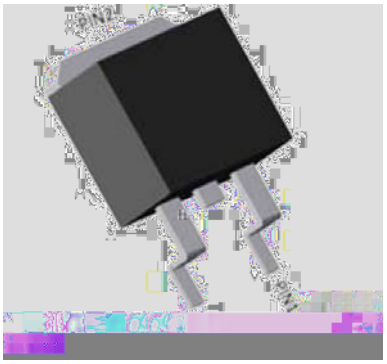
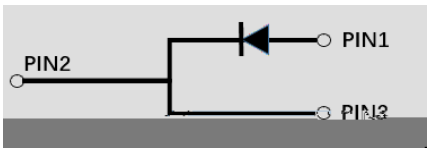
Silicon Carbide Schottky Diode

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
Reverse voltage (DC) @ T_J=25°C	V_{DC}	V	650
Continuous forward current@25°C	I_F	A	30
Continuous forward current@135°C			14
Continuous forward current@154°C			10
Non-repetitive peak forward surge current @ T_c=25°C, tp=10ms, Half Sine Wave	I_{FSM}	A	80
Power Dissipation@T_c=25°C	P_{TOT}	W	136
Power Dissipation@T_c=110°C			59
i^2t Value@ Tc=25°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

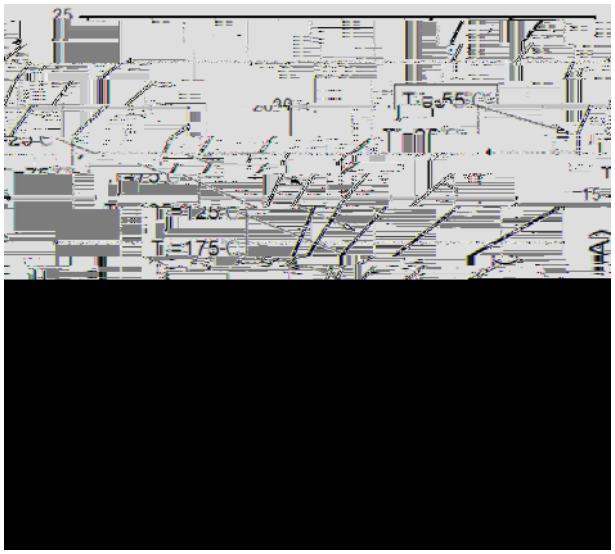


Figure 1. Forward Characteristics

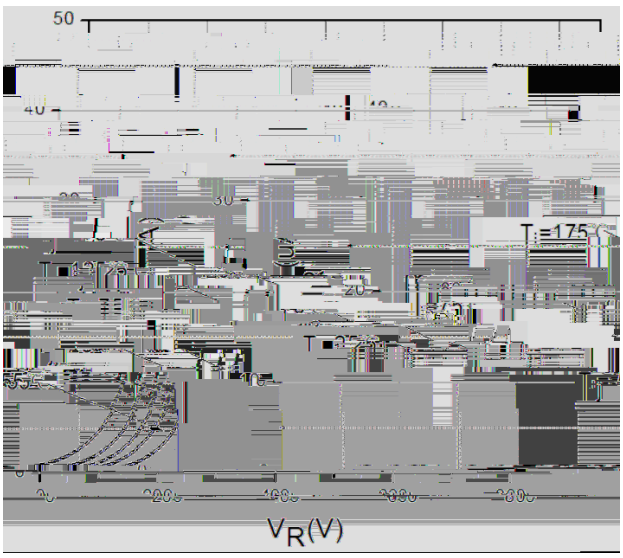


Figure2. Reverse Characteristic

Figure 3. Capacitance vs. Reverse Voltage

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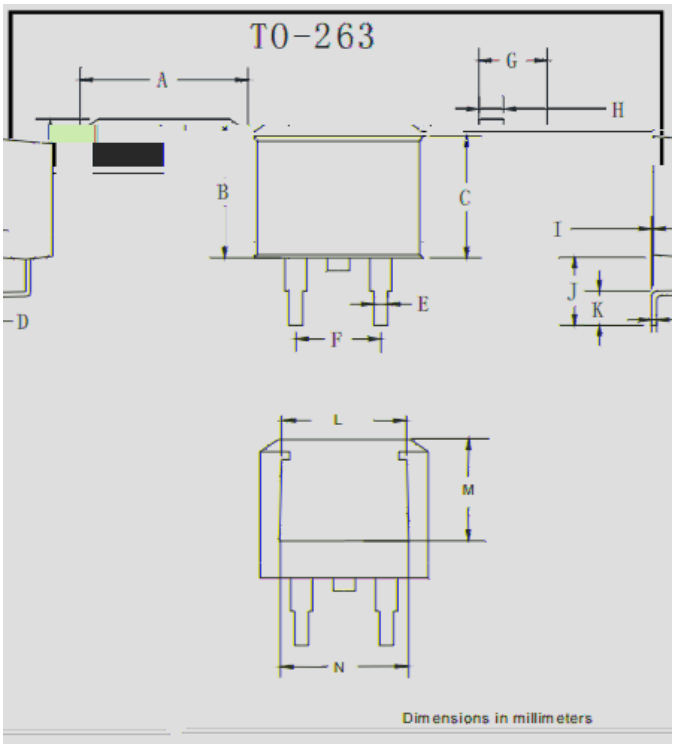
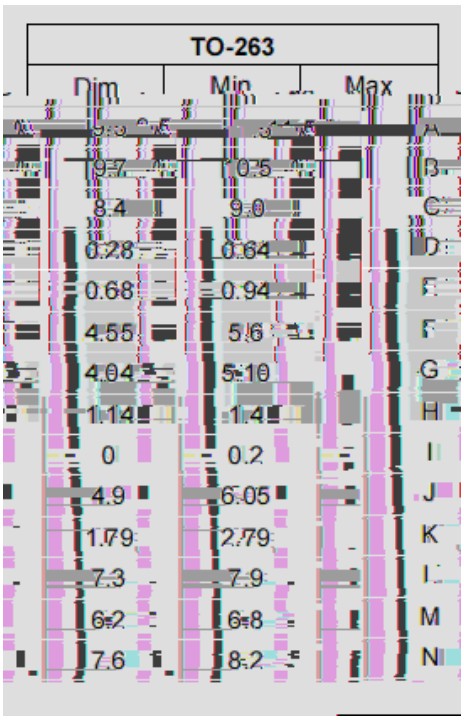
■Outline Dimensions





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