

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

Symbol	Parameter	Value	Units
I_o	Average Rectified Current .375 " lead length @ $T_L = 55^\circ\text{C}$	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_{0JA}	Thermal Resistance, Junction to Ambient	20	°C/W
R_{0JL}	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.

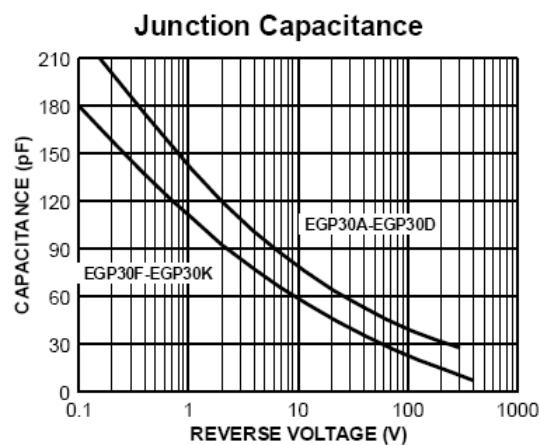
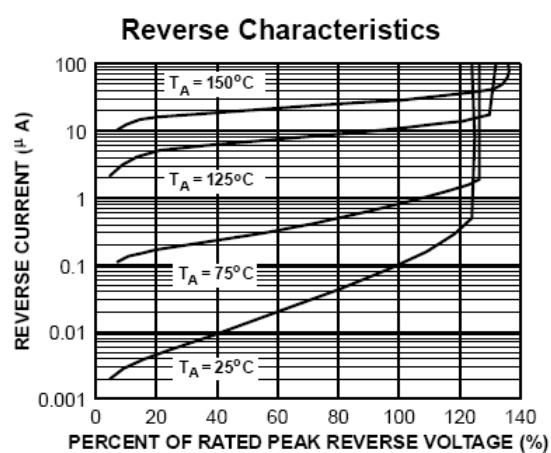
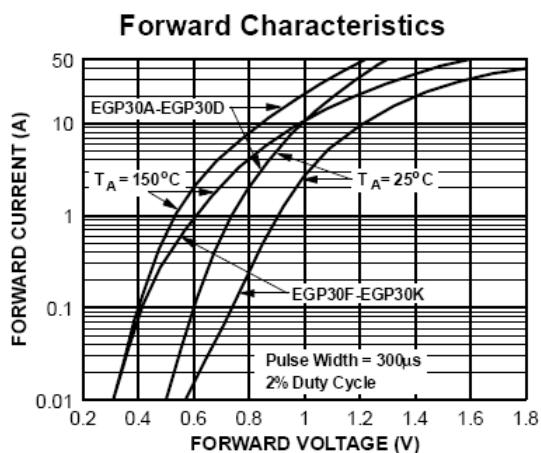
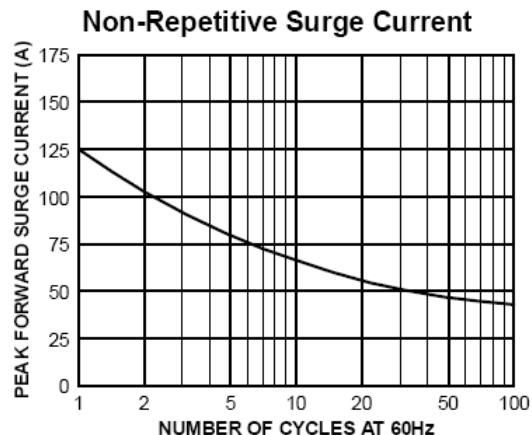
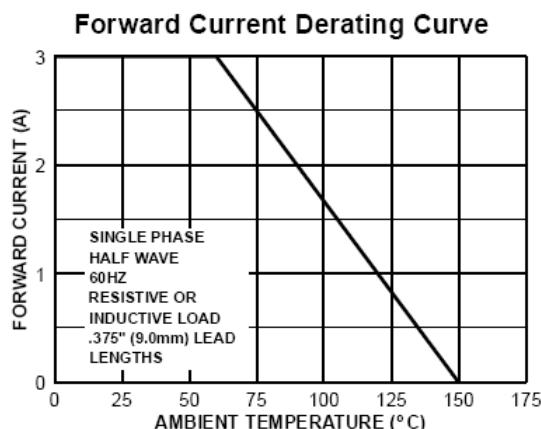
Electrical Characteristics* $T_a = 25^\circ\text{C}$ unless otherwise noted

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 VR)	50	100	150	200	300	400	600	800	V
Maximum Reverse Current @ rated VR $T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$					5.0				μA
					100				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 @ 3.0 A			0.95		1.25		1.7		V
Typical Junction Capacitance $V_R = 4.0 \text{ V}$, $f = 1.0 \text{ MHz}$		95				75			pF

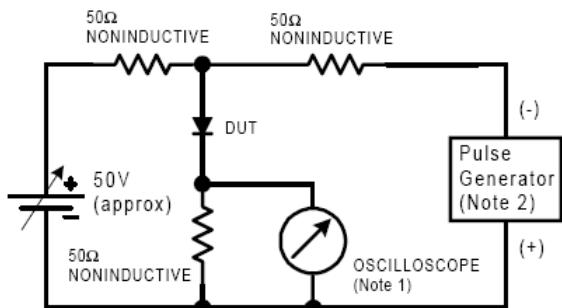
* Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%

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Typical Performance Characteristics

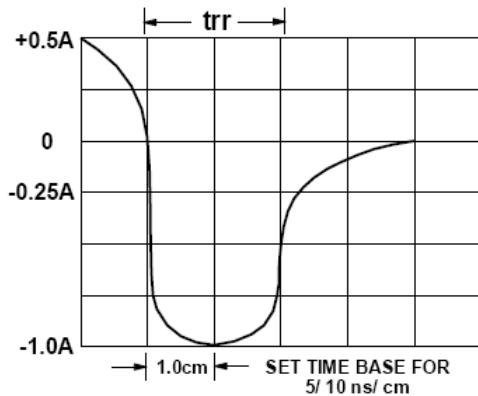


Reverse Recovery Time Characteristic and Test Circuit Diagram



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.





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