

FAIRCHILD
SEMICONDUCTOR™

**Discrete POWER & Signal
Technologies**

EGP10A - EGP10K

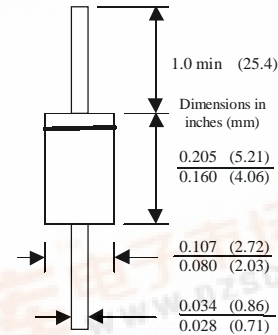
Features

- Superfast recovery time for high efficiency.
- Low forward voltage, high current capability.
- Low leakage current.
- High surge current capability.



DO-41

COLOR BAND DENOTES CATHODE



1.0 Ampere Glass Passivated High Efficiency Rectifiers

Absolute Maximum Ratings*

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

Symbol	Parameter	Value	Units
I_o	Average Rectified Current .375 " lead length @ $T_L = 55^\circ\text{C}$	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/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	50	$^\circ\text{C}/\text{W}$
T_{stg}	Storage Temperature Range	-65 to +150	$^\circ\text{C}$
T_J	Operating Junction Temperature	-65 to +150	$^\circ\text{C}$

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

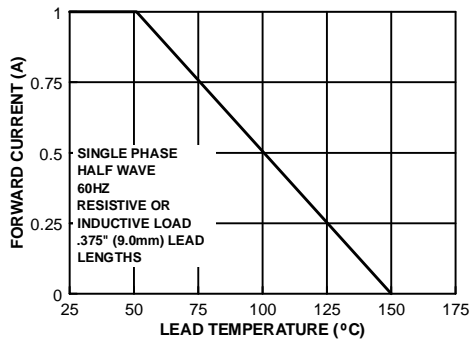
Electrical Characteristics

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

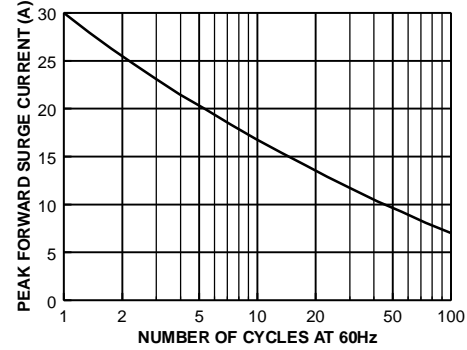
Parameter	Device								Units
	10A	10B	10C	10D	10F	10G	10J	10K	
Peak Repetitive Reverse Voltage	50	100	150	200	300	400	600	800	V
Maximum RMS Voltage	35	70	105	140	210	280	420	560	V
DC Reverse Voltage (Rated V_R)	50	100	150	200	300	400	600	800	V
Maximum Reverse Current @ rated V_R $T_A = 25^{\circ}\text{C}$ $T_A = 125^{\circ}\text{C}$	5.0 100								μA 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 @ 1.0 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

Typical Characteristics

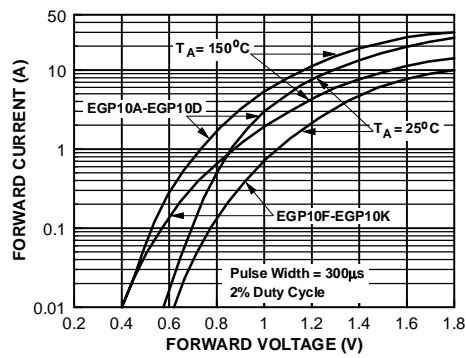
Forward Current Derating Curve



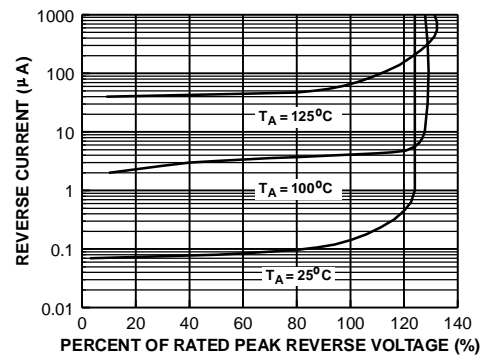
Non-Repetitive Surge Current



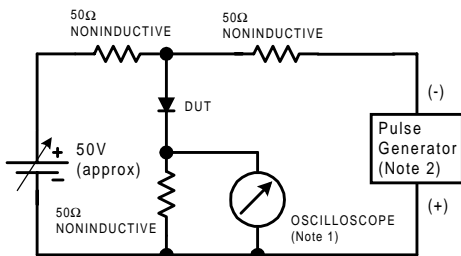
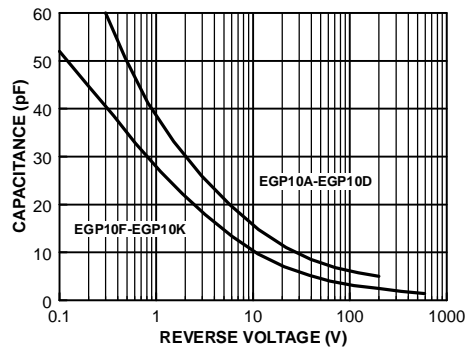
Forward Characteristics



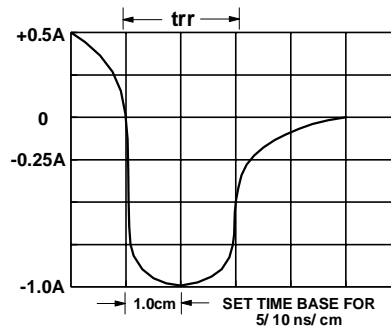
Reverse Characteristics



Junction Capacitance



- 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.



Reverse Recovery Time Characteristic and Test Circuit Diagram

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FAST®	SuperSOT™-3
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GTO™	SuperSOT™-8
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