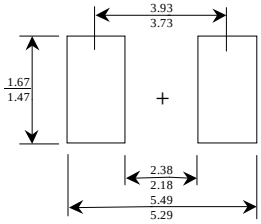
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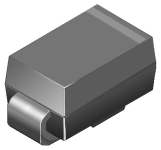
# GF1A - GF1M

### Features

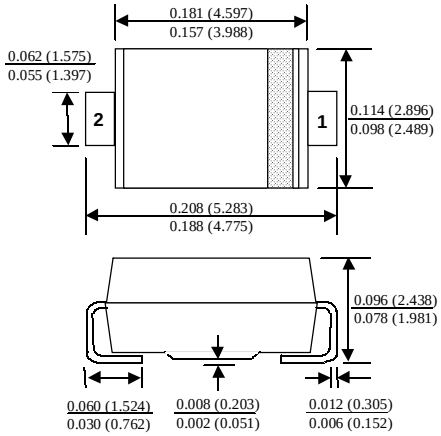
- Low forward voltage drop.
- High current capability.
- Easy pick and place.
- High surge current capability.




Minimum Recommended
Land Pattern



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




## 1.0 Ampere Glass Passivated Rectifier

### Absolute Maximum Ratings*

$T_A$ = 25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $I_O$ | Average Rectified Current<br>@ $T_L$ = 125°C | 1.0 | A |
| $i_{f(surge)}$ | Peak Forward Surge Current<br>8.3 ms single half-sine-wave<br>Superimposed on rated load (JEDEC method) | 30 | A |
| $P_D$ | Total Device Dissipation<br>Derate above 25°C | 2.0<br>13 | W<br>mW/°C |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient ** | 80 | °C/W |
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case ** | 26 | °C/W |
| $T_{stg}$ | 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.

**Device mounted on PCB with 0.2 x 0.2" (5.0 x 5.0 mm) copper pad areas.

### Electrical Characteristics

$T_A$ = 25°C unless otherwise noted

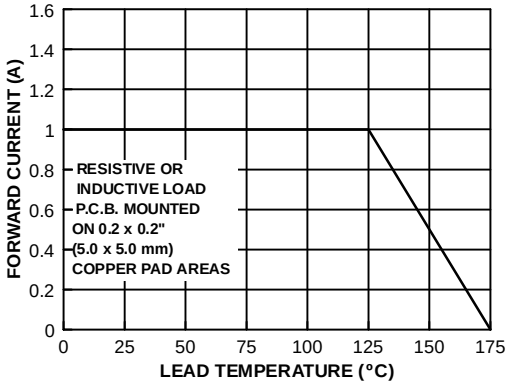
| Parameter | Device | | | | | | | Units |
|---|---|---|---|---|---|---|---|---|
| | 1A | 1B | 1D | 1G | 1J | 1K | 1M | |
| Peak Repetitive Reverse Voltage | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | 35 | 70 | 140 | 280 | 420 | 560 | 800 | V |
| DC Reverse Voltage (Rated $V_R$) | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Reverse Current<br>@ rated $V_R$ $T_A$ = 25°C<br>$T_A$ = 125°C | 5.0<br>50 | | | | | | | µA<br>µA |
| Maximum Forward Voltage @ 1.0 A | 1.0 | | | | | 1.2 | | V |
| Maximum Reverse Recovery Time<br>$I_F$ = 0.5 A, $I_R$ = 1.0 A, $I_{rr}$ = 0.25 A | 2.0 | | | | | | | µS |
| Typical Junction Capacitance<br>$V_R$ = 4.0 V, f = 1.0 MHz | 15 | | | | | | | pF |

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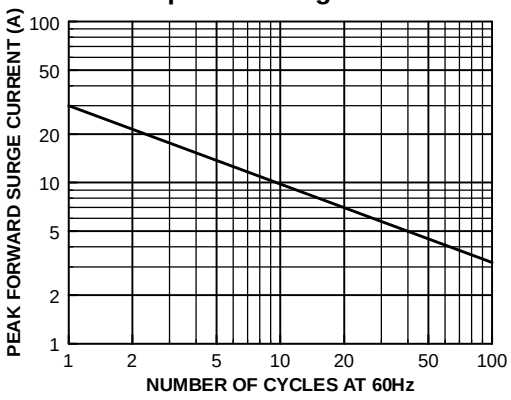
## Surface Mount Glass Passivated Rectifier
(continued)

## Typical Characteristics

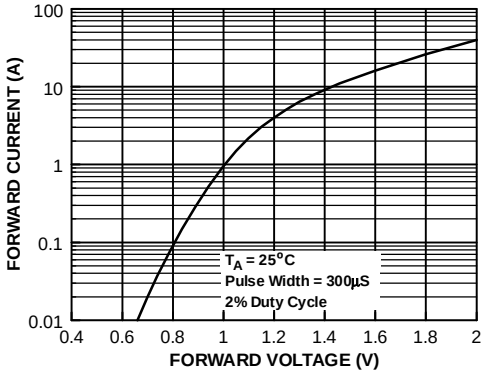
### Forward Current Derating Curve



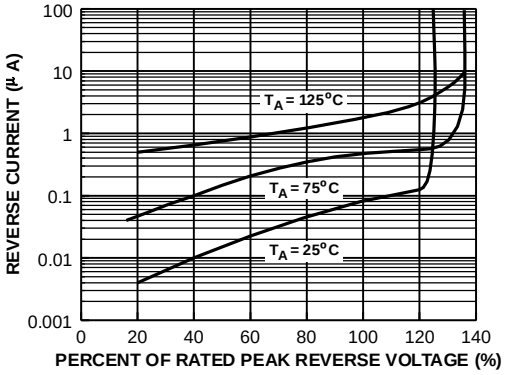

### Non-Repetitive Surge Current



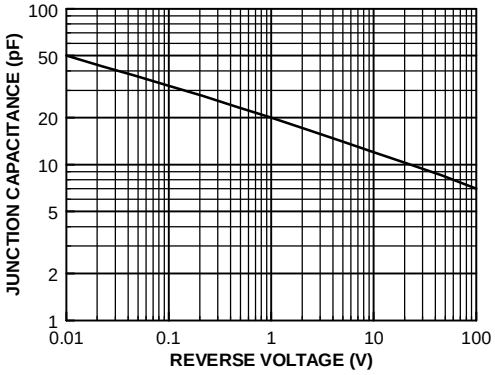

### Forward Characteristics




### Reverse Characteristics




### Typical Junction Capacitance

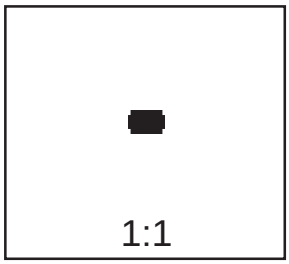


**SMA/DO-214AC Package Dimensions**

FAIRCHILD SEMICONDUCTOR™

# SMA/DO-214AC (FS PKG Code P5)

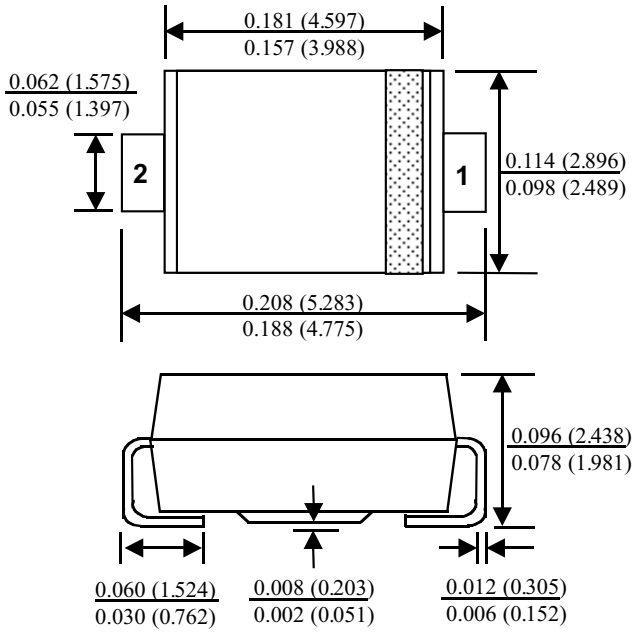


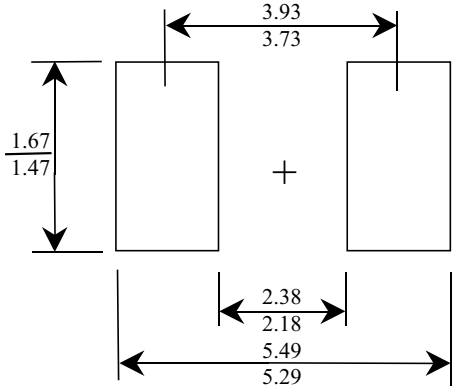



Scale 1:1 on letter size paper

Dimensions shown below are in:
inches [millimeters]

Part Weight per unit (gram): 0.064




Minimum Recommended
Land Pattern

August 1999, Rev. A

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

## PRODUCT STATUS DEFINITIONS

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|---|---|---|
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