

Features

- Halogen Free. "Green" Device (Note 1)
- 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)
- For Surface Mount Application

Maximum Ratings @ 25°C (Unless Otherwise Specified)

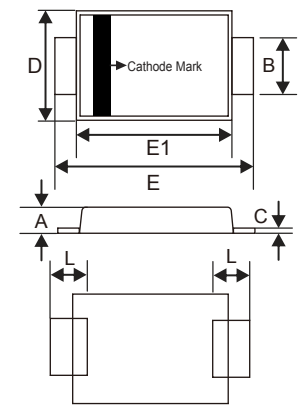
| Parameter | Symbol | Value | | | | | | | | | Unit |
|--|-------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-------------|-------------|------------------|
| | | SK 52 AFL | SK 53 AFL | SK 54 AFL | SK 55 AFL | SK 56 AFL | SK 58 AFL | SK 510 AFL | SK 5150 AFL | SK 5200 AFL | |
| 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 | $I_{F(AV)}$ | 5 | | | | | | | | | A |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave | I_{FSM} | 100 | | | | | | | | | A |
| Current Squared Time @ 1ms ≤ t ≤ 8.3ms | I^2t | 41.5 | | | | | | | | | A ² s |

5 Amp

5W ch_mF YWZYf

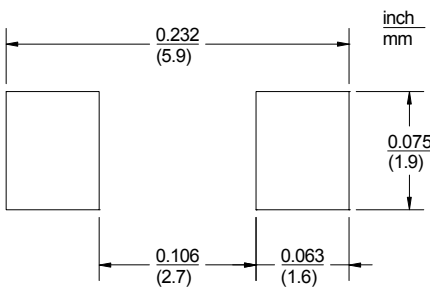
& 0 to &00 Volts

DO-221AC(SMA-FL)



| DIMENSIONS | | | | | |
|------------|--------|-------|------|------|------|
| 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 | |

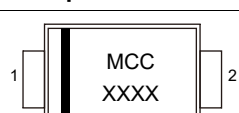

Suggested Solder Pad Layout



Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| SK52AFL | SK52 |
| SK53AFL | SK53 |
| SK54AFL | SK54 |
| SK55AFL | SK55 |
| SK56AFL | SK56 |
| SK58AFL | SK58 |
| SK510AFL | SK510 |
| SK5150AFL | SK5150 |
| SK5200AFL | SK5200 |

Internal Structure

| Pin | Description | Simplified Outline | Graphic Symbol |
|-----|-------------|--|---|
| 1 | Cathode |  <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.

Thermal characteristics

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|----------------------|---|-----------------------|-----|-----|-----|------|
| T _J | Operating Junction Temperature Range | SK52AFL ~ SK54AFL | -55 | | 125 | °C |
| T _J | Operating Junction Temperature Range | SK55AFL ~ SK510AFL | -55 | | 150 | °C |
| T _J | Operating Junction Temperature Range | SK5150AFL ~ SK5200AFL | -55 | | 175 | °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 SK52AFL ~ SK54AFL SK55AFL ~ SK56AFL SK58AFL ~ SK510AFL SK5150AFL SK5200AFL | V _F | I _F =5A; T _J =25°C | | | 0.55 0.70 0.85 0.87 0.90 | V |
| Reverse Current SK52AFL ~ SK56AFL SK58AFL ~ SK5200AFL | I _R | at Rated V _R ; T _J =25°C at Rated V _R ; T _J =100°C at Rated V _R ; T _J =25°C at Rated V _R ; T _J =100°C | | | 0.1 10 0.01 1 | mA |
| Junction Capacitance SK52AFL ~ SK54AFL SK55AFL ~ SK56AFL SK58AFL ~ SK510AFL SK5150AFL ~ SK5200AFL | C _J | V _R =4V; f=1MHz; T _J =25°C | | 275 195 135 95 | | pF |

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

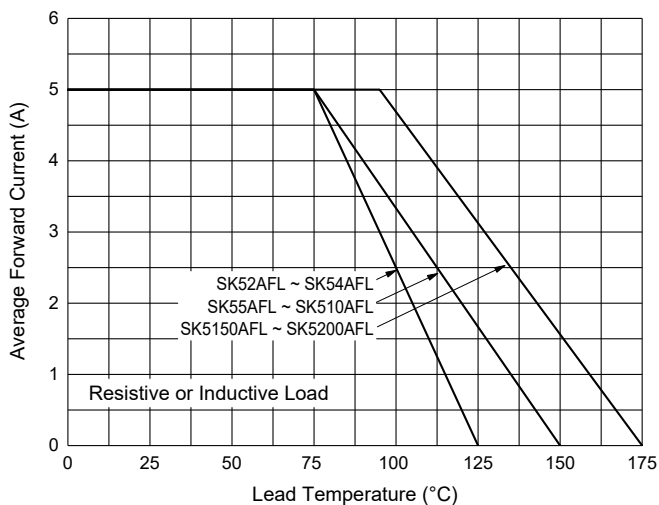


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

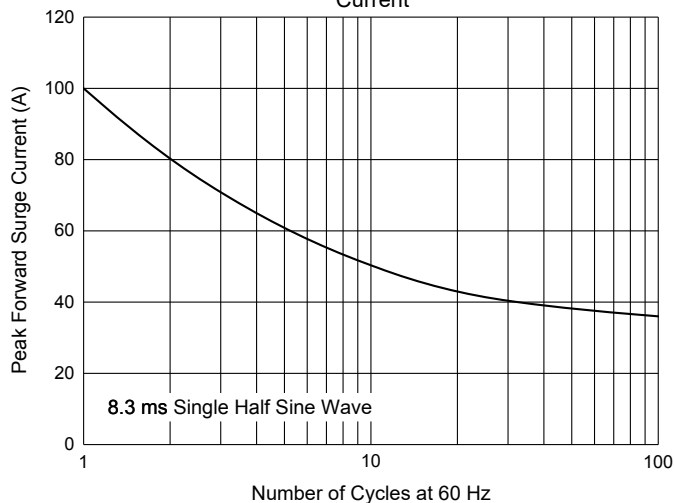


Fig. 3 - Typical Forward Characteristics

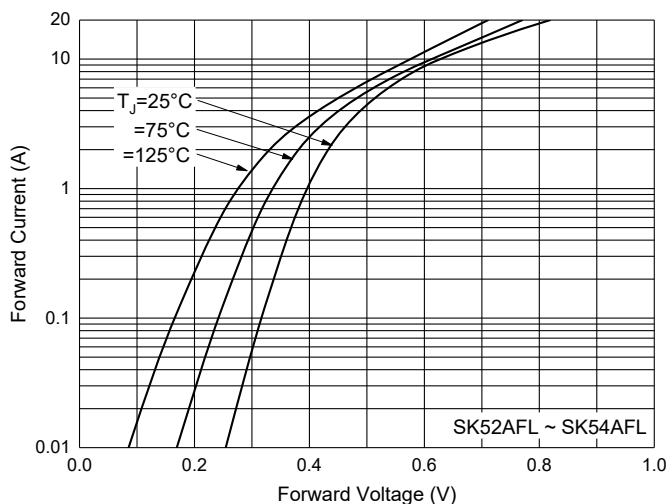


Fig. 4 - Typical Reverse Leakage Characteristics

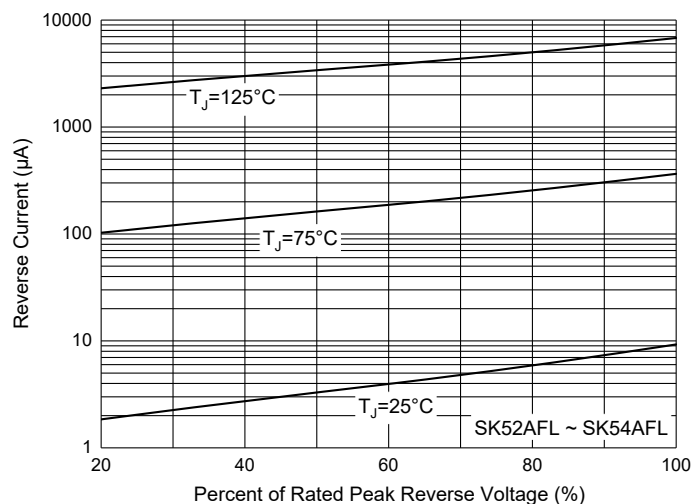


Fig. 5 - Typical Forward Characteristics

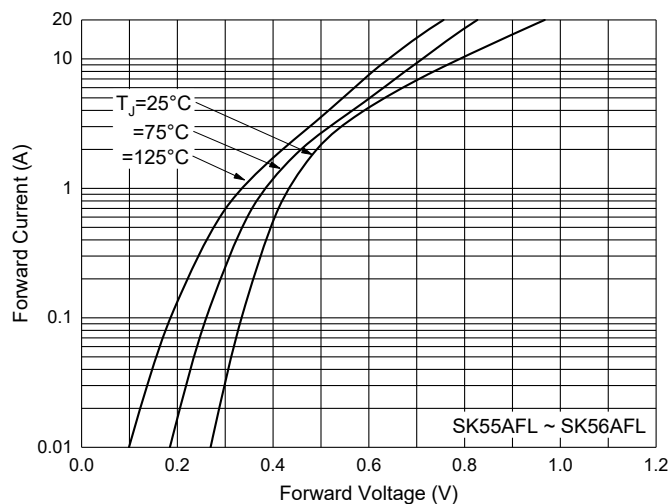
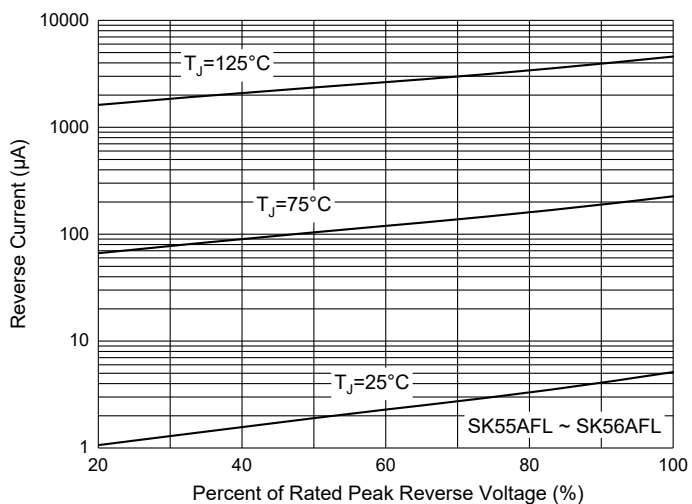


Fig. 6 - Typical Reverse Leakage Characteristics



Curve Characteristics

Fig. 7 - Typical Forward Characteristics

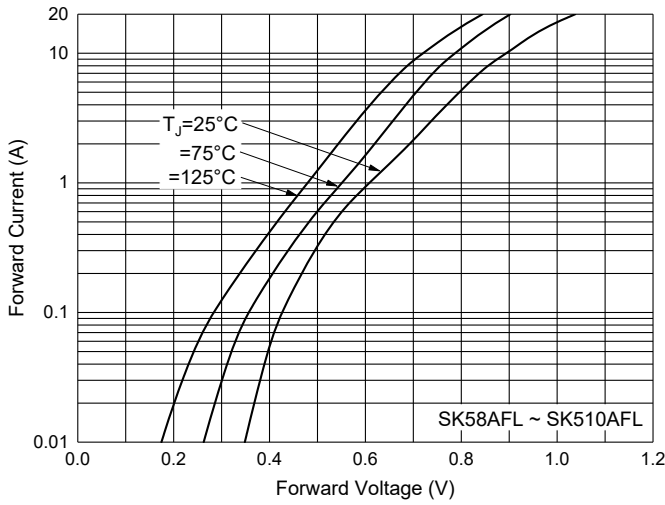


Fig. 8 - Typical Reverse Leakage Characteristics

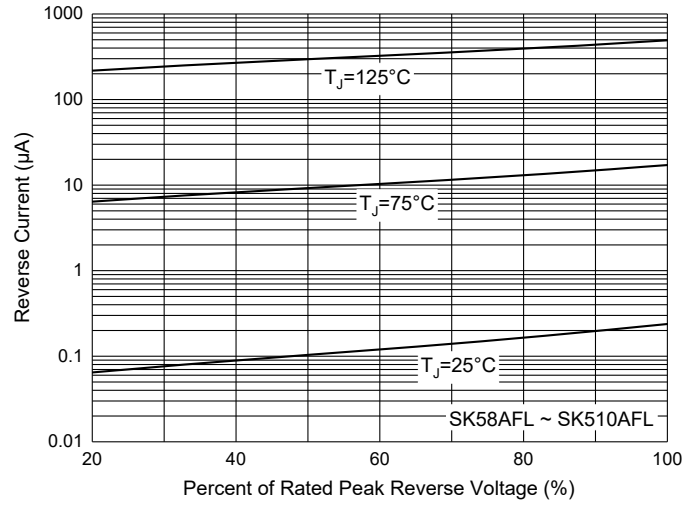


Fig. 9 - Typical Forward Characteristics

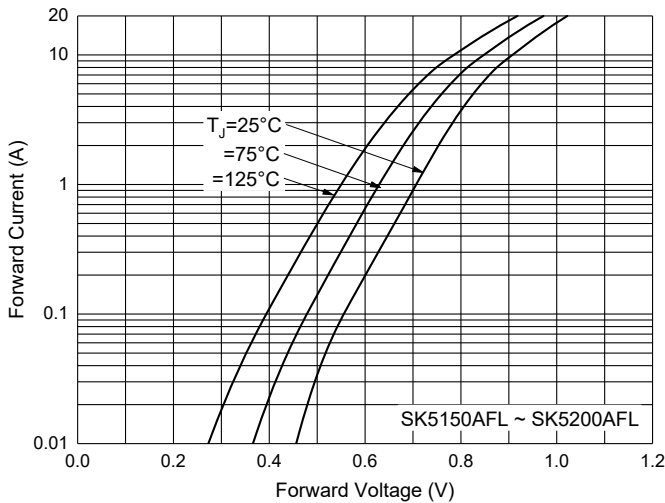


Fig. 10 - Typical Reverse Leakage Characteristics

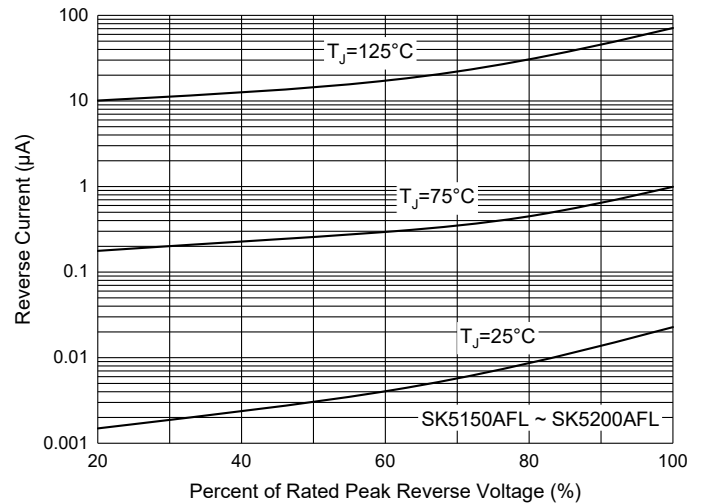


Fig. 11 - Typical Capacitance Characteristics

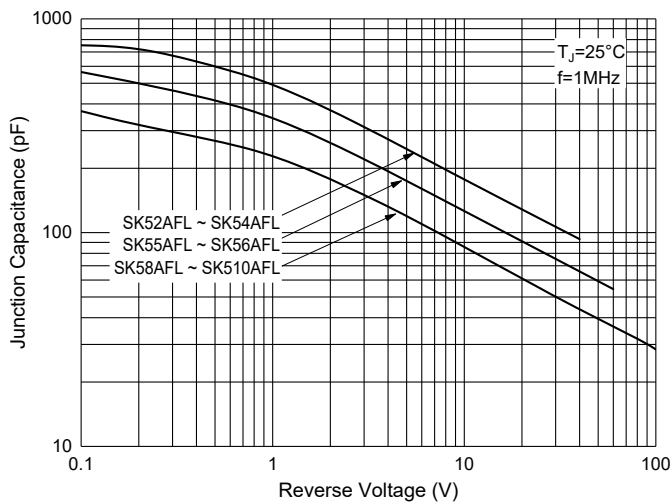
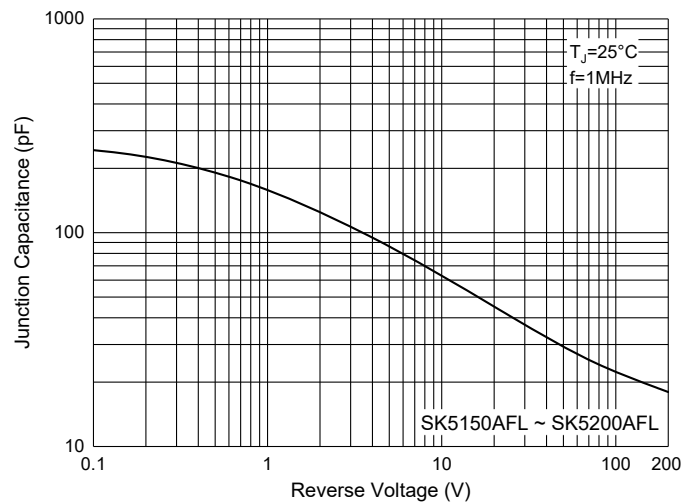


Fig. 12 - Typical Capacitance Characteristics



Ordering Information

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

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