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EGF1C

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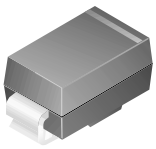
FAIRCHILD SEMICONDUCTOR

# EGF1A - EGF1D

### Features

- Low forward voltage drop.
- Low profile package.
- Fast switching for high efficiency.



**SMA/DO-214AC**
COLOR BAND DENOTES CATHODE

## Fast Rectifiers (Glass Passivated)

### Absolute Maximum Ratings*

$T_A$ = 25°C unless otherwise noted

| Symbol | Parameter | Value | | | | Units |
|---|---|---|---|---|---|---|
| | | 1A | 1B | 1C | 1D | |
| $V_{RRM}$ | Maximum Repetitive Reverse Voltage | 50 | 100 | 150 | 200 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current, @ $T_L$ = 100°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 | 2.0 | W |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient* | 85 | °C/W |
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead* | 30 | °C/W |

*Device mounted on FR-4 PCB 0.013 mm.

### Electrical Characteristics

$T_A$ = 25°C unless otherwise noted

| Symbol | Parameter | Device | | | | Units |
|---|---|---|---|---|---|---|
| | | 1A | 1B | 1C | 1D | |
| $V_F$ | Forward Voltage @ 1.0 A | 1.0 | | | | V |
| $t_{rr}$ | Reverse Recovery Time $I_F$ = 0.5 A, $I_R$ = 1.0 A, $I_{RR}$ = 0.25 A | 50 | | | | ns |
| $I_R$ | Reverse Current @ rated $V_R$ $T_A$ = 25°C<br>$T_A$ = 100°C | 10<br>100 | | | | µA<br>µA |
| $C_T$ | Total Capacitance $V_R$ = 4.0 V, f = 1.0 MHz | 15 | | | | pF |

## Typical Characteristics

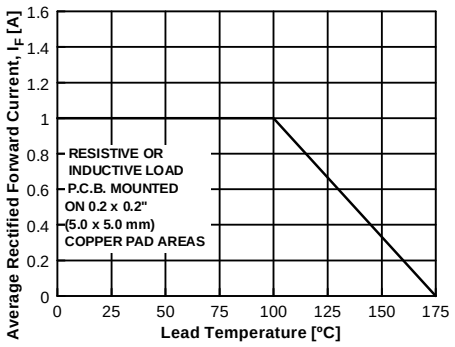



**Figure 1. Forward Current Derating Curve**

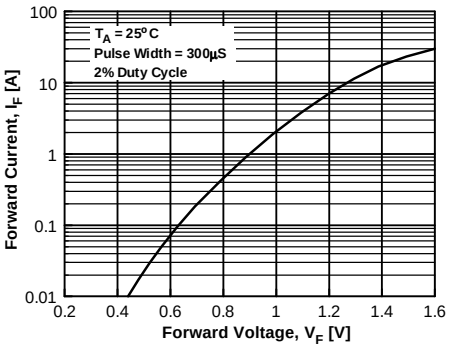



**Figure 2. Forward Voltage Characteristics**

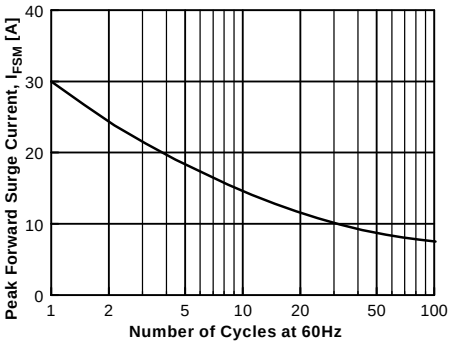



**Figure 3. Non-Repetitive Surge Current**

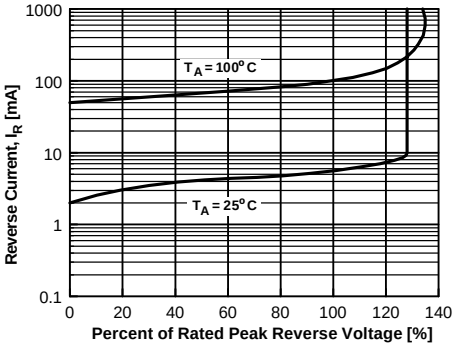



**Figure 4. Reverse Current vs Reverse Voltage**

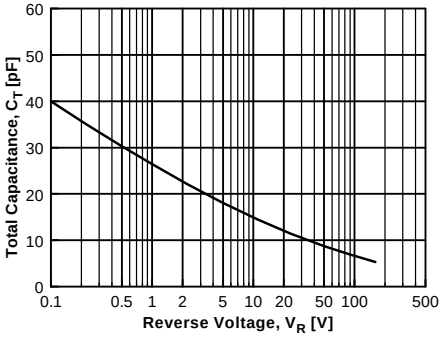
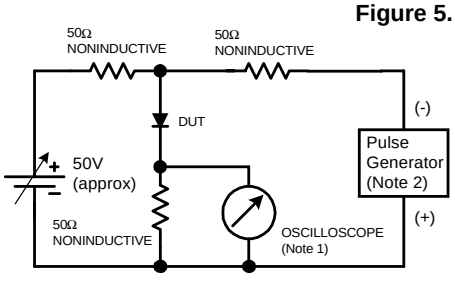
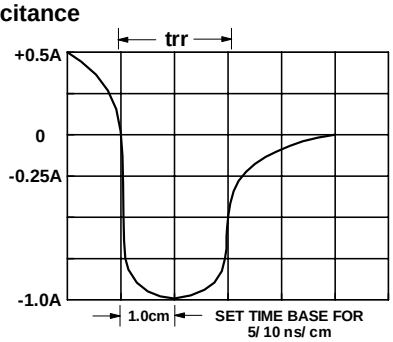



**Figure 5. Total Capacitance**




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 Characterstic and Test Circuit Diagram**

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