FAIRCHILD SEMICONDUCTOR®

July 2007

EGP30A - EGP30K

3.0 Ampere Glass Passivated High Efficiency Rectifiers

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

DO-201AD Glass case
COLOR BAND DENOTES CATHODE

Absolute Maximum Ratings*

T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
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

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

Electrical Characteristics*

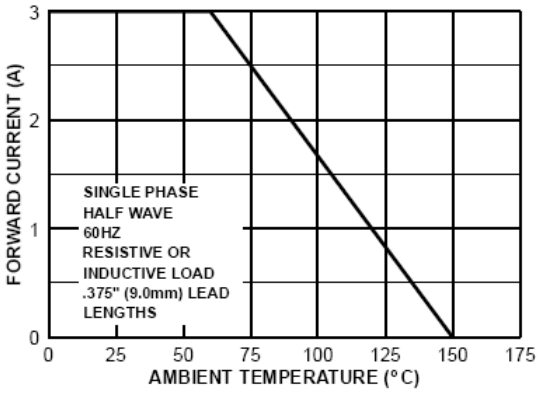
T_a = 25°C unless otherwise noted

Parameter	Device								Units
	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

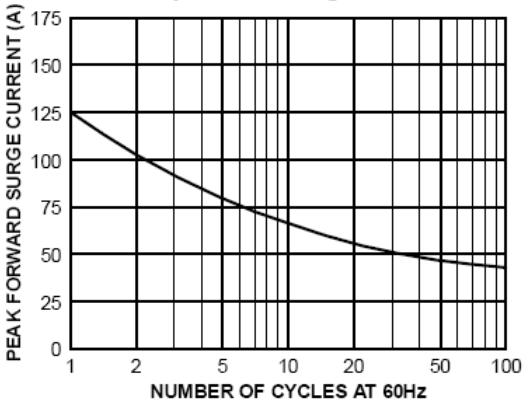
* Pulse Test: Pulse Width≤300µs, Duty Cycle≤2%

Typical Performance Characteristics

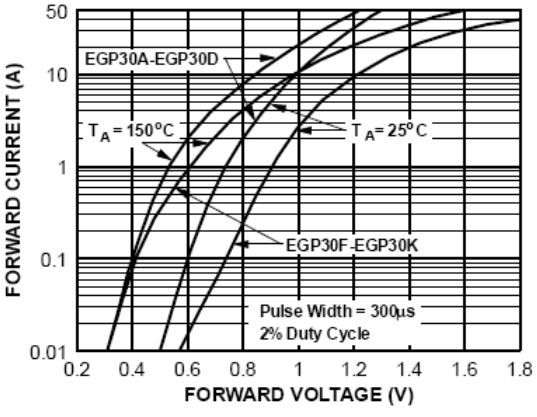
Forward Current Derating Curve



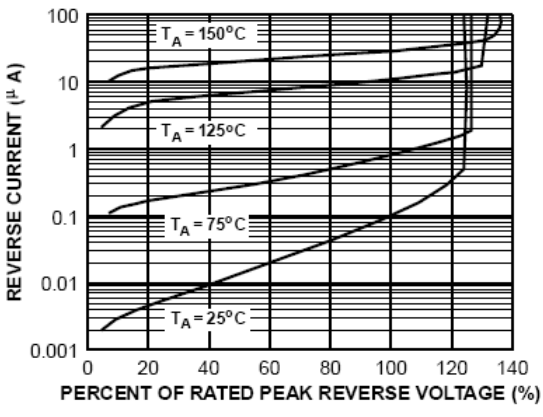
Non-Repetitive Surge Current



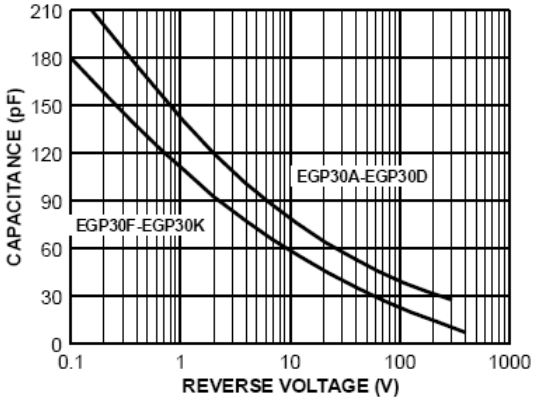
Forward Characteristics



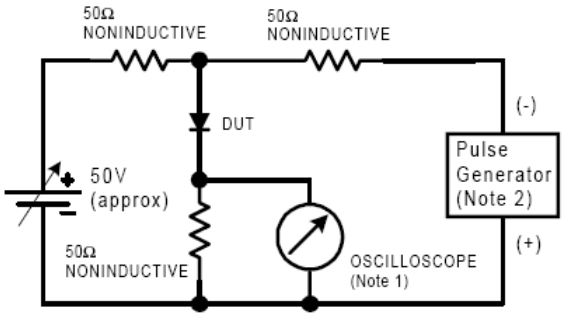
Reverse Characteristics



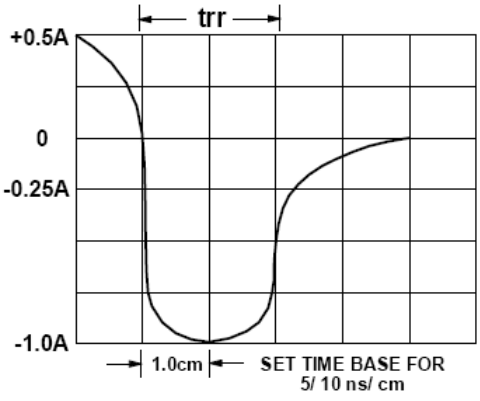
Junction Capacitance



Reverse Recovery Time Characterstic 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.



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