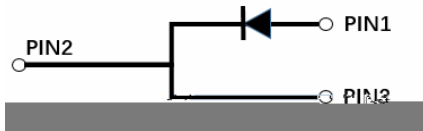


Silicon Carbide Schottky Diode

V_{RRM}	650V
I_F 135°C	14A
Q_C	30nC



Features

- Positive temperature coefficient
- Temperature-independent switching
- Maximum working temperature at 175 °C
- Unipolar devices and zero reverse recovery current
- Zero forward recovery current
- Essentially no switching losses
- Reduction of heat sink requirements
- High-frequency operation
- Reduction of EMI

Typical Applications

Typical applications are in power factor correction(PFC), solar inverter, uninterruptible power supply, motor drives, photovoltaic inverter, electric car and charger.

Mechanical Data

Package: TO-263

Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free

Terminals: Tin plated leads

Polarity: As marked

Maximum Ratings ($T_C=25$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Reverse Voltage (DC)	V_{RRM}	V	650
Reverse Voltage (DC) at $T_C=125$ °C	V_{DC}	V	650
Continuous Forward Current at $T_C=25$ °C	I_F	A	10
Continuous Forward Current at $T_C=175$ °C			1
Continuous Forward Current at $T_C=150$ °C			10
Non-repetitive peak forward surge current at $T_C=125$ °C for $t_p \leq 10$ ms	I_{FSM}	A	10
Power Dissipation at $T_C=25$ °C	P_{TOT}	W	1.6
Power Dissipation at $T_C=110$ °C			0.5
Peak Value at $T_C=125$ °C for $t_p \leq 10$ ms	$\frac{dI}{dt}$	A/μs	



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Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Typ.	Max.
Forward voltage drop	V_F	V	$I_F=10A, T_J=25^{\circ}C$	1.35	1.55
			$I_F=10A, T_J=175^{\circ}C$	1.8	-
Reverse leakage current	I_R	μA	$V_R=650V, T_J=25^{\circ}C$	0.5	25
			$V_R=650V, T_J=175^{\circ}C$	2	-
Total capacitive charge	Q_C	nC	$V_R=400V, T_J=25^{\circ}C, Q_C=\int_0^{V_R} I_C(V)dV$	30	-
Total capacitance	C	pF	$V_R=0V, f=1MHz$	543	-
			$V_R=200V, f=1MHz$	55	-
			$V_R=400V, f=1MHz$	52	-
Capacitance Stored Energy	E_C	μJ	$V_R=400V$	3.7	-

Thermal Characteristics ($T_a=25$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Value
Thermal resistance	R_{J-C}	$^{\circ}C/W$	1.1

Typical Characteristics

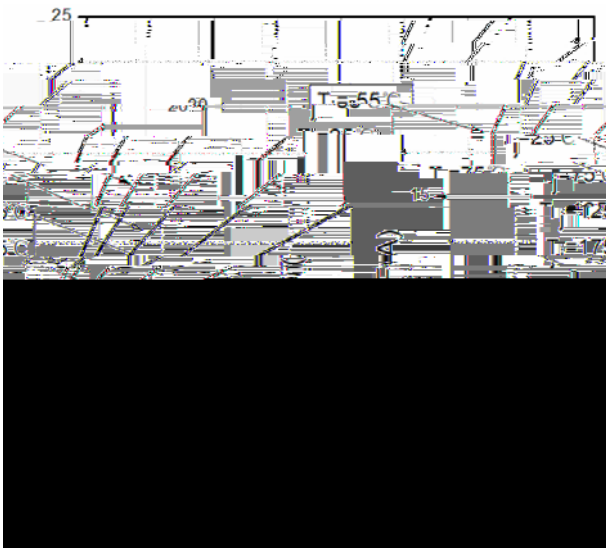


Figure 1. Forward Characteristics

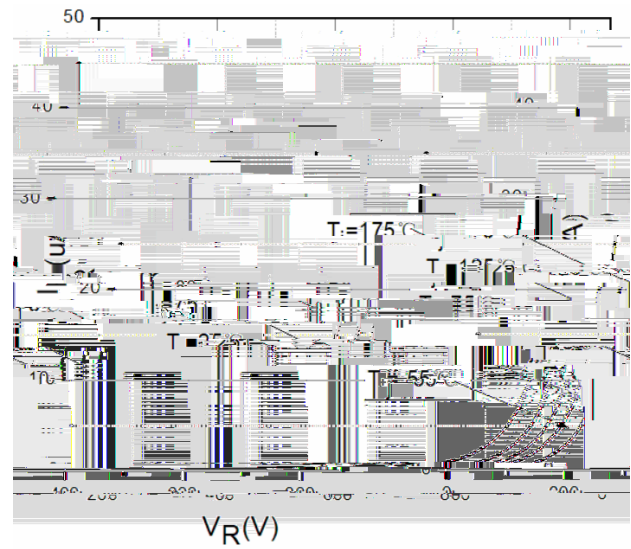


Figure2. Reverse Characteristic



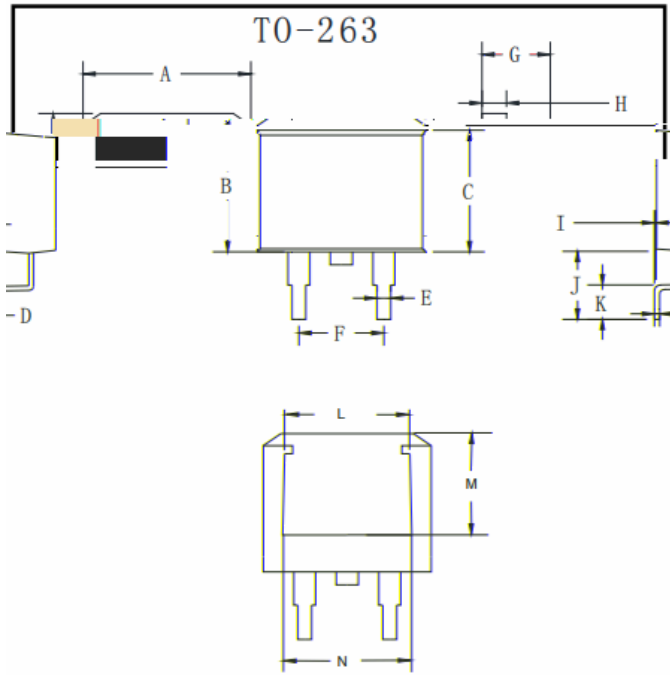
Figure 3. Capacitance vs. Reverse Voltage

Fig MM MM M I MM



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Outline Dimensions



Dimensions in millimeters

TO-263		
Dim	Min	Max
A	9.7	10.25
B	8.4	9.0
C	0.28	0.64
D	0.68	0.94
E	4.55	5.6
F	4.04	5.10
G	1.14	1.4
H	0	0.2
I	4.9	6.05
J	1.79	2.79
K	7.3	7.9
M	6.2	6.8
N	7.6	8.2



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