

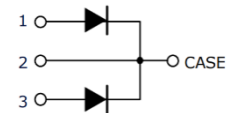


# WSRSIC020120NP8-AT

## SILICON CARBIDE SCHOTTKY DIODE

### Features

- 20A Silicon Carbide Schottky Diode
- Excellent high temperature stability
- Low forward voltage
- High forward surge capability
- 175°C Operating Junction Temperature
- Reduced temperature dependence
- AEC-Q101 qualified



### Mechanical Data

- Case: TO-247-3L

### Absolute Maximum Ratings (T<sub>c</sub>=25°C Unless otherwise specified)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	1200	V
Surge Peak Reverse Voltage	V <sub>RSM</sub>	1200	V
DC Blocking Voltage	V <sub>R</sub>	1200	V
Maximum Average Forward Rectified Current at TC =151°C Per leg	I <sub>F</sub>	10	A
Maximum Average Forward Rectified Current at TC =151°C Total device		20	
Surge(Non-Repetitive)Forward Current @ Tp=10ms Half Sine Wave TC=25°C Per leg	I <sub>FSM</sub>	95	A
Power Dissipation T <sub>c</sub> =25°C	P <sub>tot</sub>	200	W
Thermal Resistance(between Junction and Case)	R <sub>θ(J-C)</sub>	0.75 (Typ.)	°C/W
Junction and Storage Temperature	T <sub>J</sub> T <sub>STG</sub>	-55 ~ +175	°C

Electronics Characteristics (T<sub>c</sub>=25°C Unless otherwise specified&Per Leg)

Parameter	Symbol	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage @I <sub>F</sub> =10A T <sub>J</sub> =25°C	V <sub>F</sub>	1.4	1.8	V
Maximum Instantaneous Forward Voltage @I <sub>F</sub> =10A T <sub>J</sub> =175°C		2	/	
Total Capacitance @ f=1MHZ T <sub>J</sub> =25°C V <sub>R</sub> =0V	C	720	/	pF
Total Capacitance @ f=1MHZ T <sub>J</sub> =25°C V <sub>R</sub> =400V		49		
Total Capacitance @ f=1MHZ T <sub>J</sub> =25°C V <sub>R</sub> =800V		41		
Total Capacitive Charge @ V <sub>R</sub> =800V	Q <sub>C</sub>	41	/	nC
Reverse leakage current @V <sub>R</sub> =1200V T <sub>J</sub> =25°C	I <sub>R</sub>	3	20	μA
Reverse leakage current @V <sub>R</sub> =1200V T <sub>J</sub> =175°C		8	/	

Typical Characteristics

Fig.1-Forward Characteristics

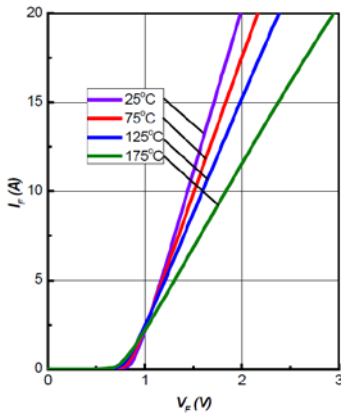


Fig.2-Reverse Characteristics

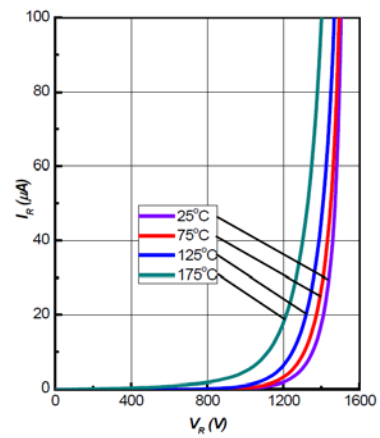


Fig.3-Total Capacitance Charge VS Reverse Voltage

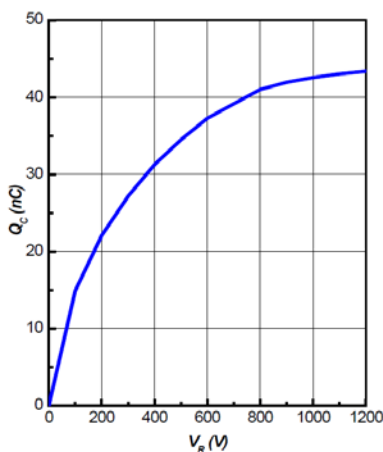
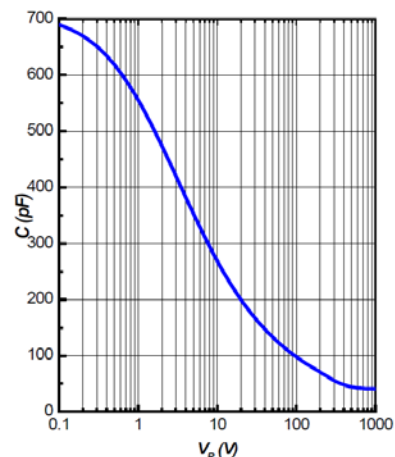
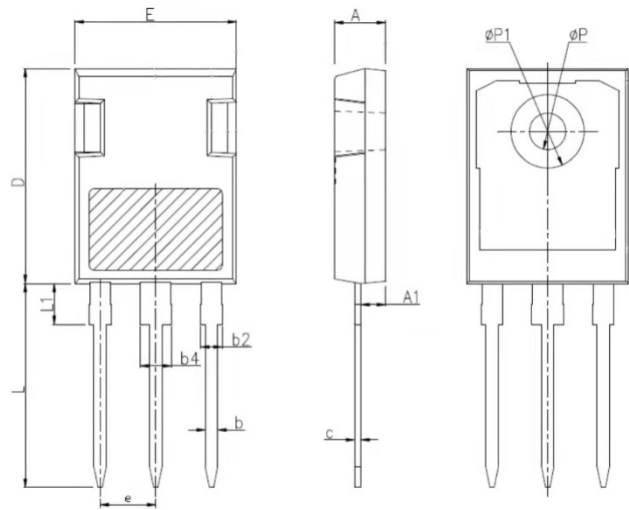


Fig.4-Capacitance VS Reverse Voltage

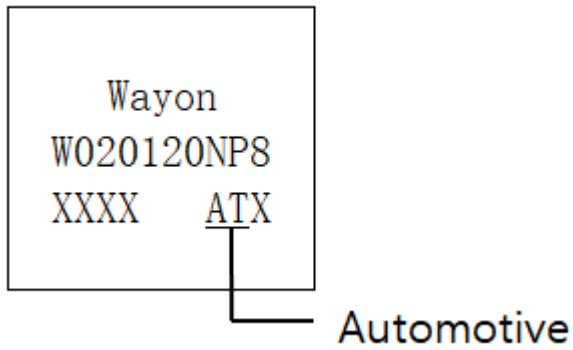


Outline Drawing

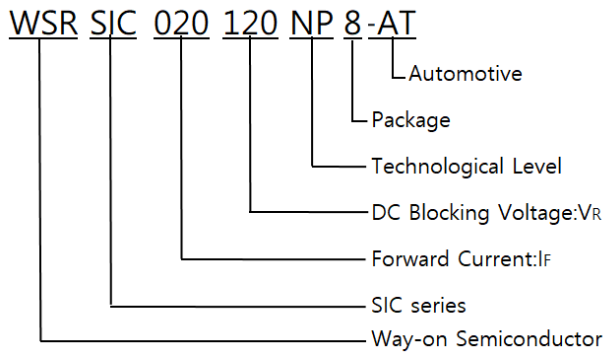
SYMBOL	MM		
	MIN	NOM	MAX
A	4.80	5.00	5.20
A1	2.21	2.41	2.61
b	1.10	1.20	1.36
b2	1.90	2.00	2.21
b4	2.90	3.01	3.21
c	0.50	0.60	0.75
D	20.70	21.00	21.30
E	15.50	15.80	16.10
e	5.44BSC		
L	19.62	19.92	20.22
L1	/	/	4.30
ΦP1	/	/	7.30
ΦP	3.40	3.60	3.80



Marking Information



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.*