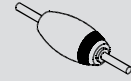


# Spice Model

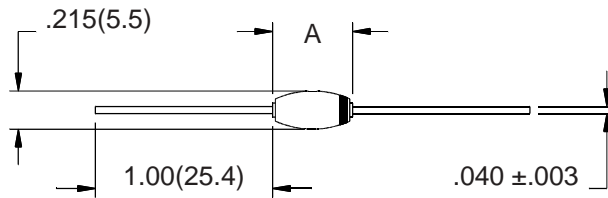


Z100SG



## 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>t <sub>p</sub> =8.3ms<br>(I <sub>fsm</sub> ) | Repetitive Surge Current<br>(I <sub>frm</sub> ) | Reverse Recovery Time (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  | 25°C                                  | L=.000 | L=.125 | L=.250  |
|             | Volts   | Amps   | Amps     | µA   | µA    | Volts                                | Amps | Amps  | Amps  | Amps  | ns                                    | °C/W   | °C/W   | °C/W  |
| Z100SG      | 10000   | 0.50   | 0.25     | 1.0  | 25    | 12.0                                 | 0.60 | 25  | 5   | 3000  | 3                                     | 6      | 12     | 8   |



| Part   | A                |
|--------|------------------|
| Z25SG  | .350(8.89) MAX.  |
| Z50SG  |                  |
| Z100SG | .400(10.16) MAX. |

| Name            | Parameter                      | Value   | Units |
|-----------------|--------------------------------|---------|-------|
| I <sub>s</sub>  | Reverse leakage current        | 5.0E-07 | Amps  |
| N               | Emission coefficient           | 26      |       |
| T               | Temperature                    | 25      | C     |
| RS              | Diode series resistance        | 0.005   | Ohm   |
| TT              | Transit time                   | 3000    | nS    |
| C <sub>J0</sub> | Zero-bias junction capacitance | 10.41   | pF    |
| VJ              | Bulk junction potential        | 13.55   | 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        | 12000   | 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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