

Features

- Halogen Free. "Green" Device (Note 1)
- High Current Capability
- Low Profile Package
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note 2)("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings @ 25°C (Unless Otherwise Specified)

| Parameter | Symbol | Value | | | | | | | | | | Unit |
|--|-------------|--------|--------|--------|--------|--------|--------|---------|----------|----------|---|------------------|
| | | SS12FL | SS13FL | SS14FL | SS15FL | SS16FL | SS18FL | SS110FL | SS1150FL | SS1200FL | | |
| Peak Repetitive Reverse Voltage | V_{RRM} | | | | | | | | | | | V |
| Working Peak Reverse Voltage | V_{RWM} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | | |
| DC Blocking Voltage | V_R | | | | | | | | | | | |
| RMS Reverse Voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | 56 | 70 | 105 | 140 | V | |
| Average Rectified Forward Current | $I_{F(AV)}$ | 1 | | | | | | | | | | A |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave | I_{FSM} | 30 | | | | | | | | | | A |
| Current Squared Time @ 1ms ≤ t ≤ 8.3ms | I^2t | 3.735 | | | | | | | | | | A ² s |

Marking code

| Part Number | Marking Code |
|-------------|--------------|
| SS12FL | SS12 |
| SS13FL | SS13 |
| SS14FL | SS14 |
| SS15FL | SS15 |
| SS16FL | SS16 |
| SS18FL | SS18 |
| SS110FL | SS110 |
| SS1150FL | S1150 |
| SS1200FL | S1200 |

Internal Structure

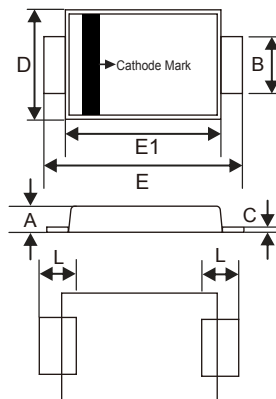
| Pin | Description | Simplified Outline | Graphic Symbol |
|-----|-------------|--|----------------|
| 1 | Cathode | <p>MCC XXXX</p> <p>XXXX = Marking code</p> | |
| 2 | Anode | | |

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

2. High temperature solder exemption applied, see EU directive annex 7a.

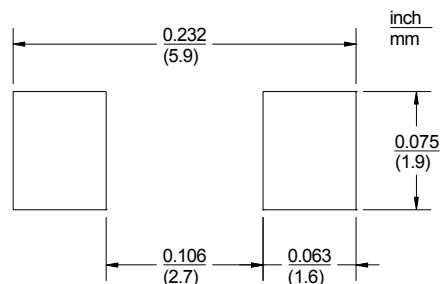
1 Amp Surface Mount Schottky Rectifier 20 to 200 Volts

DO-221AC(SMA-FL)



| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.035 | 0.049 | 0.90 | 1.25 | |
| B | 0.049 | 0.065 | 1.25 | 1.65 | |
| C | 0.004 | 0.016 | 0.10 | 0.40 | |
| D | 0.089 | 0.116 | 2.25 | 2.95 | |
| E | 0.173 | 0.220 | 4.40 | 5.60 | |
| E1 | 0.126 | 0.181 | 3.20 | 4.60 | |
| L | 0.020 | 0.059 | 0.50 | 1.50 | |

Suggested Solder Pad Layout



Thermal characteristics

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|---------------|---|-------------------|-----|-----|-----|------|
| T_J | Operating Junction Temperature Range | SS12FL ~ SS14FL | -55 | | 125 | °C |
| T_J | Operating Junction Temperature Range | SS15FL ~ SS1200FL | -55 | | 150 | °C |
| T_{stg} | Storage Temperature Range | | -55 | | 150 | °C |
| $R_{th(J-L)}$ | Thermal Resistance from Junction to Lead | Note 1 | | 18 | | °C/W |
| $R_{th(J-A)}$ | Thermal Resistance from Junction to Ambient | Note 1 | | 70 | | °C/W |

Note:

1. Mounted on P.C.B. with 8mm*8mm copper pad areas.

Electrical Characteristics @ 25°C Unless Otherwise Specified

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|--------|--|-----|-----------------------|------------------------------|------|
| Forward Voltage SS12FL ~ SS14FL SS15FL ~ SS16FL SS18FL ~ SS110FL SS1150FL ~ SS1200FL | V_F | $I_F=1A; T_J=25^\circ C$ | | | 0.50 0.70 0.85 0.90 | V |
| Reverse Current SS12FL ~ SS16FL SS18FL ~ SS1200FL | I_R | at Rated $V_R; T_J=25^\circ C$ at Rated $V_R; T_J=125^\circ C$ at Rated $V_R; T_J=25^\circ C$ at Rated $V_R; T_J=125^\circ C$ | | | 0.1 20 0.01 5 | mA |
| Junction Capacitance SS12FL ~ SS14FL SS15FL ~ SS16FL SS18FL ~ SS110FL SS1150FL ~ SS1200FL | C_J | $V_R=4V; f=1MHz; T_J=25^\circ C$ | | 125 90 60 50 | | pF |

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

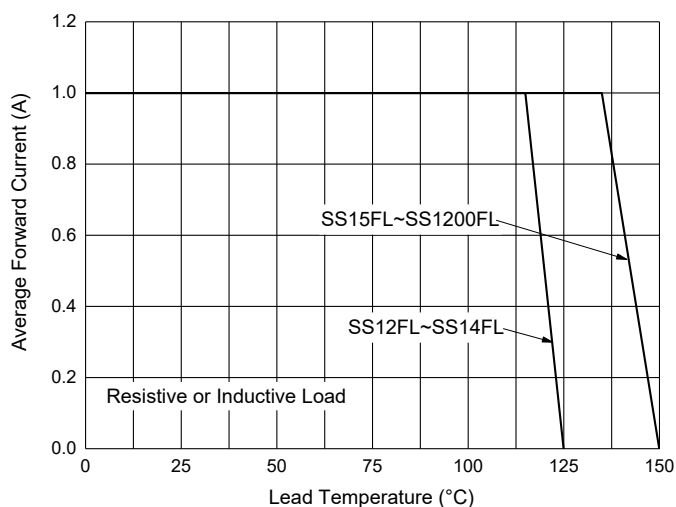


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

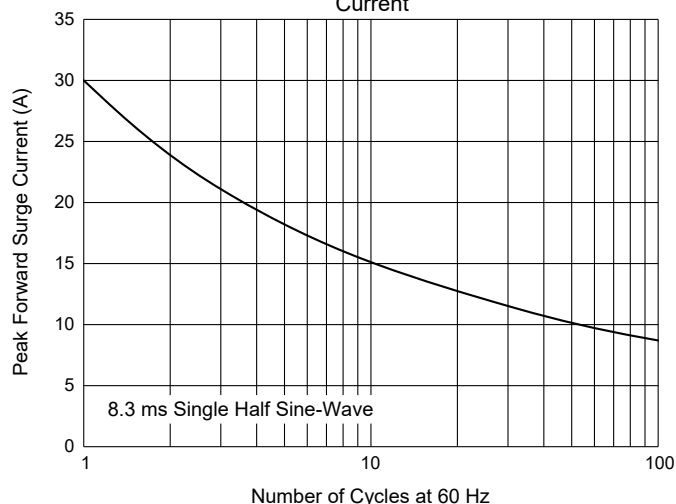


Fig. 3 - Typical Forward Characteristics

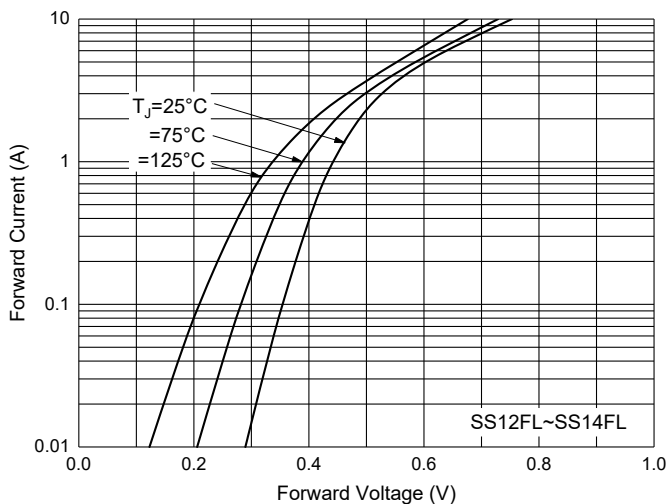


Fig. 4 - Typical Reverse Leakage Characteristics

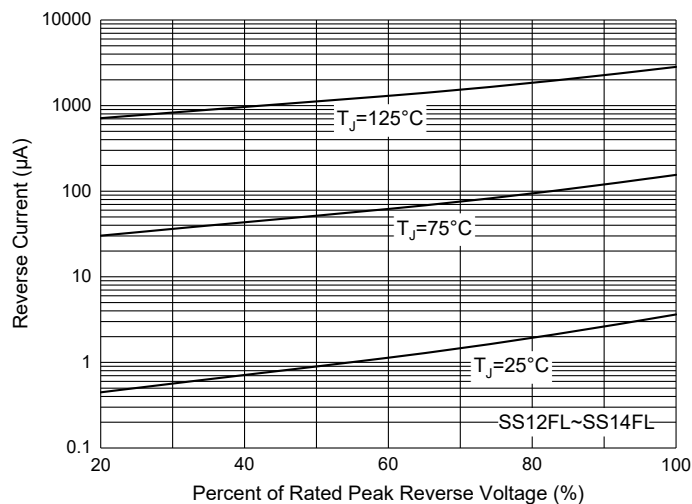


Fig. 5 - Typical Forward Characteristics

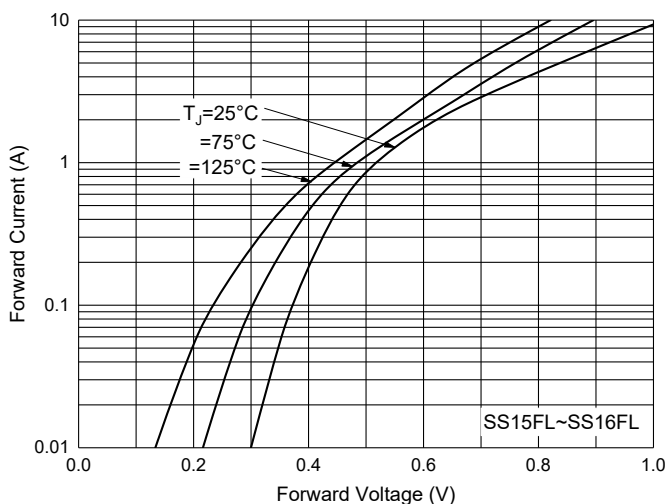
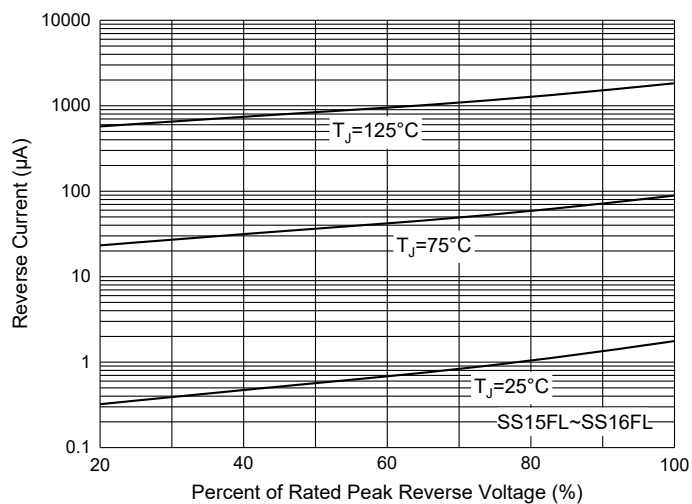


Fig. 6 - Typical Reverse Leakage Characteristics



Curve Characteristics

Fig. 7 - Typical Forward Characteristics

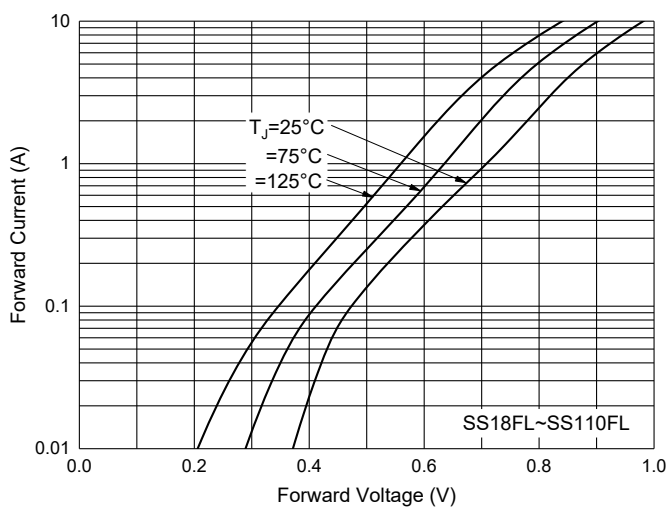


Fig. 8 - Typical Reverse Leakage Characteristics

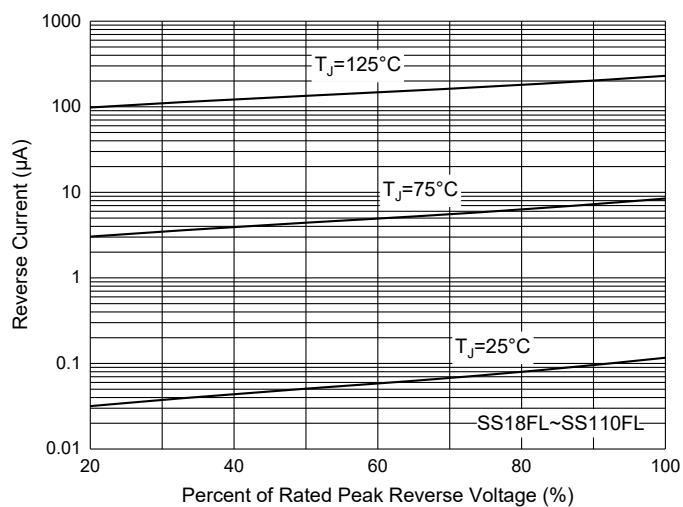


Fig. 9 - Typical Forward Characteristics

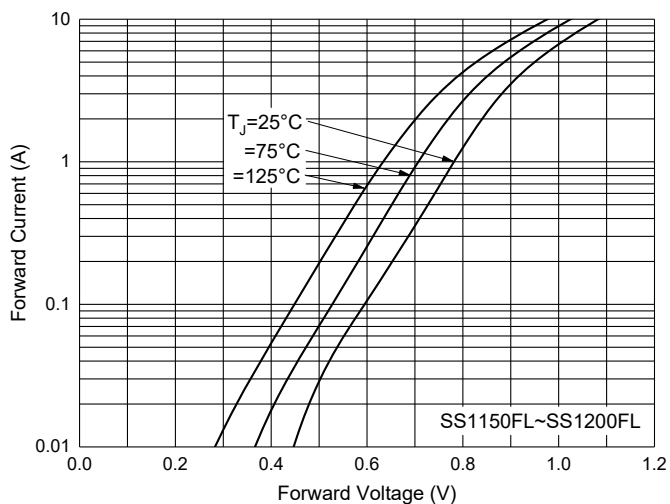


Fig. 10 - Typical Reverse Leakage Characteristics

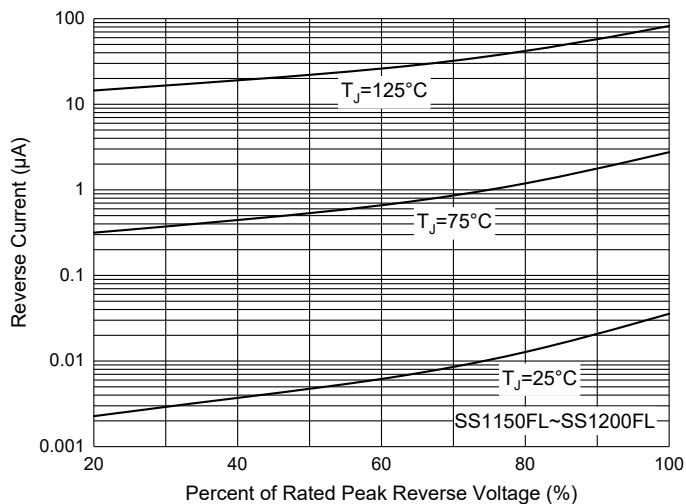
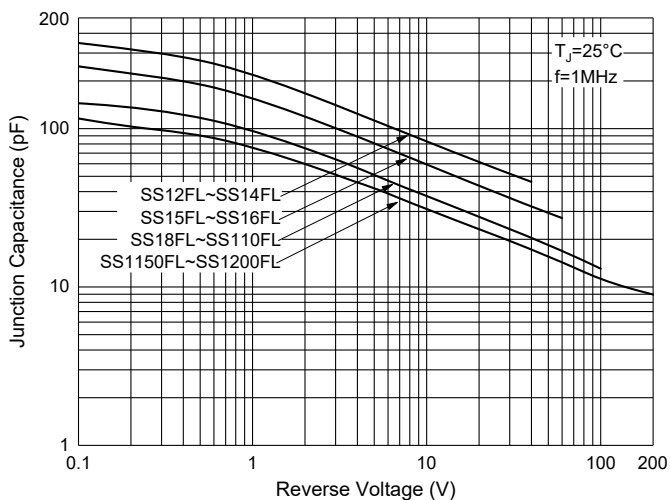


Fig. 11 - Typical Capacitance Characteristics



Ordering Information

| Device | Packing |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel:10Kpcs/Reel |

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