

EGP30A - EGP30K

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
COLOR BAND DENOTES CATHODE

Fast Rectifiers (Glass Passivated)

Absolute Maximum Ratings*

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

Symbol	Parameter	Value								Units
		30A	30B	30C	30D	30F	30G	30J	320	
V_R	Breakdown Voltage	50	100	150	200	300	400	600	800	V
$I_{F(AV)}$	Average Rectified Forward Current, .375" lead length @ $T_A = 55^\circ\text{C}$	3.0								A
I_{FSM}	Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	125								A
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.

Thermal Characteristics

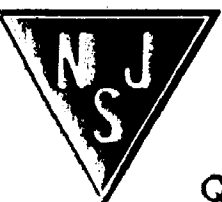
Symbol	Parameter	Value	Units
P_D	Power Dissipation	6.25	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	20	$^\circ\text{C}/\text{W}$
$R_{\theta JL}$	Thermal Resistance, Junction to Lead	8.5	$^\circ\text{C}/\text{W}$

Electrical Characteristics

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

Symbol	Parameter	Device								Units
		30A	30B	30C	30D	30F	30G	30J	320	
V_F	Forward Voltage @ 3.0 A	0.95			1.25		1.7			V
t_{rr}	Reverse Recovery Time $I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$	50					75			ns
I_R	Reverse Current @ rated V_R $T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$	5.0				100				μA μA
C_T	Total Capacitance $V_R = 4.0\text{ V}, f = 1.0\text{ MHz}$	95				75				pF

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Typical Characteristics

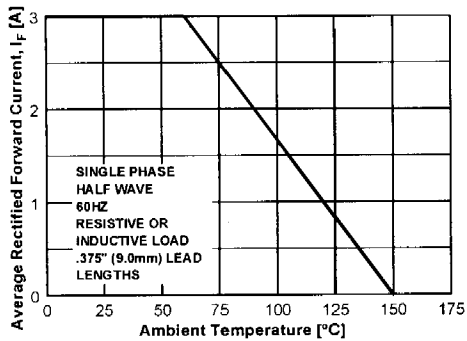


Figure 1. Forward Current Derating Curve

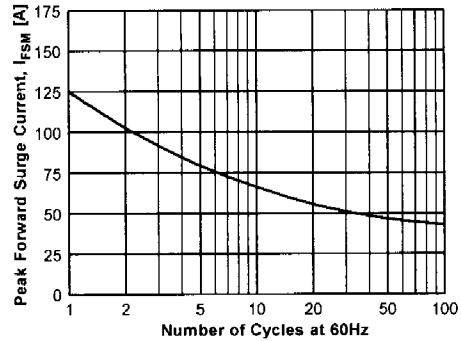


Figure 2. Non-Repetitive Surge Current

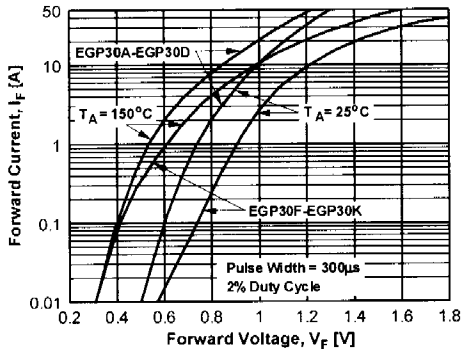


Figure 3. Forward Voltage Characteristics

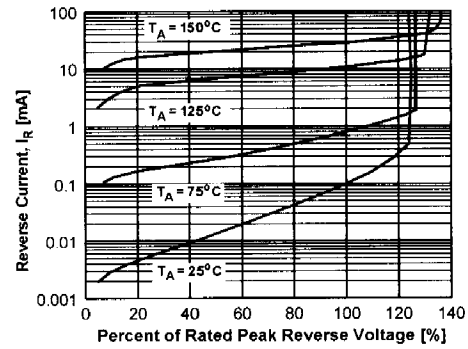


Figure 4. Reverse Current vs Reverse Voltage

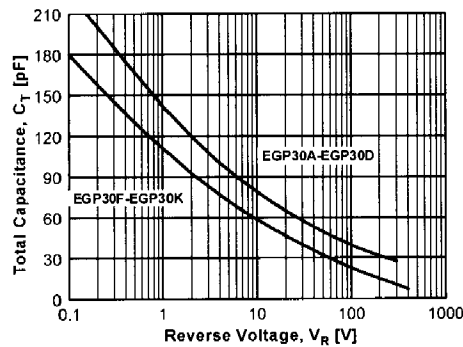
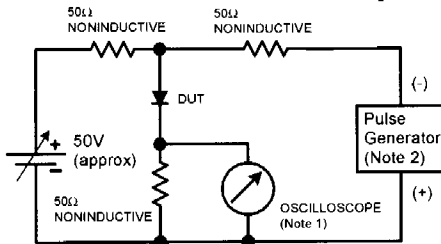
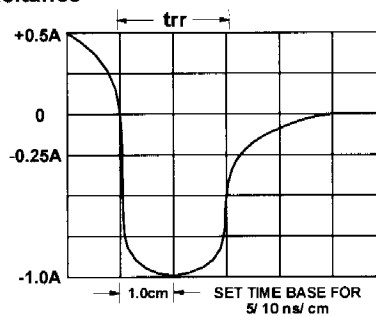


Figure 5. Total Capacitance



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