



Micro Commercial Components

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Features

- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Easy Pick And Place
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- Fast 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-L | FS1A | 50V | 35V | 50V |
| FS1B-L | FS1B | 100V | 70V | 100V |
| FS1D-L | FS1D | 200V | 140V | 200V |
| FS1G-L | FS1G | 400V | 280V | 400V |
| FS1J-L | FS1J | 600V | 420V | 600V |
| FS1K-L | FS1K | 800V | 560V | 800V |
| FS1M-L | FS1M | 1000V | 700V | 1000V |

Electrical Characteristics @ 25°C Unless Otherwise Specified

| | | | |
|---|-------------|--------------------------------------|---|
| Average Forward current | $I_{F(AV)}$ | 1.0A | $T_a = 90^\circ\text{C}$ |
| Peak Forward Surge Current | I_{FSM} | 30A | 8.3ms, half sine |
| Maximum Instantaneous Forward Voltage | V_F | 1.30V | $I_{FM} = 1.0A$; $T_J = 25^\circ\text{C}^*$ |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | I_R | 5 μA 200 μA | $T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$ |
| Maximum Reverse Recovery Time FS1A-L-G-L FS1J-L FS1K-L-M-L | T_{rr} | 150ns 250ns 500ns | $I_F=0.5A, I_R=1.0A,$ $I_{rr}=0.25A$ |
| Typical Junction Capacitance | C_J | 15pF | Measured at 1.0MHz, $V_R=4.0V$ |

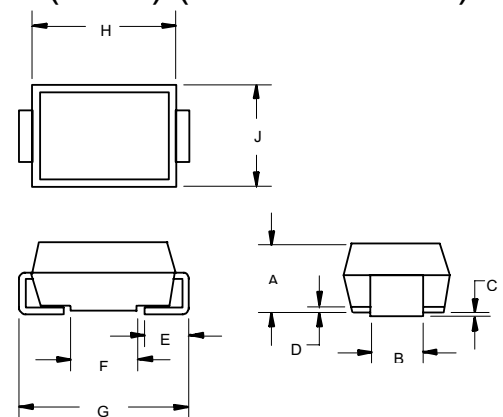
*Pulse test: Pulse width 200 μsec , Duty cycle 2%

Notes: 1.High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7.

FS1A-L THRU FS1M-L

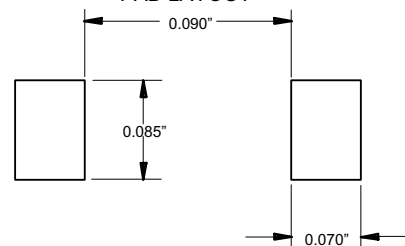
1 Amp Fast Recovery Silicon Rectifier 50 to 1000 Volts

DO-214AC (SMA) (LEAD FRAME)



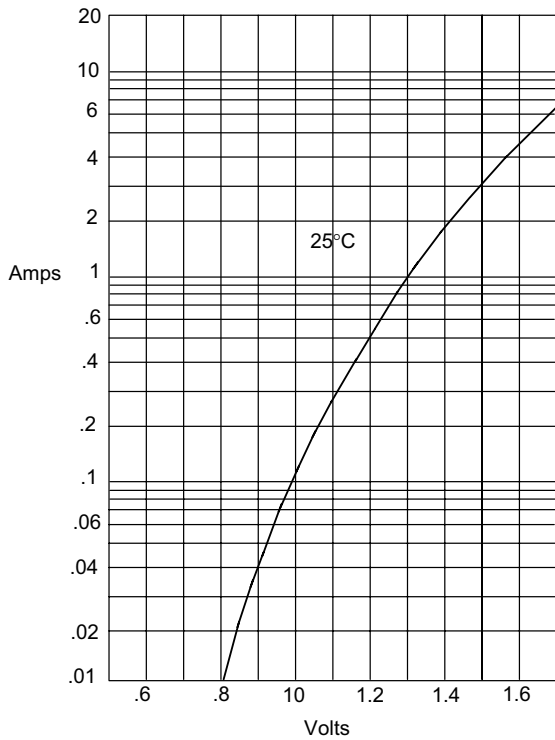
| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .079 | .096 | 2.00 | 2.44 | |
| B | .050 | .064 | 1.27 | 1.63 | |
| C | .002 | .008 | .05 | .20 | |
| D | --- | .02 | --- | .51 | |
| E | .030 | .060 | .76 | 1.52 | |
| F | .065 | .091 | 1.65 | 2.32 | |
| G | .189 | .220 | 4.80 | 5.59 | |
| H | .157 | .181 | 4.00 | 4.60 | |
| J | .090 | .115 | 2.25 | 2.92 | |

SUGGESTED SOLDER PAD LAYOUT



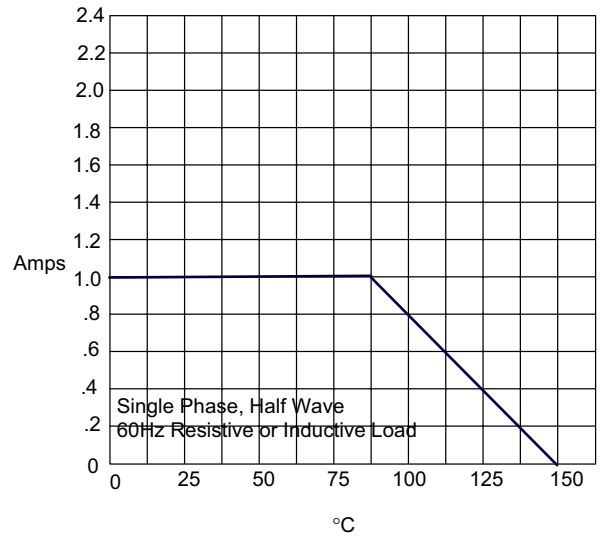
FS1A-L thru FS1M-L

Figure 1
Typical Forward Characteristics



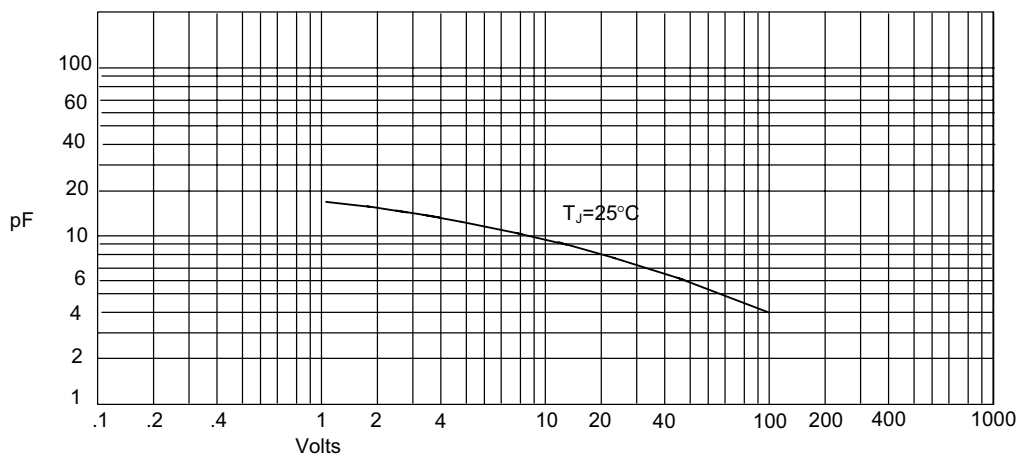
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



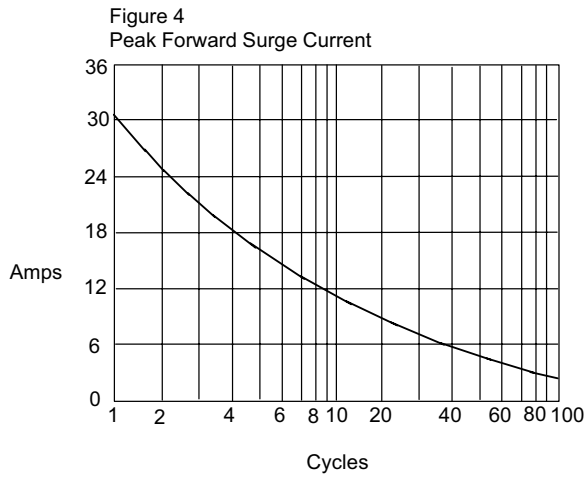
Average Forward Rectified Current - Amperes *versus*
Ambient Temperature - °C

Figure 3
Junction Capacitance



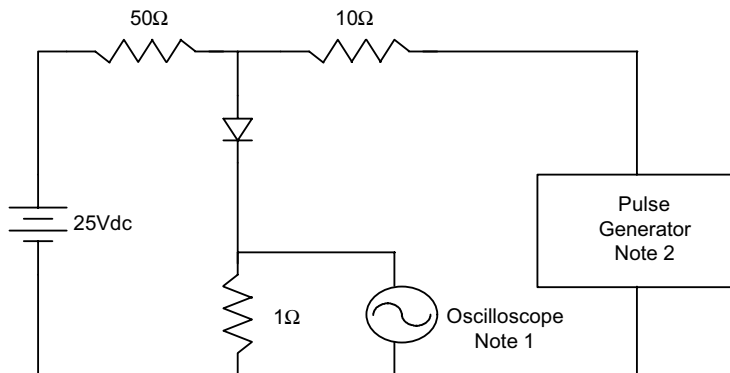
Junction Capacitance - pF *versus*
Reverse Voltage - Volts

FS1A-L thru FS1M-L

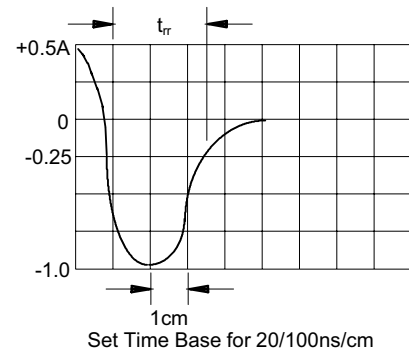


Peak Forward Surge Current - Amperes *versus* Number Of Cycles At 60Hz - Cycles

Figure 5
Reverse Recovery Time Characteristic And Test Circuit Diagram



- Notes:
1. Rise Time = 7ns max.
Input impedance = 1 megohm, 22pF
 2. Rise Time = 10ns max.
Source impedance = 50 ohms
 3. Resistors are non-inductive





TM

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Ordering Information :

| Device | Packing |
|-------------------|-----------------------|
| FS1A-LTP~FS1M-LTP | Tape&Reel: 5Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. FS1A-LTP-HF~FS1M-LTP-HF

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