

## Maximum Ratings @T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitance load, derate current by 20%.

| Characteristic                                            | Symbol              | ES2A/A | ES2B/A | ES2C/A | ES2D/A | Unit |
|-----------------------------------------------------------|---------------------|--------|--------|--------|--------|------|
| Peak Repetitive Reverse Voltage                           | V <sub>RRM</sub>    |        |        |        |        |      |
| Working Peak Reverse Voltage                              | V <sub>RWM</sub>    | 50     | 100    | 150    | 200    | V    |
| DC Blocking Voltage (Note 4)                              | V <sub>R</sub>      |        |        |        |        |      |
| RMS Reverse Voltage                                       | V <sub>R(RMS)</sub> | 35     | 70     | 105    | 140    | V    |
| Average Rectified Output Current @ T <sub>T</sub> = 110°C | I <sub>O</sub>      | 2.0    |        |        |        | A    |
| Non-Repetitive Peak Forward Surge Current                 | I <sub>FSM</sub>    | 50     |        |        |        | A    |
| 8.3ms Single half Sine-Wave Superimposed on Rated Load    |                     |        |        |        |        |      |

## Thermal Characteristics

| Characteristic                                            | Symbol                            | Value       | Unit |
|-----------------------------------------------------------|-----------------------------------|-------------|------|
| Typical Thermal Resistance, Junction to Terminal (Note 5) | R <sub>θJT</sub>                  | 20          | °C/W |
| Operating and Storage Temperature Range                   | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150 | °C   |

## Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

| Characteristic                                                 | Symbol          | Value | Unit |
|----------------------------------------------------------------|-----------------|-------|------|
| Forward Voltage @ I <sub>F</sub> = 2.0A                        | V <sub>FM</sub> | 0.92  | V    |
| Peak Reverse Current @ T <sub>A</sub> = 25°C                   | I <sub>RM</sub> | 5.0   | μA   |
| at Rated DC Blocking Voltage (Note 4) @ T <sub>A</sub> = 125°C |                 | 350   |      |
| Typical Total Capacitance (Note 6)                             | C <sub>T</sub>  | 25    | pF   |
| Reverse Recovery Time (Note 7)                                 | t <sub>rr</sub> | 25    | ns   |

- Notes:
4. Short duration pulse test used to minimize self-heating effect.
  5. Unit mounted on PC board with 5.0 mm<sup>2</sup> (0.013 mm thick) copper pads as heat sink.
  6. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  7. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A. See Figure 5.

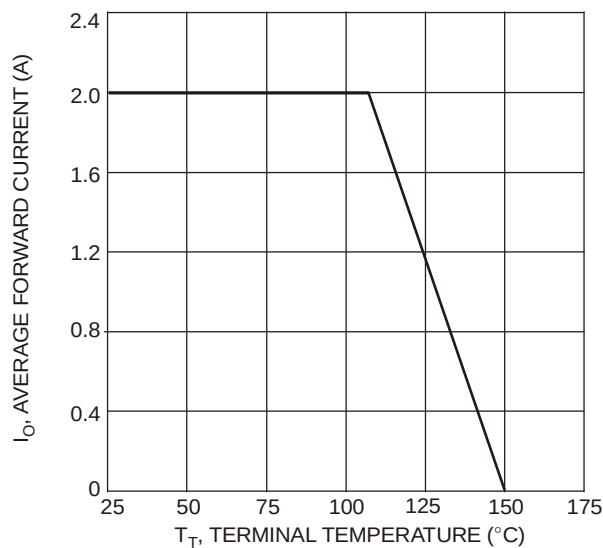


Fig. 1 Forward Current Derating Curve

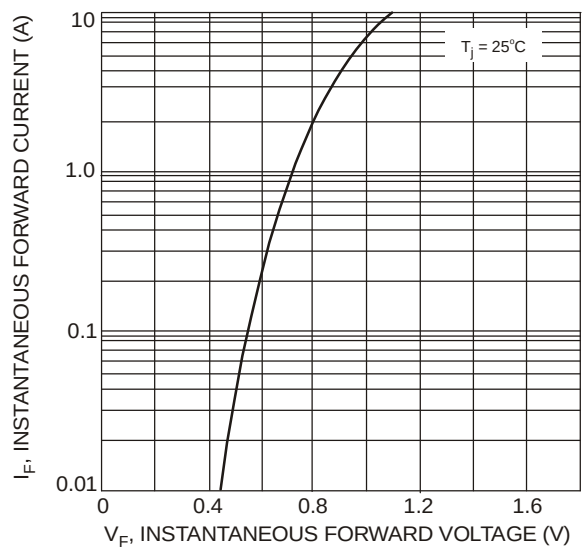


Fig. 2 Typical Forward Characteristics

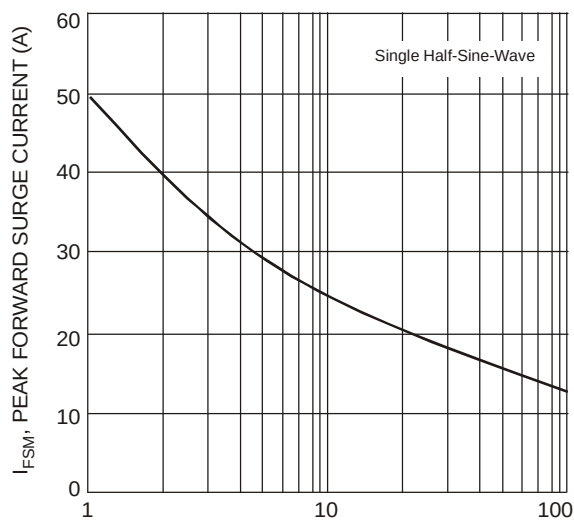


Fig. 3 Surge Current Derating Curve

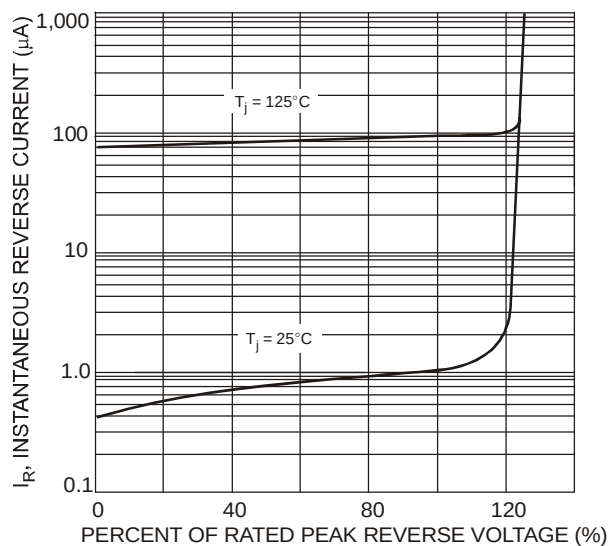
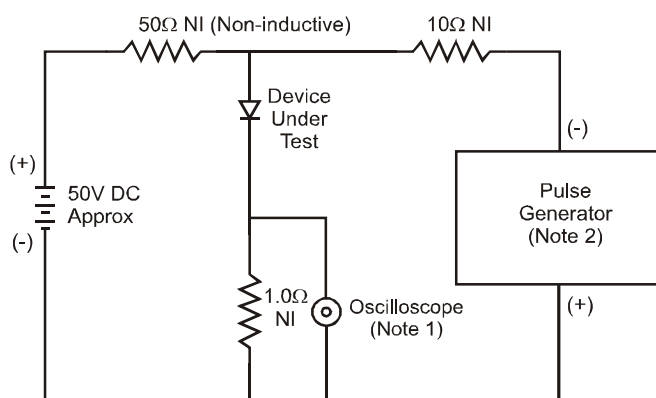


Fig. 4 Typical Reverse Characteristics



Notes:

1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.

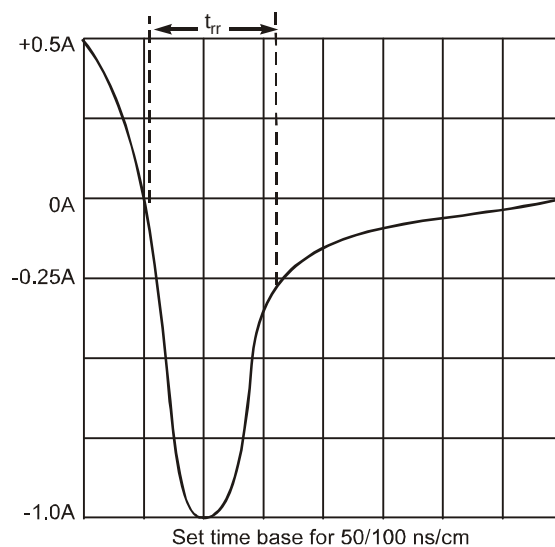
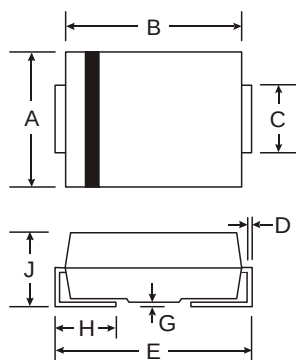


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

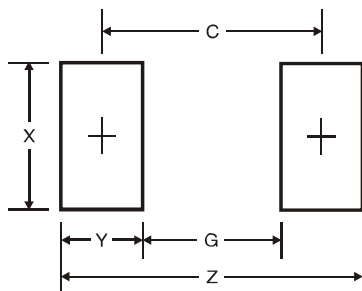
## Package Outline Dimensions



| SMA                  |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 2.29 | 2.92 |
| B                    | 4.00 | 4.60 |
| C                    | 1.27 | 1.63 |
| D                    | 0.15 | 0.31 |
| E                    | 4.80 | 5.59 |
| G                    | 0.05 | 0.20 |
| H                    | 0.76 | 1.52 |
| J                    | 2.01 | 2.30 |
| All Dimensions in mm |      |      |

| SMB                  |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 3.30 | 3.94 |
| B                    | 4.06 | 4.57 |
| C                    | 1.96 | 2.21 |
| D                    | 0.15 | 0.31 |
| E                    | 5.00 | 5.59 |
| G                    | 0.05 | 0.20 |
| H                    | 0.76 | 1.52 |
| J                    | 2.00 | 2.50 |
| All Dimensions in mm |      |      |

## Suggested Pad Layout



| SMA Dimensions | Value (in mm) |
|----------------|---------------|
| Z              | 6.5           |
| G              | 1.5           |
| X              | 1.7           |
| Y              | 2.5           |
| C              | 4.0           |

| SMB Dimensions | Value (in mm) |
|----------------|---------------|
| Z              | 6.7           |
| G              | 1.8           |
| X              | 2.3           |
| Y              | 2.5           |
| C              | 4.3           |

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