

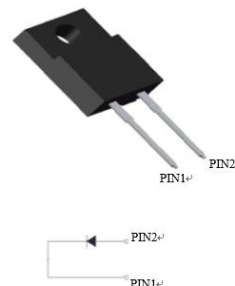


# WSRSIC020065NPF

## 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
- RoHS Compliant & HF



### Mechanical Data

- Case: TO-220F-2L

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

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	650	V
Surge Peak Reverse Voltage	V <sub>RSM</sub>	650	V
DC Blocking Voltage	V <sub>R</sub>	650	V
Maximum Average Forward Rectified Current T <sub>c</sub> =110°C	I <sub>F</sub>	20	A
Surge(Non-Repetitive)Forward Current @ T <sub>p</sub> =10ms Half Sine Wave T <sub>c</sub> =25°C	I <sub>FSM</sub>	152	A
Power Dissipation T <sub>c</sub> =25°C	P <sub>tot</sub>	83	W
Thermal Resistance(between Junction and Case)	R <sub>θ(J-C)</sub>	1.79 (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)

Parameter	Symbol	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage @I <sub>F</sub> =20A T <sub>J</sub> =25°C	V <sub>F</sub>	1.38	1.75	V
Maximum Instantaneous Forward Voltage @I <sub>F</sub> =20A T <sub>J</sub> =175°C		1.8	/	
Total Capacitance @ f=1MHZ T <sub>J</sub> =25°C V <sub>R</sub> =0V	C	1340	/	pF
Total Capacitance @ f=1MHZ T <sub>J</sub> =25°C V <sub>R</sub> =200V		120		
Total Capacitance @ f=1MHZ T <sub>J</sub> =25°C V <sub>R</sub> =400V		109		
Total Capacitive Charge @ V <sub>R</sub> =400V	Q <sub>C</sub>	65	/	nC
Reverse leakage current @V <sub>R</sub> =V <sub>RWM</sub> T <sub>J</sub> =25°C	I <sub>R</sub>	6	100	μA
Reverse leakage current @V <sub>R</sub> =V <sub>RWM</sub> T <sub>J</sub> =175°C		30	/	

Note: The above typical parameters or typical characteristics are only indicative and do not make specific guarantees. If detailed values are required, additional communication and provision are required.

## Typical Characteristics

Fig.1-Forward Characteristics

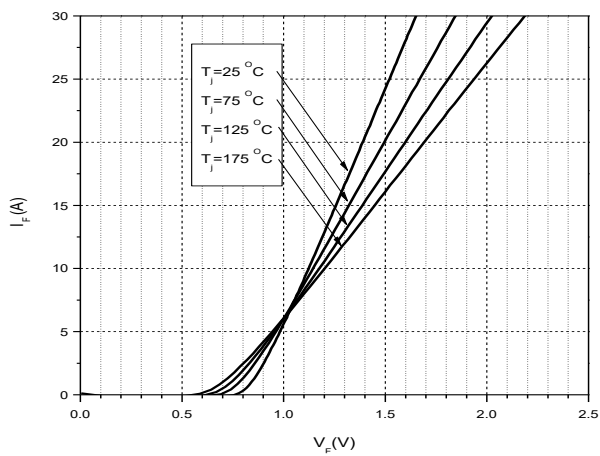


Fig.2-Reverse Characteristic

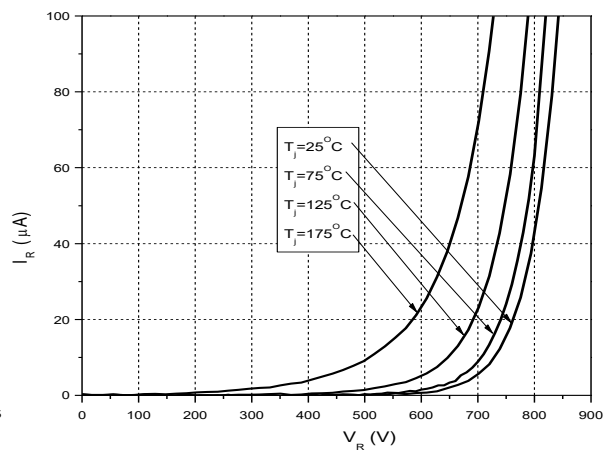


Fig.3-Total Capacitance Charge VS Reverse Voltage

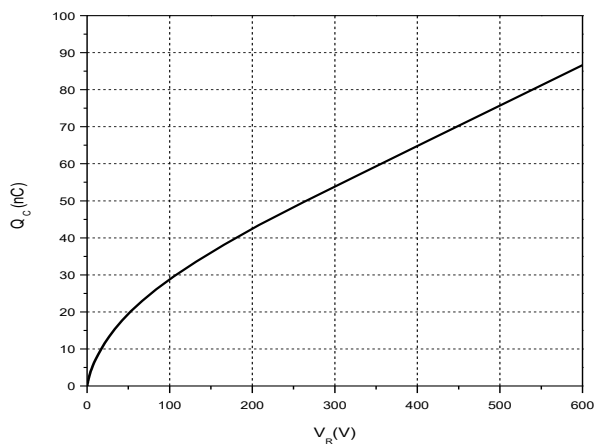
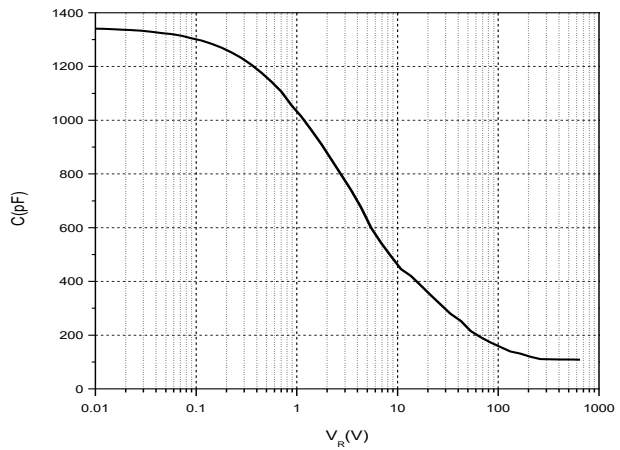
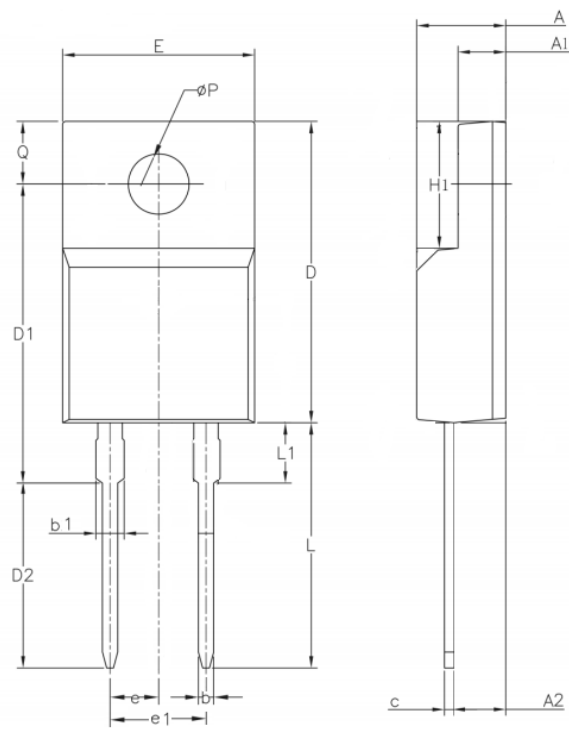


Fig.4-Capacitance VS Reverse Voltage



## Outline Drawing

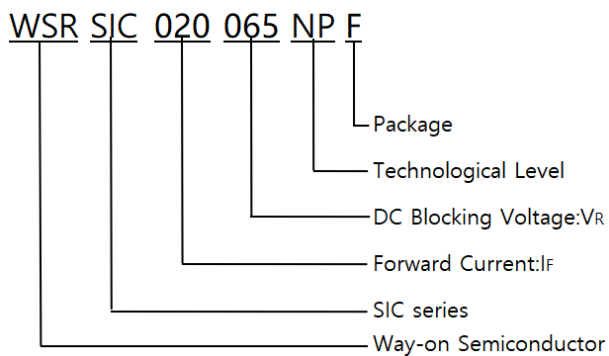
SYMBOL	MM	
	MIN	MAX
A	3.90	5.10
A1	2.10	3.56
A2	2.10	3.20
b	0.60	0.99
b1	1.20	1.60
c	0.40	0.80
D	14.40	16.30
D1	15.05	16.60
D2	9.10	10.50
E	8.70	10.70
e	2.54BSC	
e1	5.08BSC	
H1	6.48	6.90
L	12.60	14.20
L1	3.00	4.50
ΦP	2.60	3.80
Q	2.15	3.55



## Marking Code

Part Number	WSRSIC020065NPF
Marking Code	W020065NPF

## Part Number System



## Package Information

Quantity per tube: 50pcs

## Contact Information

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WAYON website: <http://www.way-on.com>

For additional information, please contact your local Sales Representative.

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## Product Specification Statement

The product specification aims to provide users with a reference regarding various product parameters, performance, and usage. It presents certain aspects of the product's performance in graphical form and is intended solely for users to select product and make product comparisons, enabling users to better understand and evaluate the characteristics and advantages of the product. It does not constitute any commitment, warranty, or guarantee.

The product parameters described in the product specification are numerical values, characteristics, and functions obtained through actual testing or theoretical calculations of the product in an independent or ideal state. Due to the complexity of product applications and variations in test conditions and equipment, there may be slight fluctuations in parameter test values. WAYON shall not guarantee that the actual performance of the product when installed in the customer's system or equipment will be entirely consistent with the product specification, especially concerning dynamic parameters. It is recommended that users consult with professionals for product selection and system design. Users should also thoroughly validate and assess whether the actual parameters and performance when installed in their respective systems or equipment meet their requirements or expectations. Additionally, users should exercise caution in verifying product compatibility issues, and WAYON assumes no responsibility for the application of the product.

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Users are advised to pay attention to the parameter limit values specified in the product specification and maintain a certain margin in design or application to ensure that the product does not exceed the parameter limit values defined in the product specification. This precaution should be taken to avoid exceeding one or more of the limit values, which may result in permanent irreversible damage to the product, ultimately affecting the quality and reliability of the system or equipment.

The design of the product is intended to meet civilian needs and is not guaranteed for use in harsh environments or precision equipment. It is not recommended for use in systems or equipment such as medical devices, aircraft, nuclear power, and similar systems, where failures in these systems or equipment could reasonably be expected to result in personal injury. WAYON shall assume no responsibility for any consequences resulting from such usage.

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