

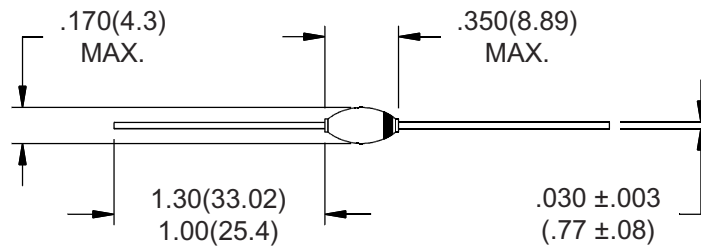
# Spice Model



**X50SG**



| Part Number | Working Reverse Voltage | Average Rectified Current |                   | Reverse Current @ V <sub>rw</sub> |             | Forward Voltage   |            | 1 Cycle Surge Current<br>t <sub>p</sub> =8.3ms (I <sub>fsm</sub> ) | Repetitive Surge Current (I <sub>frm</sub> ) | Reverse Recovery Time (3) (T <sub>rr</sub> ) | Thermal Impedance |                |                | Junction Cap. @50VDC @ 1kHz (C <sub>j</sub> ) |
|-------------|-------------------------|---------------------------|-------------------|-----------------------------------|-------------|-------------------|------------|--------------------------------------------------------------------|----------------------------------------------|----------------------------------------------|-------------------|----------------|----------------|-----------------------------------------------|
|             | (V <sub>rw</sub> )      | (I <sub>o</sub> )         |                   | (I <sub>r</sub> )                 |             | (V <sub>f</sub> ) |            |                                                                    |                                              |                                              | J-L               |                |                |                                               |
|             | Volts                   | 55°C(1)<br>mAmps          | 100°C(2)<br>mAmps | 25°C<br>µA                        | 100°C<br>µA | 25°C<br>Volts     | 25°C<br>mA | 25°C<br>Amps                                                       | 25°C<br>Amps                                 | 25°C<br>ns                                   | L=.000<br>°C/W    | L=.125<br>°C/W | L=.250<br>°C/W | 25°C<br>pF                                    |
| X50SG       | 5000                    | 150                       | 75                | 1.0                               | 20          | 8.0               | 100        | 10.0                                                               | 2.0                                          | 3000                                         | 5                 | 12             | 21.5           | 3.0                                           |



| Parameter  | Description                    | Value    | Units |
|------------|--------------------------------|----------|-------|
| <b>IS</b>  | Reverse leakage current        | 2.50E-07 | Amps  |
| <b>N</b>   | Emission coefficient           | 14.5     |       |
| <b>T</b>   | Temperature                    | 25       | C     |
| <b>RS</b>  | Diode series resistance        | 1.4      | Ohm   |
| <b>TT</b>  | Transit time                   | 3000     | nS    |
| <b>CJ0</b> | Zero-bias junction capacitance | 3.87     | pF    |
| <b>VJ</b>  | Bulk junction potential        | 6.41     | Volts |
| <b>M</b>   | Grading coefficient            | 0.5      |       |
| <b>EG</b>  | Energy-band gap                | 1.11     | Volts |
| <b>XTI</b> | Temperature coefficient        | 3        |       |
| <b>KF</b>  | Flicker-noise coefficient      | 0        |       |
| <b>AF</b>  | Flicker-noise exponent         | 1        |       |
| <b>FC</b>  | Coefficient for capacitance    | 0.5      |       |
| <b>BV</b>  | Diode breakdown voltage        | 6000     | Volts |
| <b>IBV</b> | Diode breakdown current        | 100      | uAmps |



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