

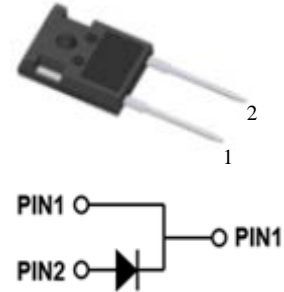


WSRSIC030120NP4

SILICON CARBIDE SCHOTTKY DIODE

Features

- 30A Silicon Carbide Schottky Diode
- Excellent high temperature stability
- Low forward voltage
- High forward surge capability
- 175°C Operating Junction Temperature
- Reduced temperature dependence



Mechanical Data

- Case: TO-247-2L

Absolute Maximum Ratings (T_c=25°C Unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|---------------------------------|-----------------|------|
| Repetitive Peak Reverse Voltage | V _{RRM} | 1200 | V |
| Surge Peak Reverse Voltage | V _{RSM} | 1200 | V |
| DC Blocking Voltage | V _R | 1200 | V |
| Maximum Average Forward Rectified Current at T _C =155°C | I _F | 30 | A |
| Surge(Non-Repetitive)Forward Current @ T _p =10ms Half Sine Wave T _C =25°C | I _{FSM} | 220 | A |
| Power Dissipation T _C =25°C | P _{tot} | 432 | W |
| Thermal Resistance(between Junction and Case) | R _{θ(J-C)} | 0.347 (Typ.) | °C/W |
| Junction and Storage Temperature | T _J T _{STG} | -55~ +175 | °C |

Electronics Characteristics (T_c=25°C Unless otherwise specified)

| Parameter | Symbol | Typ. | Max. | Unit |
|---|----------------|------|------|------|
| Maximum Instantaneous Forward Voltage @ I _F =30A T _J =25°C | V _F | 1.4 | 1.8 | V |
| Maximum Instantaneous Forward Voltage @ I _F =30A T _J =175°C | | 2 | / | |

SILICON CARBIDE SCHOTTKY DIODE

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| | | | | |
|---|----------------|------|-----|----|
| Total Capacitance @ f=1MHZ T _J =25°C V _R =0V | | 1980 | | |
| Total Capacitance @ f=1MHZ T _J =25°C V _R =400V | C | 138 | / | pF |
| Total Capacitance @ f=1MHZ T _J =25°C V _R =800V | | 118 | | |
| Total Capacitive Charge @ V _R =800V | Q _C | 114 | / | nC |
| Reverse leakage current @ V _R =1200V T _J =25°C | | 13 | 100 | |
| Reverse leakage current @ V _R =1200V T _J =175°C | I _R | 40 | / | μA |

Typical Characteristics

Fig.1-Forward Characteristics

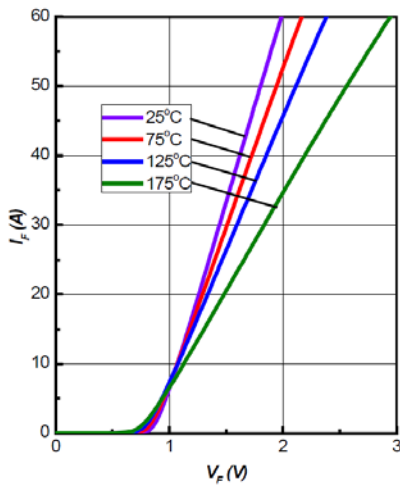


Fig.2-Reverse Characteristics

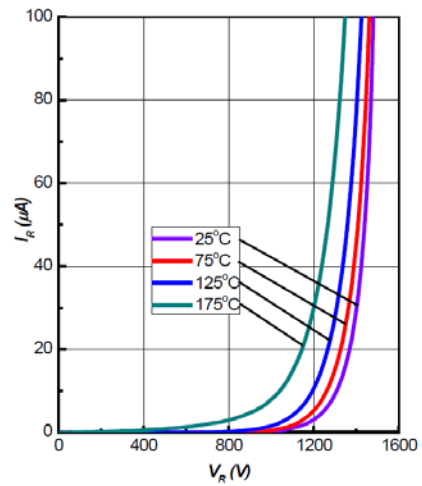


Fig.3-Total Capacitance Charge VS Reverse Voltage

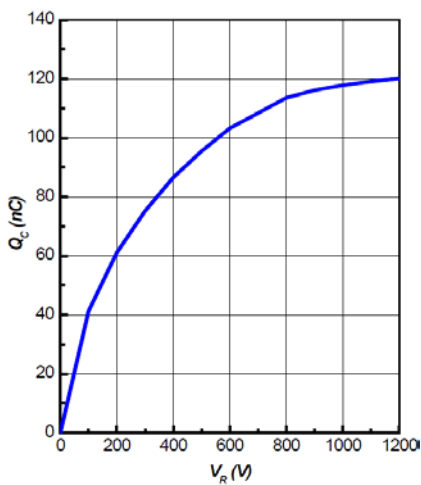
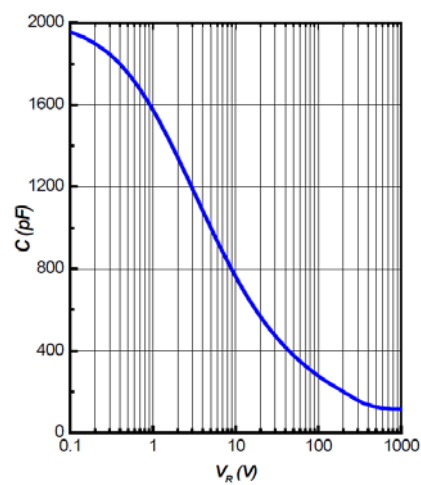
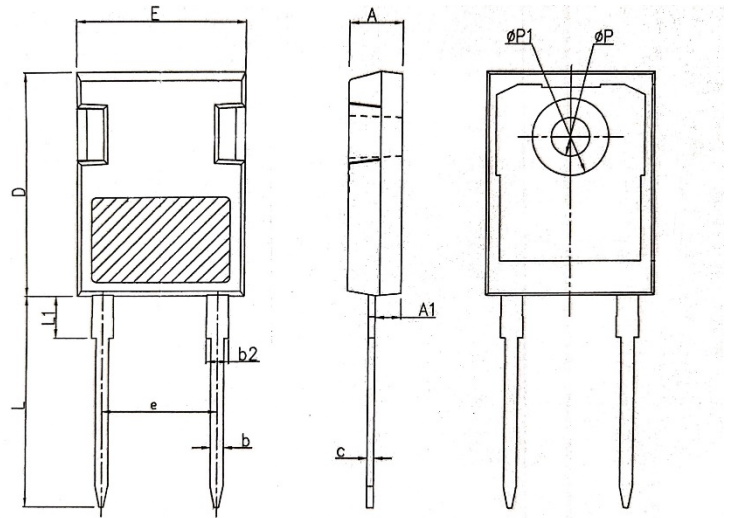


Fig.4-Capacitance VS Reverse Voltage



Outline Drawing

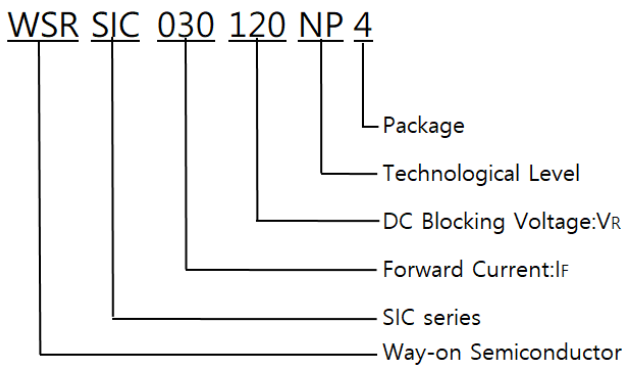
| SYMBOL | MM | | |
|--------|----------|-------|-------|
| | MIN | NOM | MAX |
| A | 4.80 | 5.00 | 5.20 |
| A1 | 2.21 | 2.41 | 2.61 |
| b | 1.10 | 1.20 | 1.36 |
| b2 | 1.90 | 2.00 | 2.21 |
| c | 0.50 | 0.60 | 0.75 |
| D | 20.70 | 21.00 | 21.30 |
| E | 15.50 | 15.80 | 16.10 |
| e | 10.88BSC | | |
| L | 19.62 | 19.92 | 20.22 |
| L1 | / | / | 4.30 |
| ΦP1 | / | / | 7.30 |
| ΦP | 3.40 | 3.60 | 3.80 |



Marking Code

| | |
|--------------|-----------------|
| Part Number | WSRSIC030120NP4 |
| Marking Code | W030120NP4 |

Part Number System



Package Information

Quantity per tube: 30pcs

Contact Information

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*Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.*