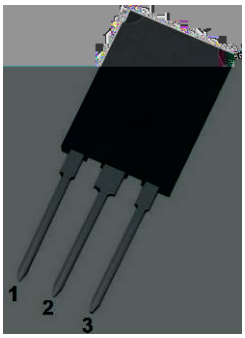
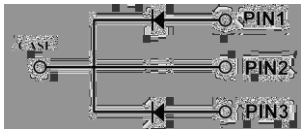
Silicon Carbide Schottky Diode

V_{RRM}	1200V
$I_{F\ (135°C)}$	90A[2]
Q_C	422nC[2]





Features

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-247PLUS
  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	UNIT	VALUE
Device marking code			D112080NPQG2
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	98/196
Continuous forward current @ T_C=135°C			45/90
Continuous forward current @ T_C=143°C			40/80
Non-repetitive peak forward surge current @ T_C=25°C, tp=10ms, Half Sine Wave	I_{FSM}	A	300[1]
Power Dissipation@ T_C=25°C	P_{TOT}	W	375/750
Power Dissipation@ T_C=110°C			162/325
i^2t Value@ T_C=25°C ,tp=10ms	$\int i^2dt$	A^2S	450[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)

PARAMTETER	SYMBOL	UNIT	TEST CONDITIONS	Typ.	Max.
Forward voltage drop	V_F	V	I_F=40A, T_j=25°C	1.42	1.58
			I_F=40A, T_j=175°C	2.02	-
Reverse leakage current	I_R	μA	V_R=1200V, T_j=25°C	1	12
			V_R=1200V, T_j=175°C	10	-
Total capacitive charge	Q_C	nC	V_R=800V, T_j=25°C , $Q_C=\int_0^{VR} C(V)dV$	211	-
Total capacitance	C	pF	V_R=0V, f=1MHZ	3010	-
			V_R=400V, f=1MHZ	198	-
			V_R=800V, f=1MHZ	155	-
Capacitance Stored Energy	E_C	μJ	V_R=800V	55	-

■Thermal Characteristics (T_a=25 Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Thermal resistance	$R_{\theta J-C}$	°C /W	0.4(1) 0.2(2)

(1) Per Leg, (2) Per Device

■Typical Characteristics (Per Leg)

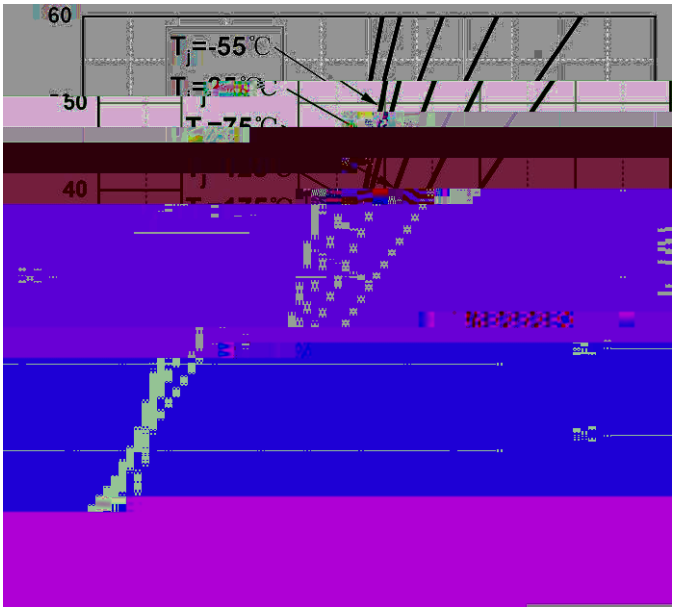


Figure 1. Forward Characteristics

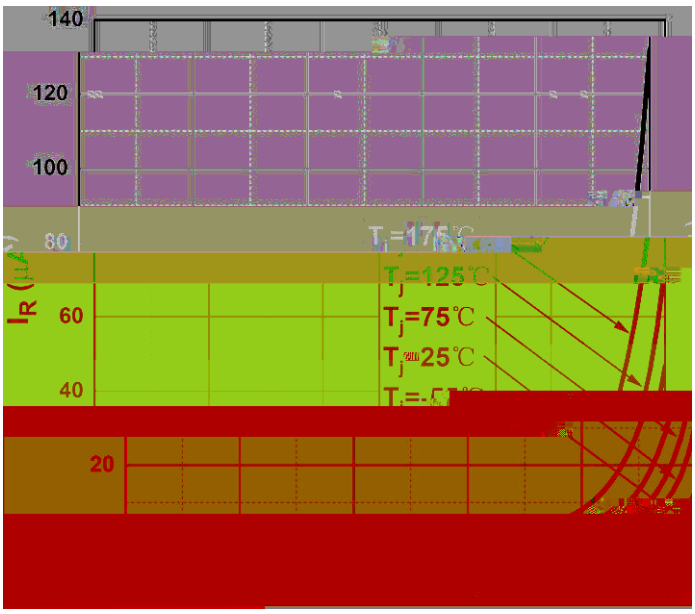


Figure 2. Characteristics

■Typical Characteristics (Device)

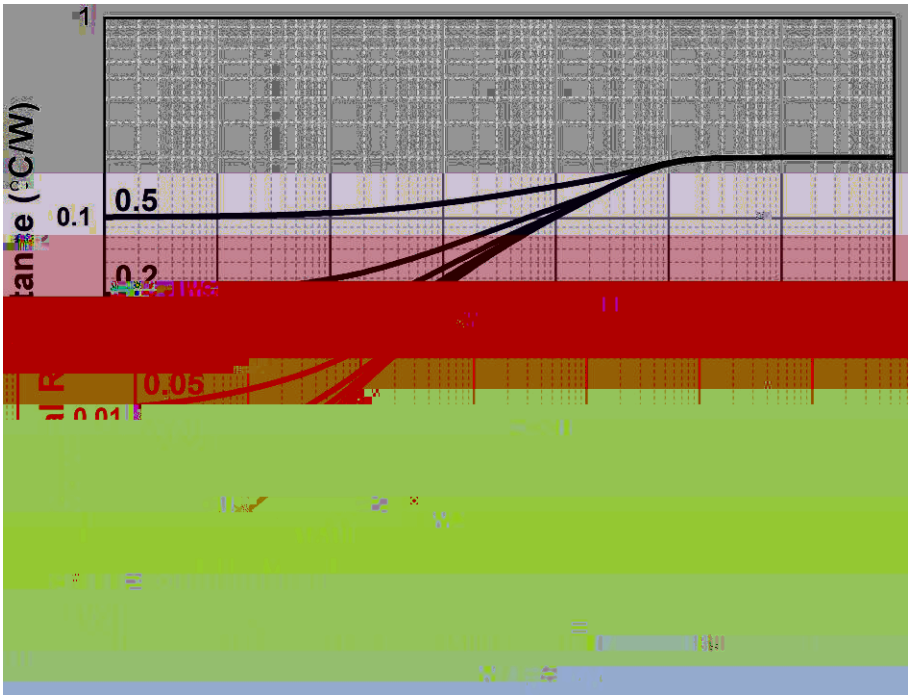


Figure 8. Transient Thermal Impedance

v2XWOLQH 'LPHQVLRQV

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