

Rectifier, High Efficiency, Glass Passivated, 1.0 A

EGP10B - EGP10K



AXIAL LEAD / DO-41
CASE 017AH

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	Unit
I_O	Average Rectified Current 0.375" lead length @ $T_L = 75^\circ\text{C}$	1.0	A
$I_{f(\text{surge})}$	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	30	A
P_D	Total Device Dissipation Derate above 25°C	2.5 17	W mW/°C
θ_{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.

MARKING DIAGRAM



EGP10X = Specific Device Code
X = B/C/D/F/G/K
Z = Assembly Code
YYWW = Date Code (Year & Week)

ORDERING INFORMATION

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

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

Parameter	Device						Unit
	10B	10C	10D	10F	10G	10K	
Peak Repetitive Reverse Voltage	100	150	200	300	400	800	V
Maximum RMS Voltage	70	105	140	210	280	560	V
DC Reverse Voltage (Rated V_R)	100	150	200	300	400	800	V
Maximum Reverse Current at Rated V_R	$T_A = 25^\circ\text{C}$						μA
	$T_A = 125^\circ\text{C}$						μA
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 $V_R = 4.0\text{ V}$, $f = 1.0\text{ MHz}$	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 $\leq 2\%$.

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TYPICAL PERFORMANCE CHARACTERISTICS

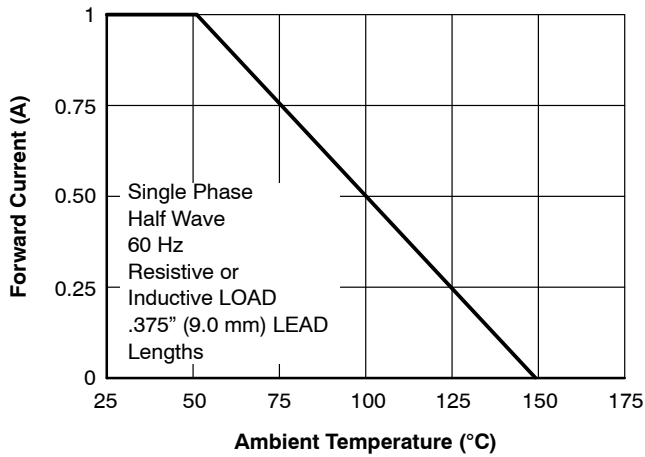


Figure 1. Forward Current Derating Curve

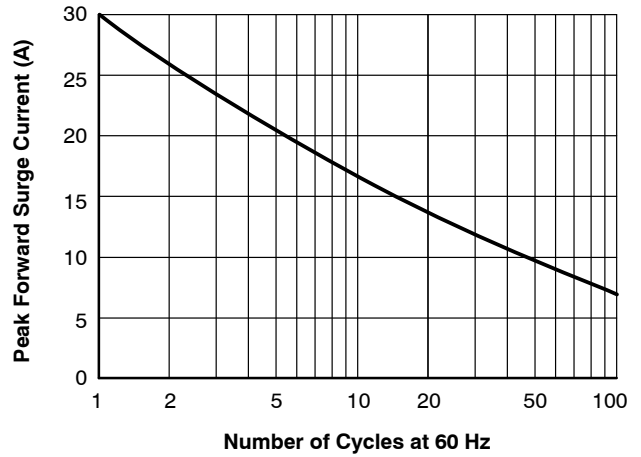


Figure 2. Non-Repetitive Surge Current

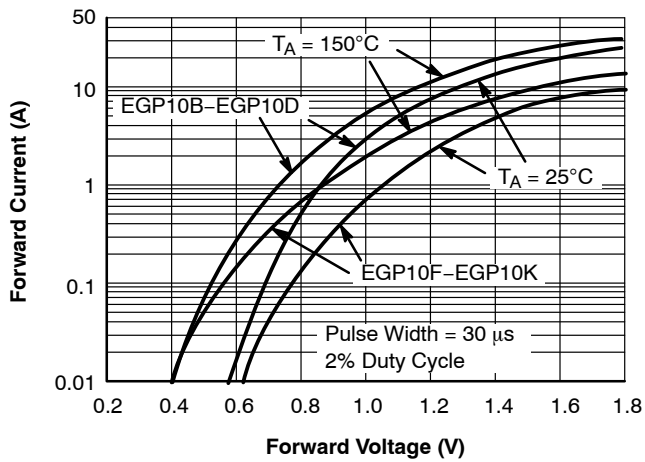


Figure 3. Forward Characteristics

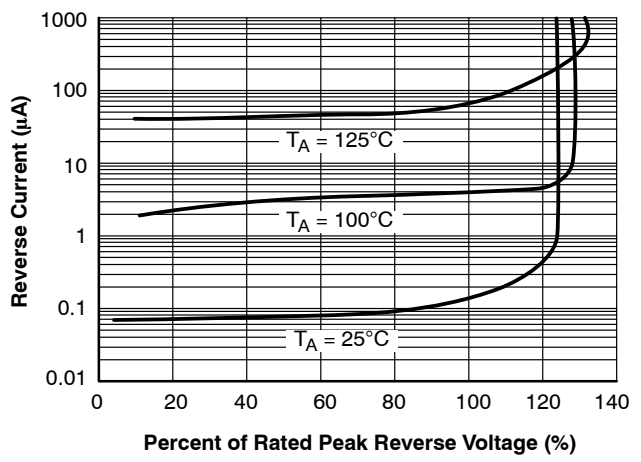


Figure 4. Reverse Characteristics

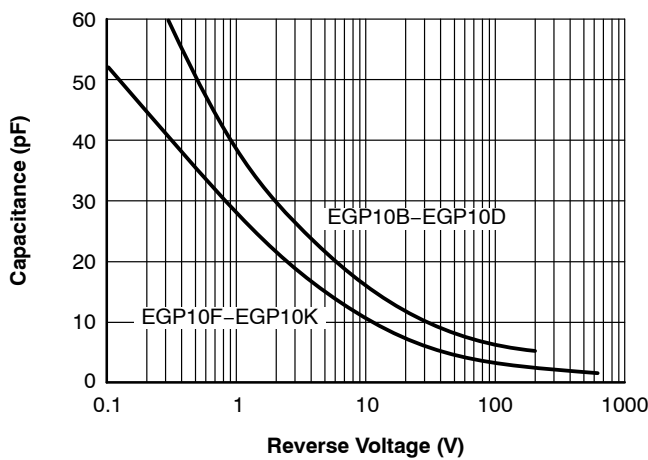
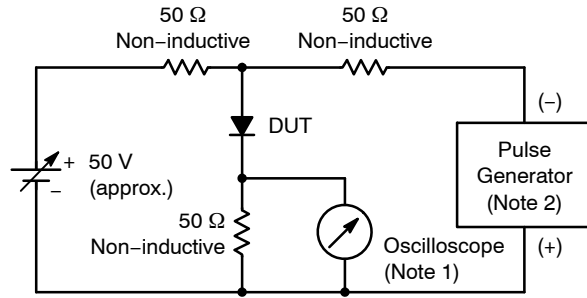


Figure 5. Junction Capacitance

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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

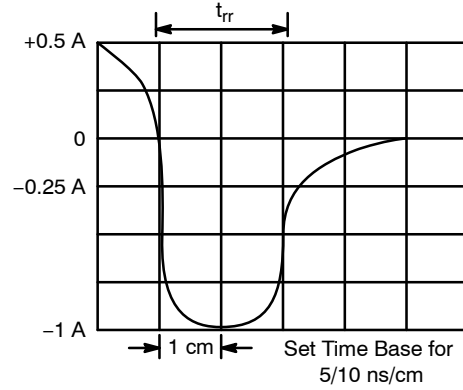


Figure 7. Reverse Recovery Time Characteristics

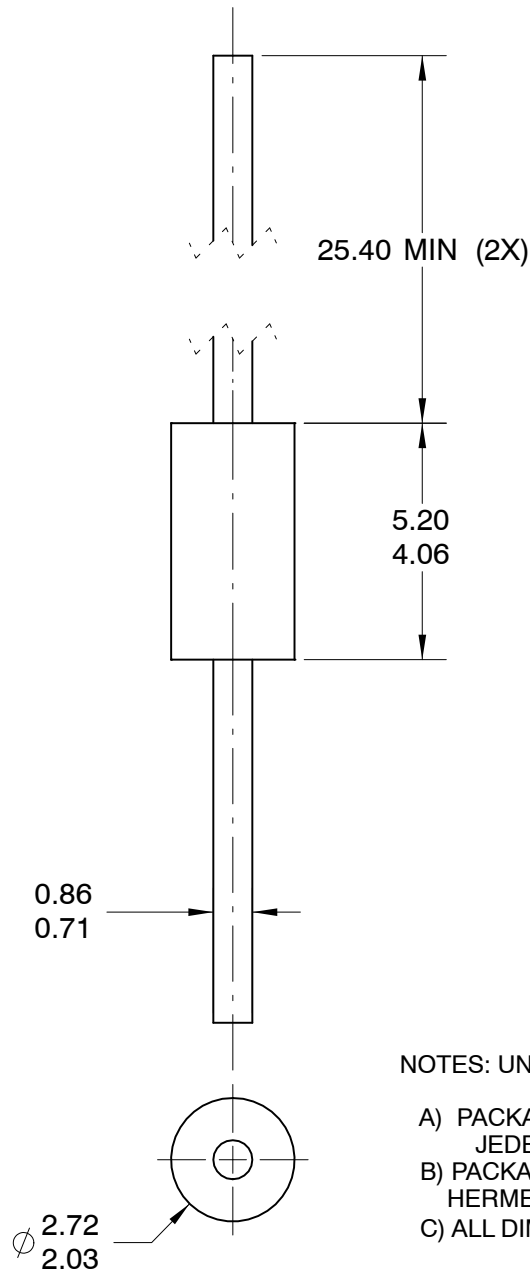
ORDERING INFORMATION

Device	Package	Shipping [†]
EGP10B	Axial Lead / DO-41 (Pb-Free)	5000 / Tape & Reel
EGP10C		
EGP10D		
EGP10F		
EGP10G		
EGP10K		

[†]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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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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