unless otherwise noted

| Parameter                                                                                                 |                        | Device |     |     |      |     |     |     | Units |     |
|-----------------------------------------------------------------------------------------------------------|------------------------|--------|-----|-----|------|-----|-----|-----|-------|-----|
|                                                                                                           |                        | 10A    | 10B | 10C | 10D  | 10F | 10G | 10J |       | 10K |
| 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 <sub>R</sub> )                                                                |                        | 50     | 100 | 150 | 200  | 300 | 400 | 600 | 800   | V   |
| Maximum Reverse Current at Rated V <sub>R</sub>                                                           | T <sub>A</sub> = 25°C  | 5.0    |     |     |      |     |     |     | μA    |     |
|                                                                                                           | T <sub>A</sub> = 125°C | 100    |     |     |      |     |     |     | μA    |     |
| Maximum Reverse Recovery Time<br>I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A |                        | 50     |     |     |      |     | 75  |     | nS    |     |
| Maximum Forward Voltage @ 2.0 A                                                                           |                        | 0.95   |     |     | 1.25 |     | 1.7 |     | V     |     |
| Typical Junction Capacitance<br>V <sub>R</sub> = 4.0 V, f = 1.0 MHz                                       |                        | 22     |     |     | 15   |     |     | 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  $\leq 300\text{ }\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

# EGP10A – EGP10K

## TYPICAL PERFORMANCE CHARACTERISTICS

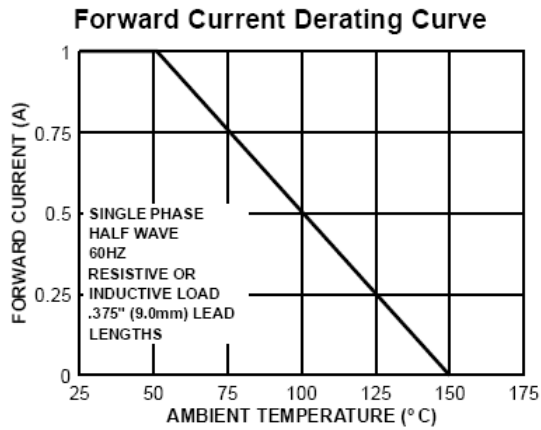


Figure 1.

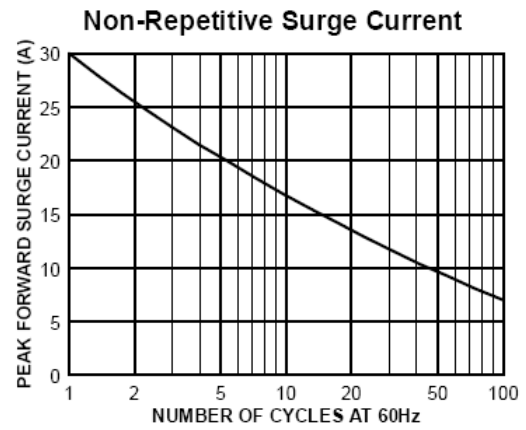


Figure 2.

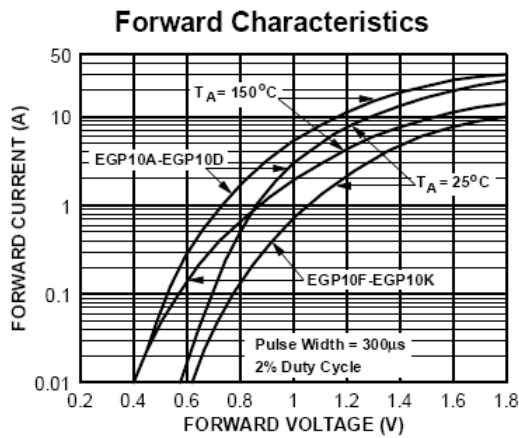


Figure 3.

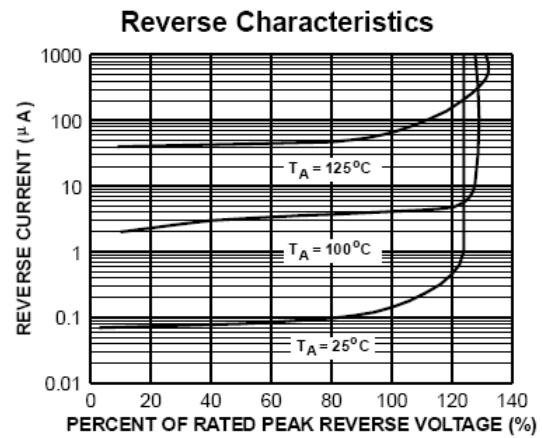


Figure 4.

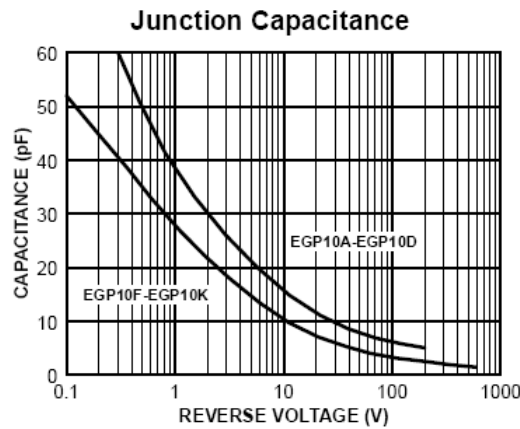
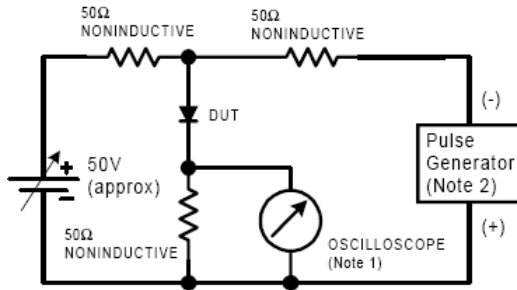


Figure 5.

## EGP10A – EGP10K

### Reverse Recovery Time Characteristic and Test Circuit Diagram



NOTES:  
 1. Rise time = 7.0 ns max; Input impedance = 1.0 megaohm 22 pf.  
 2. Rise time = 10 ns max; Source impedance = 50 ohms.

Figure 6.

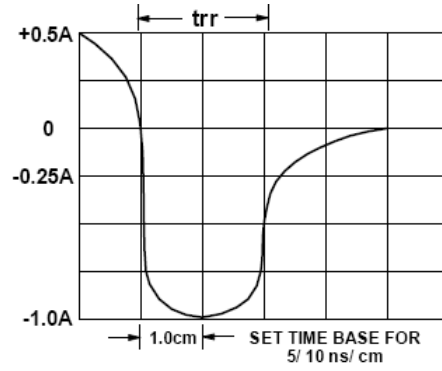


Figure 7.

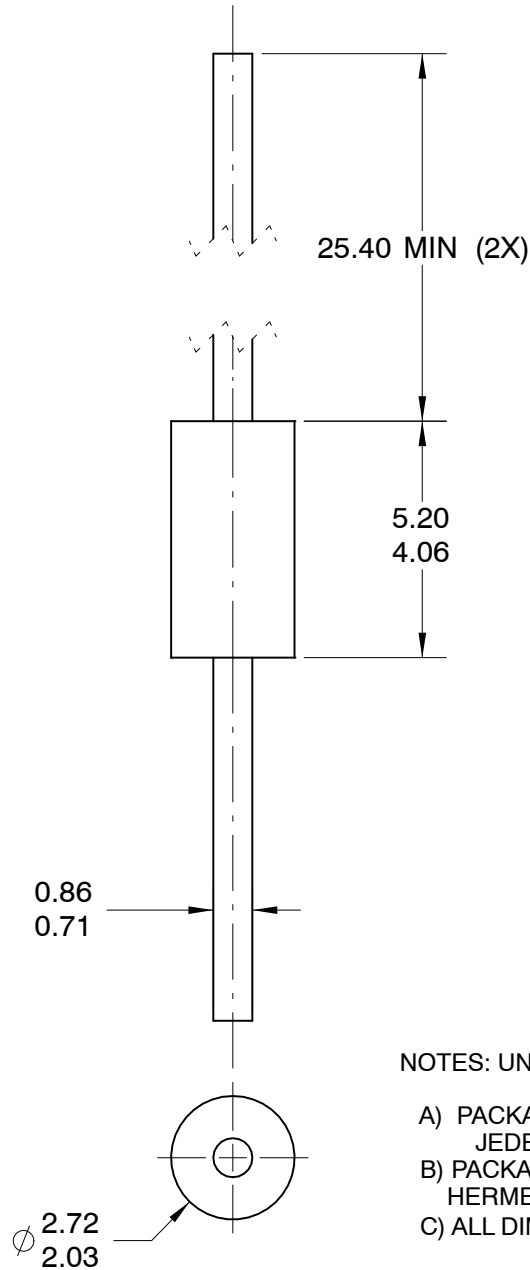
### ORDERING INFORMATION

| Device | Package                          | Shipping           |
|--------|----------------------------------|--------------------|
| EGP10K | Axial Lead / DO-41<br>CASE 017AH | 5000 / Tape & Reel |

†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.

**AXIAL LEAD / DO-41**  
CASE 017AH  
ISSUE O

DATE 31 AUG 2016



**NOTES: UNLESS OTHERWISE SPECIFIED**

- A) PACKAGE STANDARD REFERENCE:  
JEDEC DO-204 VARIATION AL.
- B) PACKAGE BODY CAN BE PLASTIC OR  
HERMETICALLY SEALED GLASS.
- C) ALL DIMENSIONS ARE IN MILLIMETERS.

|                         |                           |                                                                                                                                                                                     |
|-------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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