WEJ®

RoHS

# FS1A-FS1M

## 1 Amp Fast Recovery Silicon Rectifier 50 to 1000 Volts

## Features

- For Surface Mount Applications
- Extremely Low Thermal Resistance
- Easy Pick And Place
- High Temp Soldering: 250°C for 10 Seconds At Terminals
- Superfast Recovery Times For High Efficiency

## Maximum Ratings

- Operating Temperature: -50°C to +150°C
- Storage Temperature: -50°C to +150°C
- Maximum Thermal Resistance; 15°C/W Junction To Lead

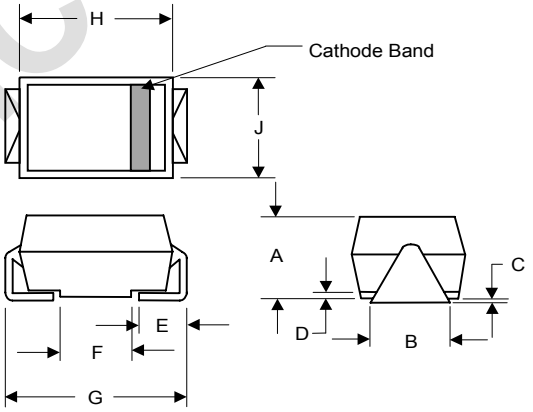
| MCC Catalog Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|---|---|---|---|---|
| FS1A | FS1A | 50V | 35V | 50V |
| FS1B | FS1B | 100V | 70V | 100V |
| FS1D | FS1D | 200V | 140V | 200V |
| FS1G | FS1G | 400V | 280V | 400V |
| FS1J | FS1J | 600V | 420V | 600V |
| FS1K | FS1K | 800V | 560V | 800V |
| FS1M | FS1M | 1000V | 700V | 1000V |

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| | | | |
|---|---|---|---|
| Average Forward current | $I_{F(AV)}$ | 1.0A | $T_J$ = 90°C |
| Peak Forward Surge Current | $I_{FSM}$ | 30A | 8.3ms, half sine |
| Maximum Instantaneous Forward Voltage | $V_F$ | 1.30V | $I_{FM}$ = 1.0A; $T_J$ = 25°C* |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$ | 5μA<br>200μA | $T_J$ = 25°C<br>$T_J$ = 125°C |
| Maximum Reverse Recovery Time<br>FS1A-G<br>FS1J<br>FS1K-M | $T_{rr}$ | <br>150ns<br>250ns<br>500ns | <br>$I_F$=0.5A, $I_R$=1.0A, $I_{rr}$=0.25A |
| Typical Junction Capacitance | $C_J$ | 50pF | Measured at 1.0MHz, $V_R$=4.0V |

*Pulse test: Pulse width 200 μsec, Duty cycle 2%

## DO-214AC (SMAJ) (High Profile)




| DIMENSIONS | | | | | |
|---|---|---|---|---|---|
| | INCHES | | MM | | |
| DIM | MIN | MAX | MIN | MAX | NOTE |
| A | .078 | .116 | 1.98 | 2.95 | |
| B | .067 | .089 | 1.70 | 2.25 | |
| C | .002 | .008 | .05 | .20 | |
| D | --- | .02 | --- | .51 | |
| E | .035 | .055 | .89 | 1.40 | |
| F | .065 | .096 | 1.65 | 2.45 | |
| G | .205 | .224 | 5.21 | 5.69 | |
| H | .160 | .180 | 4.06 | 4.57 | |
| J | .100 | .112 | 2.57 | 2.84 | |

SUGGESTED SOLDER PAD LAYOUT

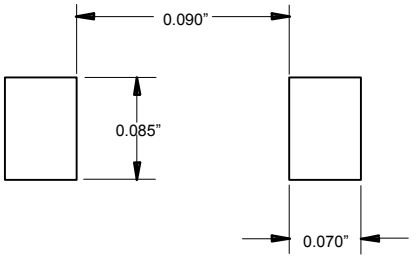



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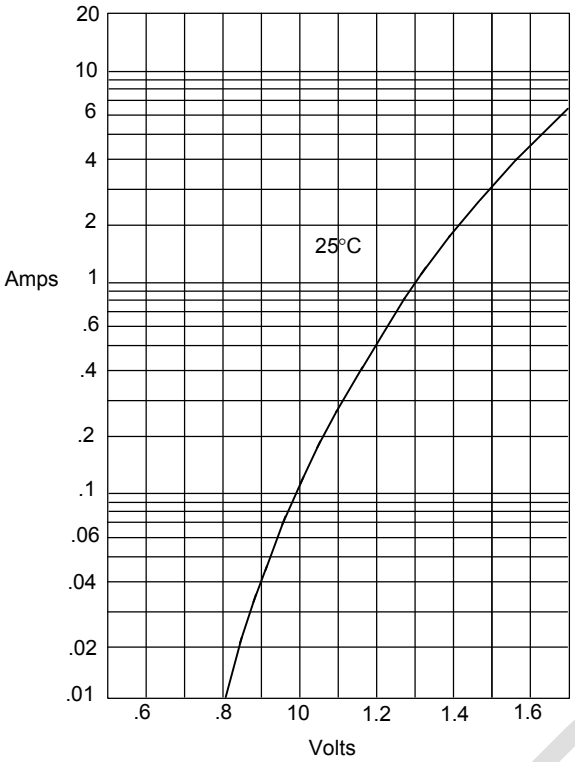
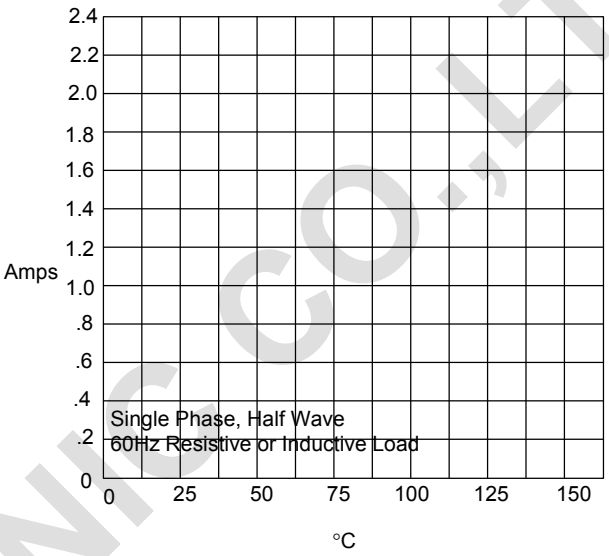
Figure 1
Typical Forward Characteristics



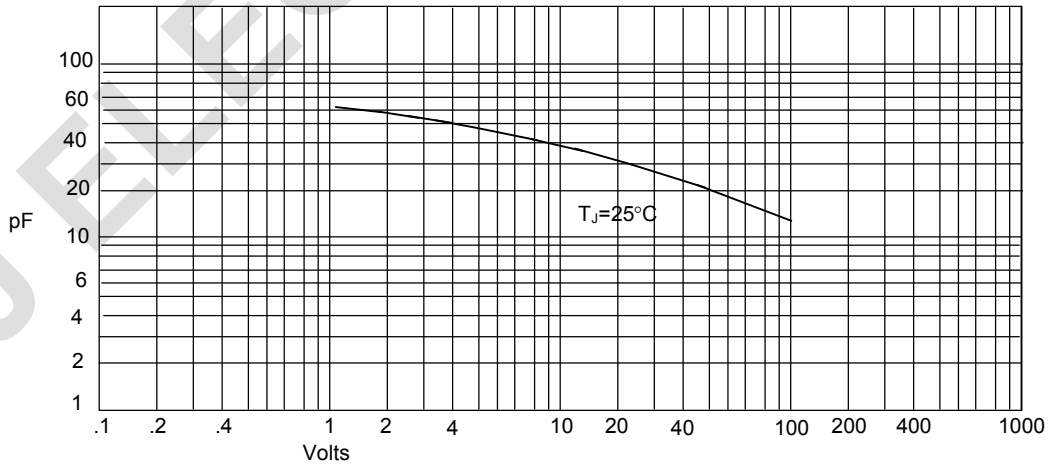

Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve




Average Forward Rectified Current - Amperes *versus*
Ambient Temperature -°C

Figure 3
Junction Capacitance




Junction Capacitance - pF *versus*
Reverse Voltage - Volts

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