3.0 Ampere Glass Passivated High Efficiency Rectifiers

EGP30A, EGP30B, EGP30C, EGP30D, EGP30F, EGP30G, EGP30J, EGP30K



COLOR BAND DENOTES CATHODE

AXIAL LEAD
(DO−201AD Glass Case)
CASE 017AF

Features

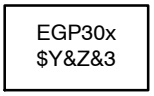
- Glass Passivated Cavity−free Junction
- High Surge Current Capability
- Low Leakage Current
- Superfast Recovery Time for High Efficiency
- Low Forward Voltage, High Current Capability
- These Devices are Pb−Free, Halide Free and are RoHS Compliant

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

Symbol	Parameter	Value	Unit
I_O	Average Rectified Current .375" Lead Length @ T_L = 55°C	3.0	A
$i_{f(surge)}$	Peak Forward Surge Current 8.3 ms Single Half−sine−wave Superimposed on Rated Load (JEDEC Method)	125	A
P_D	Total Device Dissipation Derate Above 25°C	6.25 50	W mW°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	20	°C/W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead	8.5	°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.

MARKING DIAGRAM



EGP30x = Specific Device Code (x = A, B, C, D, F, G, J, K)
$Y = Logo
&Z = Assembly Plant Code
&3 = 3−Digit Date Code

ORDERING INFORMATION

Device	Package	Shipping†
EGP30A	AXIAL LEAD (DO−201AD Glass Case) (Pb−Free, Halide Free)	1250 / Tape & Reel
EGP30D		
EGP30F		
EGP30G		
EGP30J		
EGP30K		

DISCONTINUED (Note 1)

EGP30B	AXIAL LEAD (DO−201AD Glass Case) (Pb−Free, Halide Free)	1250 / Tape & Reel
EGP30C		

†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.

1. **DISCONTINUED:** These devices are not recommended for new design. Please contact your **onsemi** representative for information. The most current information on these devices may be available on www.onsemi.com.

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ELECTRICAL CHARACTERISTICS* (T_a = 25°C unless otherwise noted)

Parameter	Device								Unit
	30A	30B	30C	30D	30F	30G	30J	30K	
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 @ Rated V_R T_A = 25°C T_A = 125°C	5.0 100								 μA μA
Maximum Reverse Recovery Time I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	50						75		nS
Maximum Forward Voltage @ 3.0 A	0.95				1.25		1.7		V
Typical Junction Capacitance V_R = 4.0 V, f = 1.0 MHz	95				75				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 CHARACTERISTICS

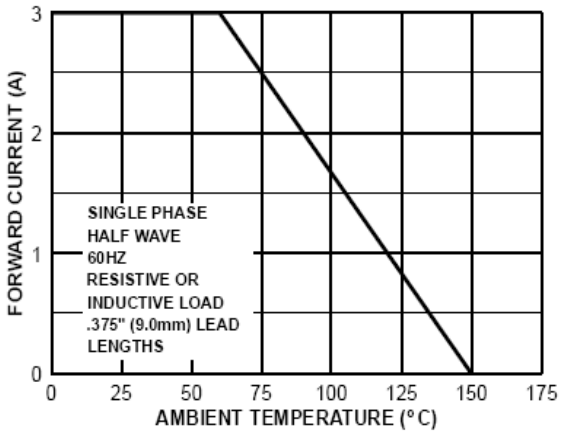


Figure 1. Forward Current Derating Curve

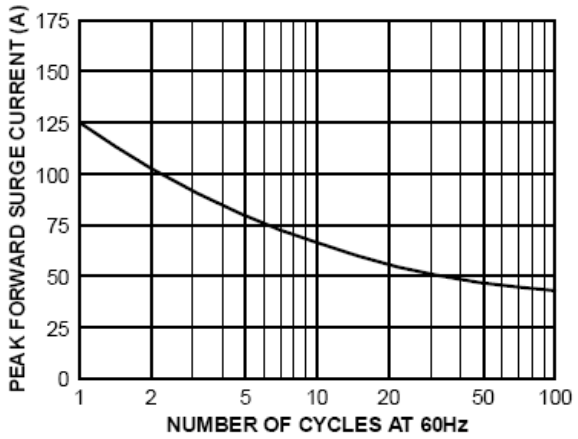


Figure 2. Non−Repetitive Surge Current

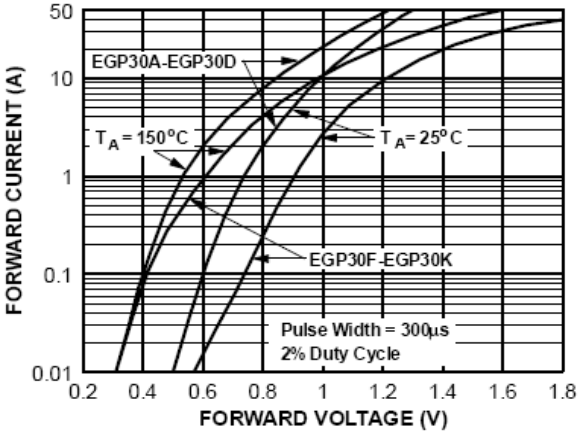


Figure 3. Forward Characteristics

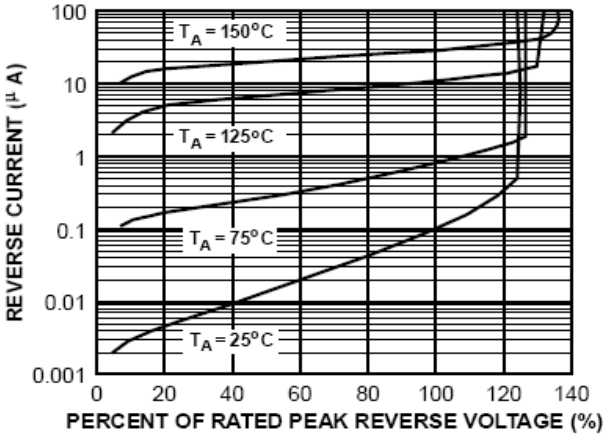


Figure 4. Reverse Characteristics

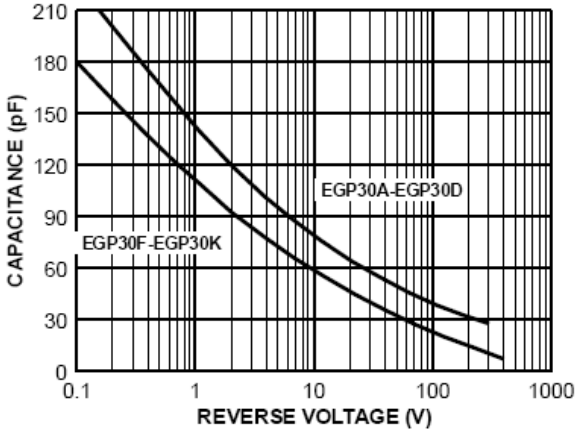
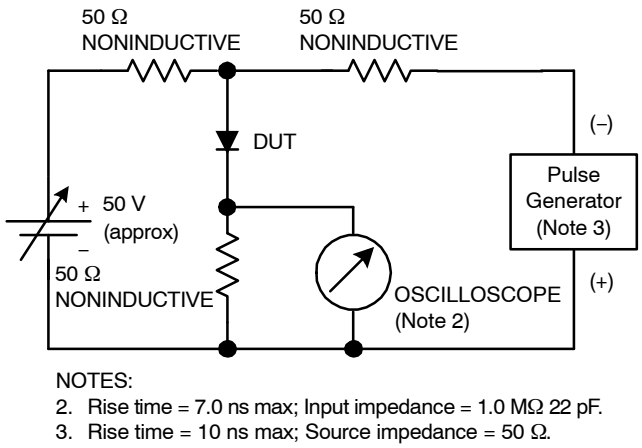


Figure 5. Junction Capacitance

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REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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

Figure 6. Test Circuit Diagram

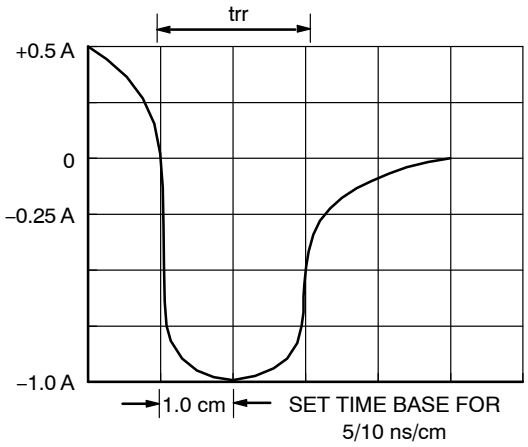
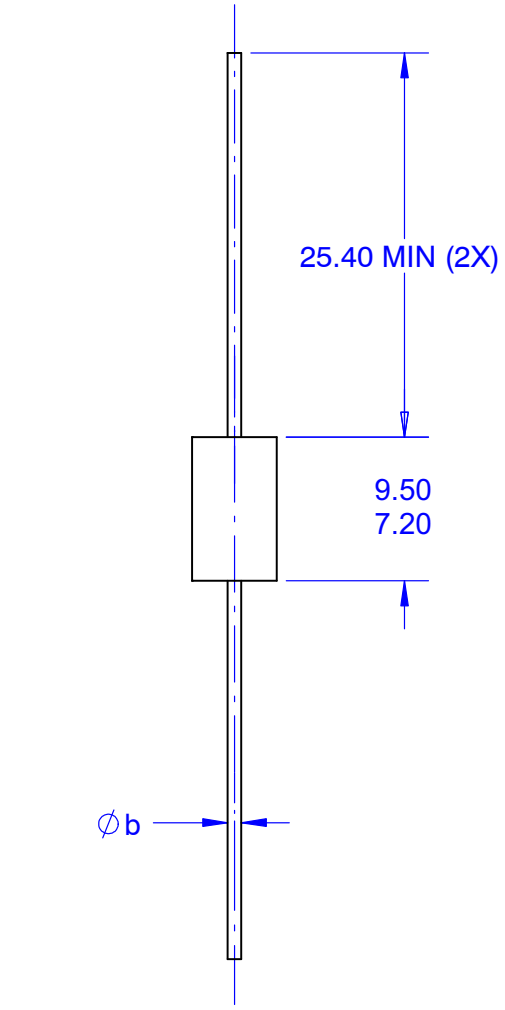


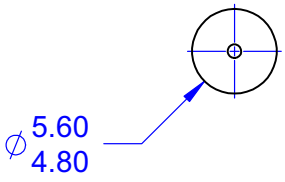
Figure 7. Reverse Recovery Time Characteristic

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AXIAL LEAD
CASE 017AF
ISSUE O

DATE 31 AUG 2016





NOTES: UNLESS OTHERWISE SPECIFIED

A) PACKAGE STANDARD REFERENCE:
JEDEC DO−201 VARIATION AD.
B) PLASTIC PACKAGE BODY.
C) ALL DIMENSIONS ARE IN MILLIMETERS.
D) ∅ b DIMENSION REPRESENT LIKE BELOW:
OPTION AD = 1.20MIN TO 1.30MAX
OPTION AE = 0.94MIN TO 1.07MAX

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