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FAIRCHILD

SEMICONDUCTOR®

RGP10A - RGP10M

Features

- 1.0 ampere operation at $T_A = 55°C$ with no thermal runaway.

- High temperature metallurgically bonded construction.

- Glass passivated cavity-free junction.

- Typical I_R less than 1μA.

- Fast switching for high efficiency.

DO-41
COLOR BAND DENOTES CATHODE

Fast Rectifiers (Glass Passivated)

Absolute Maximum Ratings* $T_A = 25°C$ 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 @ $T_L = 55°C$	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							°C
T_J	Operating Junction Temperature	-65 to +175							°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	°C/W

Electrical Characteristics $T_A = 25°C$ unless otherwise noted

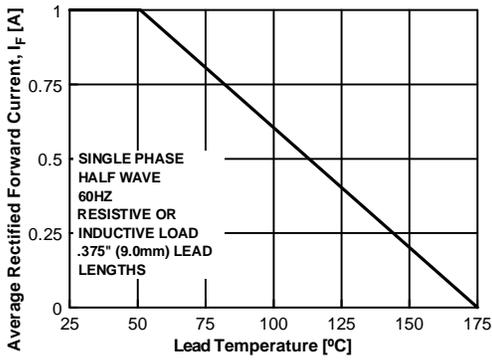| Symbol	Parameter	Device							Units
		10A	10B	10D	10G	10J	10K	10M	
V_F	Forward Voltage @ 1.0 A	1.3							V
t_{rr}	Reverse Recovery Time $I_F = 0.5$ A, $I_R = 1.0$ A, $I_{rr} = 0.25$ A		150			250	500		ns
I_R	Reverse Current @ rated V_R $T_A = 25°C$ $T_A = 150°C$	5.0 200							μA μA
C_T	Total Capacitance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

Typical Characteristics

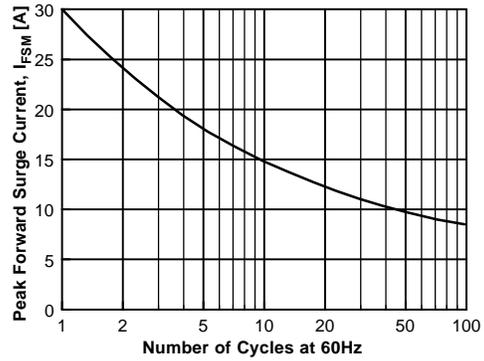Figure 1. Forward Current Derating Curve
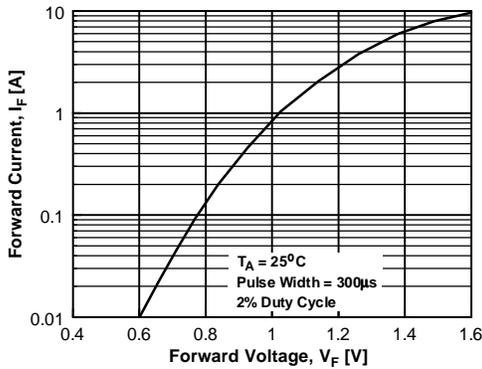
Figure 2. Non-Repetitive Surge Current

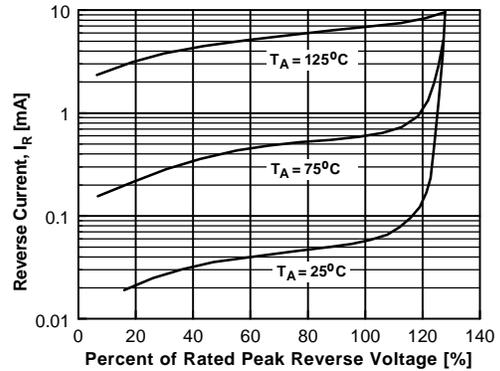Figure 3. Forward Voltage Characteristics

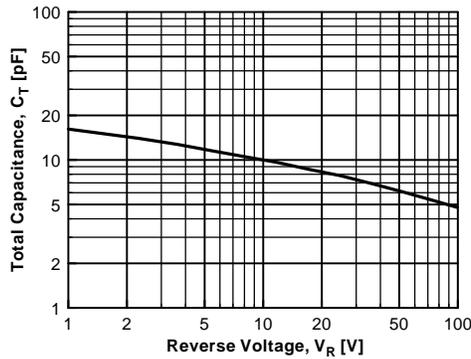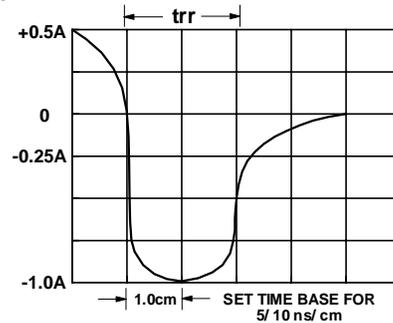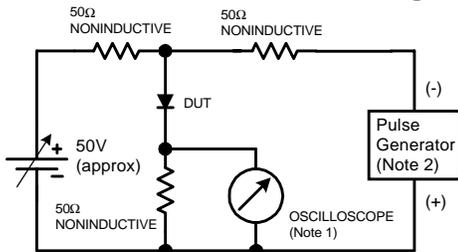Figure 4. Reverse Current vs Reverse Voltage

Figure 5. Total Capacitance

Reverse Recovery Time Characterstic and Test Circuit Diagram

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