

# Spice Model

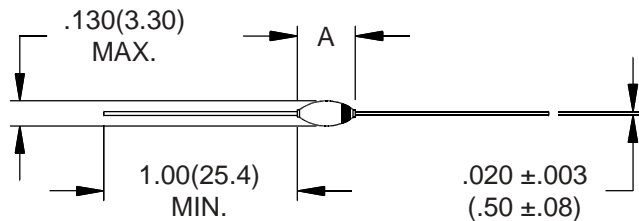


**M50SG**



## Electrical Characteristics and Maximum Ratings

| Part Number | Working Reverse Voltage<br>(V <sub>rw</sub> ) | Average Rectified Current<br>(I <sub>o</sub> ) |          | Reverse Current @ V <sub>rw</sub><br>(I <sub>r</sub> ) |       | Forward Voltage<br>(V <sub>f</sub> ) |    | 1 Cycle Surge Current<br>tp=8.3ms<br>(I <sub>fsm</sub> ) | Repetitive Surge Current<br>(I <sub>frm</sub> ) | Reverse Recovery Time<br>(3)<br>(T <sub>rr</sub> ) | Thermal Impedance<br>θ <sub>J-L</sub> |        |        | Junction Cap.<br>@ 50VDC<br>@ 1kHz<br>(C <sub>j</sub> ) |
|-------------|---|--|----------|--|-------|--------------------------------------|----|--|---|--|---------------------------------------|--------|--------|---|
|             |   | 55°C(1)  | 100°C(2) | 25°C   | 100°C | 25°C                                 |    | 25°C   | 25°C  | 25°C   | L=.000                                | L=.125 | L=.250 | 25°C  |
|             | Volts   | mAmps  | mAmps    | µA   | µA    | Volts                                | mA | Amps   | Amps  | ns   | °C/W                                  | °C/W   | °C/W   | pF  |
| M50SG       | 5000  | 50   | 25       | 0.1  | 10    | 8.0                                  | 25 | 4.0  | 0.8   | 3000   | 18                                    | 30     | 50     | 1.0   |



| Part   | A               |
|--------|-----------------|
| M25SG  |                 |
| M50SG  | .300(7.62) MAX. |
| M100SG |                 |
| M160SG | .350(8.89) MAX. |

| Name | Parameter                      | Value    | Units |
|------|--------------------------------|----------|-------|
| IS   | Reverse leakage current        | 1.00E-07 | Amps  |
| N    | Emission coefficient           | 14.4     |       |
| T    | Temperature                    | 25       | C     |
| RS   | Diode series resistance        | 1.0      | Ohm   |
| TT   | Transit time                   | 3000     | nS    |
| CJ0  | Zero-bias junction capacitance | 1.45     | pF    |
| VJ   | Bulk junction potential        | 7.31     | Volts |
| M    | Grading coefficient            | 0.5      |       |
| EG   | Energy-band gap                | 1.11     | Volts |
| XTI  | Temperature coefficient        | 3        |       |
| KF   | Flicker-noise coefficient      | 0        |       |
| AF   | Flicker-noise exponent         | 1        |       |
| FC   | Coefficient for capacitance    | 0.5      |       |
| BV   | Diode breakdown voltage        | 6000     | Volts |
| IBV  | Diode breakdown current        | 100      | uAmps |

Dimensions: In. (mm) \* All temperatures are ambient unless otherwise noted. \* Data subject to change without notice.



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