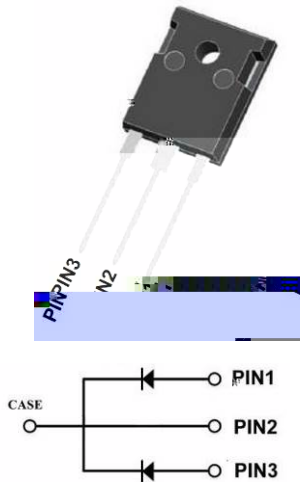


Silicon Carbide Schottky Diode

V_{RRM}	1200V
I_F 135°C	20A ⁽²⁾
Q_C	74nC ⁽²⁾



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-247AB

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
Device marking code			D112016NCTQG3
Reverse voltage (Repetitive peak) @ T _j =25°C	V_{RRM}	V	1200
Reverse voltage (Surge peak) @ T _j =25°C	V_{RSM}	V	1200
Reverse voltage (DC) @ T _j =25°C	V_{DC}	V	1200
Continuous forward current @ T _C =25°C	I_F	A	22/44
Continuous forward current @ T _C =135°C			10/20
Continuous forward current @ T _C =150°C			8/16
Non-repetitive peak forward surge current @ T _C =25°C, tp=10ms, Half Sine Wave	I_{FSM}	A	95 ⁽¹⁾
Power Dissipation @ T _C =25°C	P_{TOT}	W	100/200
Power Dissipation @ T _C =110°C			43/86
i ² t Value @ T _C =25°C ,tp=10ms	i ² dt	A ² S	45 ⁽¹⁾
Operating junction and Storage temperature range	T _j , T _{stg}	°C	-55 to +175

(1) Per Leg, (2) Per Device

Electrical Characteristics (Per Leg)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Typ.	Max.
Forward voltage drop	V_F	V	$I_F=8A, T_j=25^\circ C$	1.46	1.55
			$I_F=8A, T_j=175^\circ C$	2.2	-
Reverse leakage current	I_R	μA	$V_R=1200V, T_j=25^\circ C$	1	10
			$V_R=1200V, T_j=175^\circ C$	5	-
Total capacitive charge	Q_C	nC	$V_R=800V, T_j=25^\circ C$, $Q_C = \int_0^{V_R} I_C(V) dV$	37	-
Total capacitance	C	pF	$V_R=0V, f=1MHz$	500	-
			$V_R=400V, f=1MHz$	35	-
			$V_R=800V, f=1MHz$	27	-
Capacitance Stored Energy	E_C	μJ	$V_R=800V$	9.5	-

Thermal Characteristics (Ta=25 Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Thermal resistance	R_{J-C}	$^\circ C/W$	1.49 ⁽¹⁾ 0.75 ⁽²⁾

(1) Per Leg, (2) Per Device

Typical Characteristics (Per Leg)

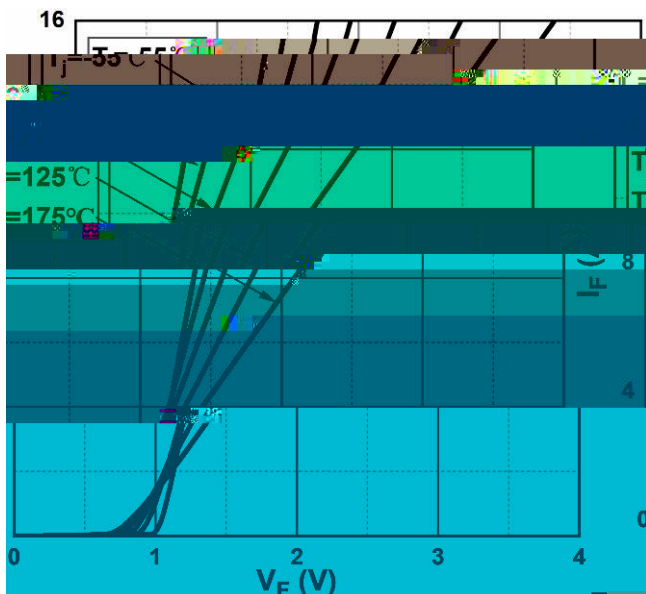


Figure 1. Forward Characteristics

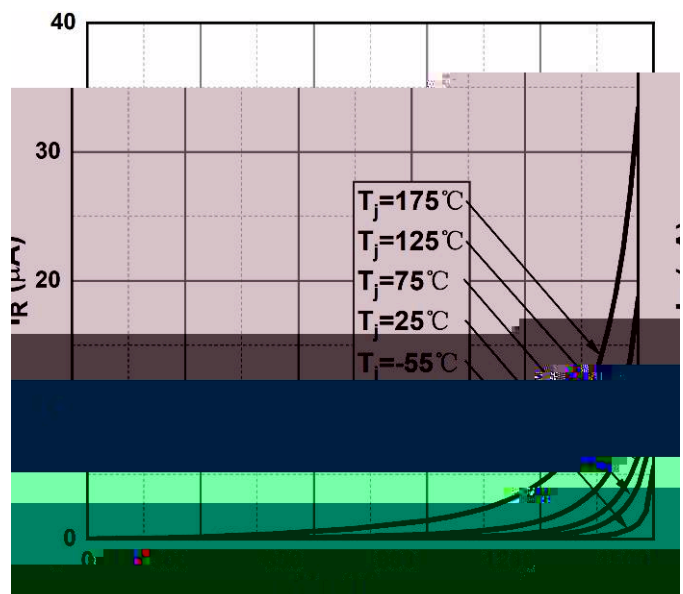


Figure 2. Reverse Characteristics

Typical Characteristics (Device)

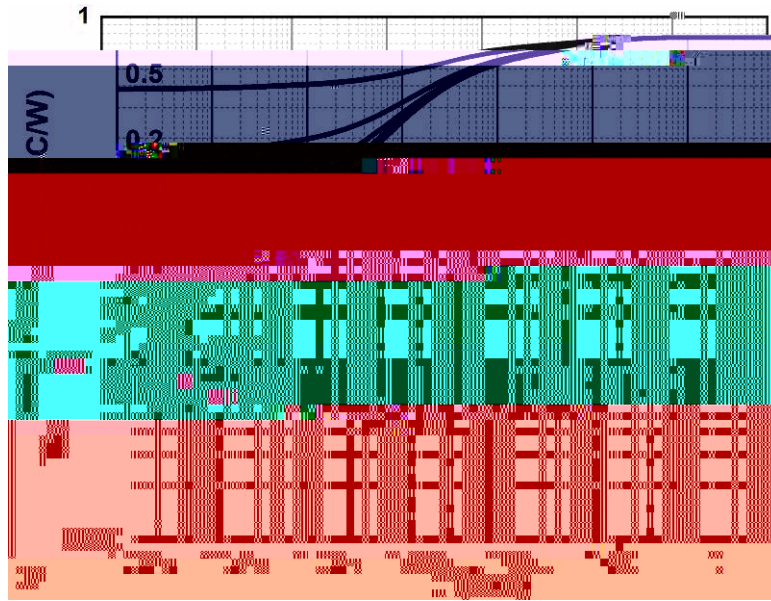


Figure 8. Transient Thermal Impedance



Outline Dimensions

TO-247AB		
Dim	Min	Max
A	4.80	5.20



Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function o