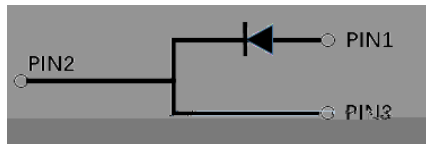
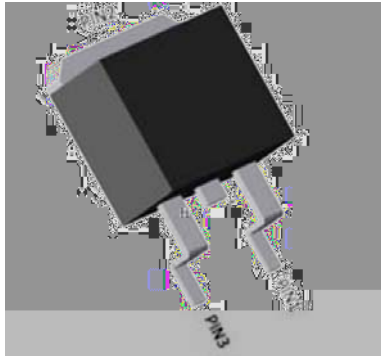


Silicon Carbide Schottky Diode

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 ($T_C=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL		
	R_{SM}	V	650
Reverse voltage (DC) @ $T_F=25^\circ\text{C}$	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 @ $T_C=25^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Wave	I_{FSM}	A	80
Power Dissipation @ $T_C=25^\circ\text{C}$	P_{TOT}	W	136
Power Dissipation @ $T_C=110^\circ\text{C}$			59
I^2t Value @ $T_C=25^\circ\text{C}$, $t_p=10\text{ms}$	I^2t	A	



YJD106510BQG2

■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	$V_R=400V, T_J=25^{\circ}C, Q_C=\int_0^{V_R} C(V)dV$	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	$R_{\theta J-C}$	$^{\circ}C/W$	1.1

■Typical Characteristics

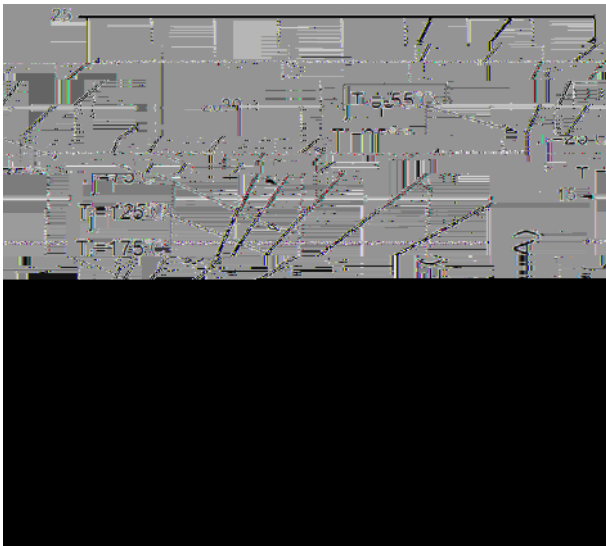


Figure 1. Forward Characteristics



Figure2. Reverse Characteristic

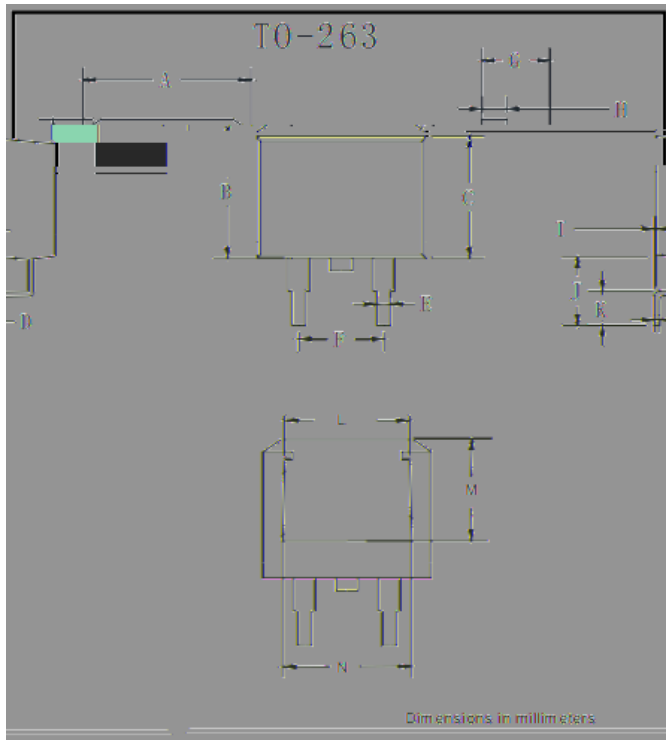


Figure 3. Capacitance vs. Reverse Voltage

Fig. 3. Capacitance vs. Reverse Voltage



■Outline Dimensions



TO-263				
Dim	Min	Max		
A	9.7	10.5		A
B	8.4	9.0		B
C	0.28	0.64		C
D	0.68	0.94		D
E	4.55	5.6		E
F	4.04	5.10		F
G	1.14	1.4		G
H	0	0.2		H
I	4.9	6.05		I
J	1.79	2.79		J
K	7.3	7.9		K
L	6±2	6±8		L
M	7.6	8.2		M
N				N



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