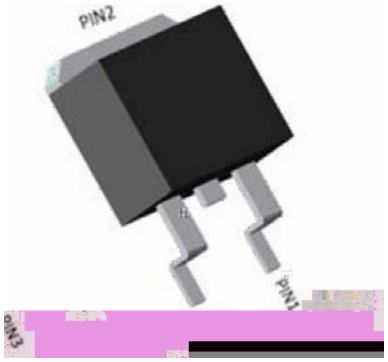
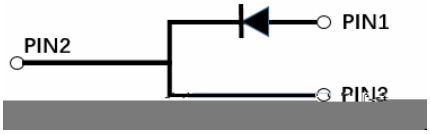
Silicon Carbide Schottky Diode

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

Tpical 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)

PARAMTETER	SYMBOL		
	RSM	V	650
Re v erse v oltage (DC) @ T J = 25 Á C	V_{DC}	V	650
Continuous f orward current @ 25 Á C	I_F	A	3 0
Continuous f orward current @ 1 3 5 Á C			1 4
Continuous f orward current @ 1 5 4 Á C			10
Non - repetiti v e peak f orward surge current @ T c = 25 Á C , tp = 10ms , Hal f Sine Wa v e	I_{FSM}	A	8 0
Power Dissipation@ c T = 25 Á C	P_{TOT}	W	1 3 6
Power Dissipation@ c T = 110 Á C			5 9
i²t Value@ Tc = 25 Á C , tp = 10ms	²dt Úi	A	

■Electrical Characteristics

PARAMTETER	SYMBOL	UNIT	TEST CONDITIONS	Typ.	Max.
Forward voltage drop	V_F	V	I_F=10A, T_j=25°C	1.35	1.55
			I_F=10A, T_j=175°C	1.8	-
Reverse leakage current	I_R	μA	V_R=650V, T_j=25°C	0.5	25
			V_R=650V, T_j=175°C	2	-
Total capacitive charge	Q_C	nC	V_R=400V, T_j=25°C , $QC=\int_0^{VR}C(V)dV$	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	$R_{\theta J-C}$	°C /W	1.1

■Typical Characteristics

Figure 1. Forward Characteristics

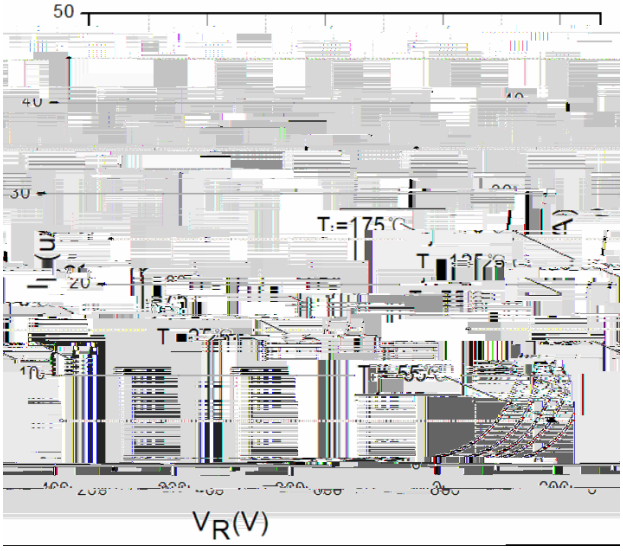
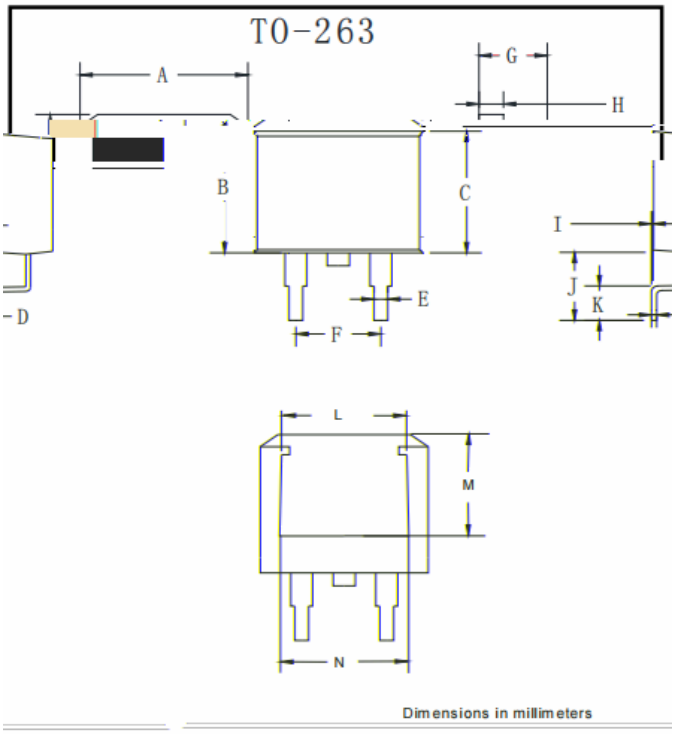


Figure2. Reverse Characteristic

Figure 3. Capacitance vs. Reverse Voltage

Fig、⅜MM、⅜MM、⅜M Î ⅜MM’

■Outline Dimensions



TO-263		
Dim	Min	Max
A	9.7	10.5
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
L	6.2	6.8
M	7.6	8.2
N		

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