

## RGP10A - RGP10M

### Features

- 1.0 ampere operation at  $T_A = 55^\circ\text{C}$  with no thermal runaway.
- High temperature metallurgically bonded construction.
- Glass passivated cavity-free junction.
- Typical  $I_R$  less than  $1\mu\text{A}$ .
- Fast switching for high efficiency.



**DO-41**  
COLOR BAND DENOTES CATHODE

### Fast Rectifiers (Glass Passivated)

#### Absolute Maximum Ratings\* $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value							Units
		10A	10B	10D	10G	10J	10K	10M	
$V_{RRM}$	Maximum Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
$I_{F(AV)}$	Average Rectified Forward Current, .375" lead length @ $T_L = 55^\circ\text{C}$	1.0							A
$I_{FSM}$	Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	30							A
$T_{stg}$	Storage Temperature Range	-65 to +175							$^\circ\text{C}$
$T_J$	Operating Junction Temperature	-65 to +175							$^\circ\text{C}$

\*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	3.0	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	50	$^\circ\text{C}/\text{W}$

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

Symbol	Parameter	Device							Units
		10A	10B	10D	10G	10J	10K	10M	
$V_F$	Forward Voltage @ 1.0 A	1.3							V
$t_{rr}$	Reverse Recovery Time $I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{rr} = 0.25\text{ A}$	150			250	500		ns	
$I_R$	Reverse Current @ rated $V_R$ $T_A = 25^\circ\text{C}$ $T_A = 150^\circ\text{C}$	5.0 200							$\mu\text{A}$ $\mu\text{A}$
$C_T$	Total Capacitance $V_R = 4.0\text{ V}$ , $f = 1.0\text{ MHz}$	15							pF

### Typical Characteristics

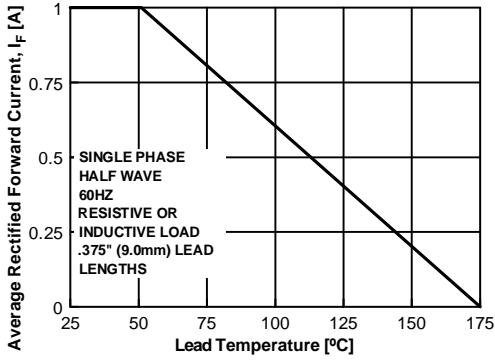


Figure 1. Forward Current Derating Curve

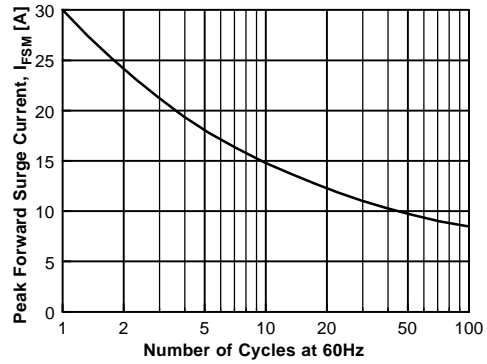


Figure 2. Non-Repetitive Surge Current

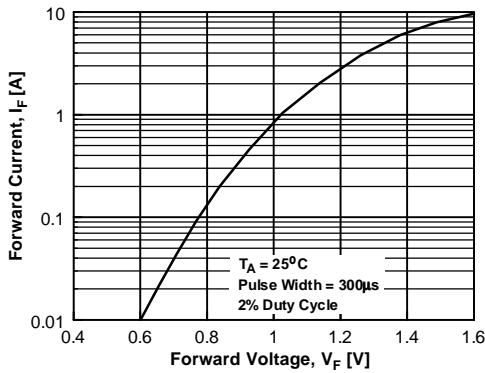


Figure 3. Forward Voltage Characteristics

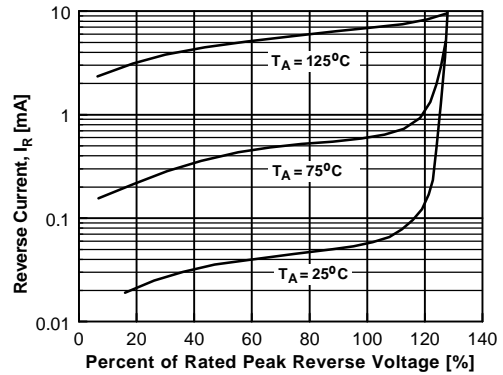


Figure 4. Reverse Current vs Reverse Voltage

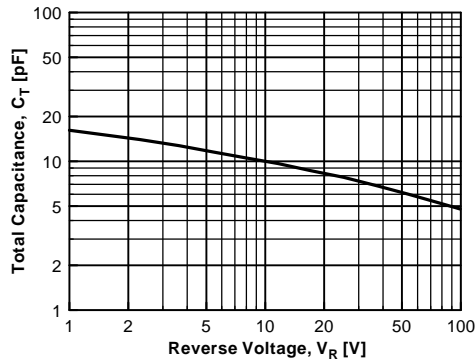
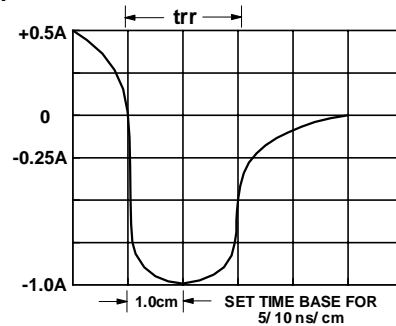
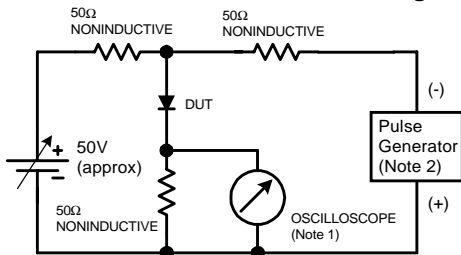


Figure 5. Total Capacitance



Reverse Recovery Time Characteristic and Test Circuit Diagram

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