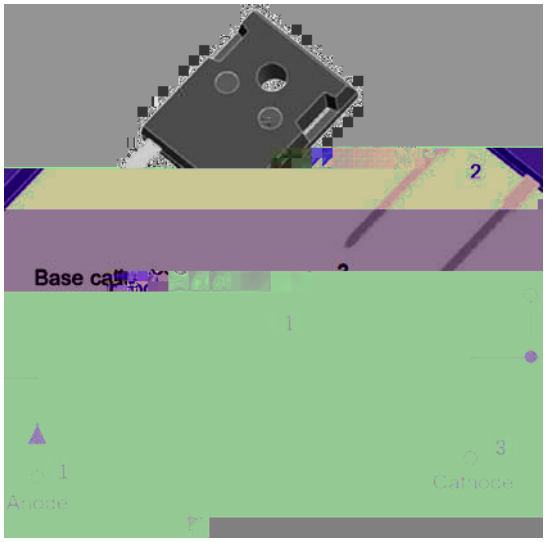
Silicon Carbide Schottky Diode

V_{RRM}	650V
$I_{F\ 135°C}$	13A
Q_C	60nC



Features

- Positive temperature coefficient
- Temperature-independent switching
- Maximum working temperature at 175 °C
- Unipolar devices and zero reverse recovery current
- Zero forward recovery voltage
- Essentially no switching losses
- Reduction of heat sink requirements
- High-frequency operation
- Reduction of EMI

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Mechanical Data

- **Package**: TO-247AC
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals**: Tin plated leads
- **Polarity**: As marked

■Maximum Rating o y

	SYMBOL	UNIT	VALUE
Device marking code			D106510NQG2
Reverse voltage (repetitive peak) @ T_j=25°C	V_{RRM}	V	650
Reverse voltage (Surge Peak) @ T_j=25°C	V_{RSM}	V	650
Reverse voltage (DC) @ T_j=25°C	V_{DC}	V	650
Continuous forward current @ T_c=25°C	I_F	A	27
Continuous forward current @ T_c=135°C			13
Continuous forward current @ T_c=153°C			10
Non-repetitive peak forward surge current @ T_c=25°C, tp=10ms, Half Sine Wave	I_{FSM}	A	70
Power Dissipation@ T_c=25°C	P_{TOT}	W	126
Power Dissipation@ T_c=110°C			54
i^2t Value@ Tc=25°C ,tp=10ms	$\int i^2dt$	A^2S	24
Operating junction and Storage temperature range	T_j ,T_{stg}	°C	-55 to +175

■Electrical Characteristics

PARAMTETER	SYMBOL	UNIT	TEST CONDITIONS	Typ.	Max.
Forward voltage drop	V_F	V	I_F=10A, T_j=25°C		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	

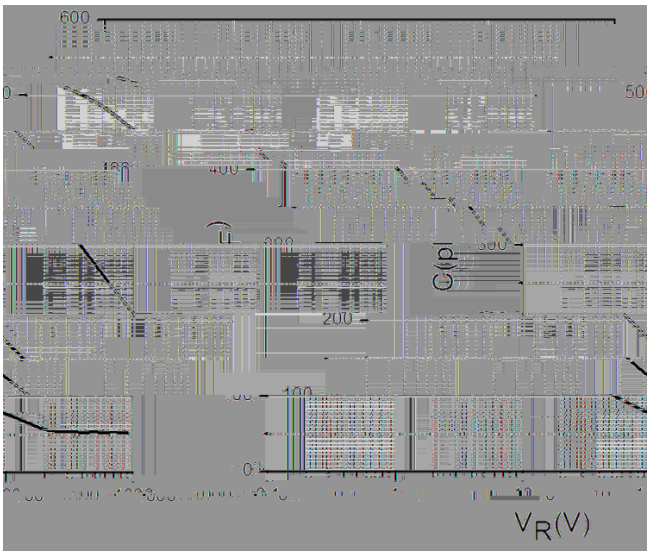

Figure 3. Capacitance vs. Reverse Voltage

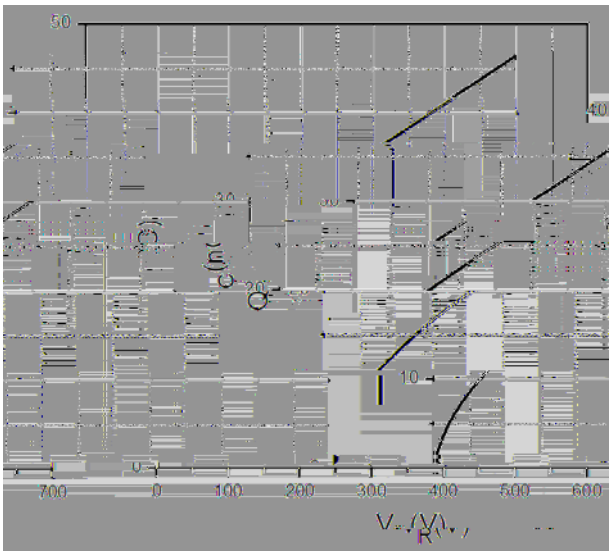

Figure 4. Total Capacitance Charge vs. Reverse Voltage

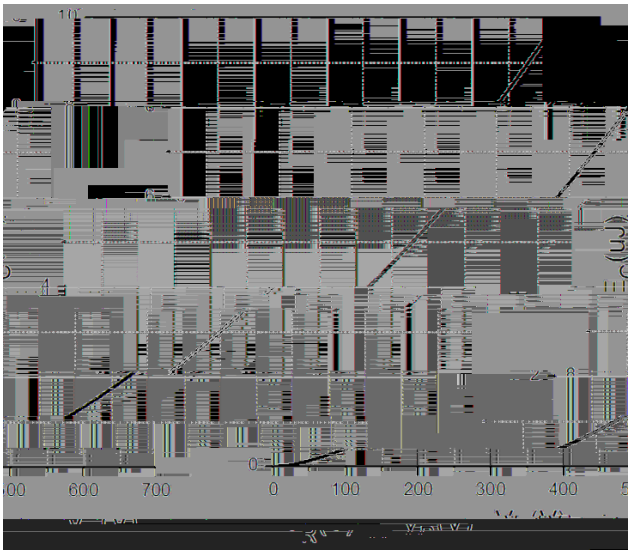

Figure 5. Capacitance Stored Energy

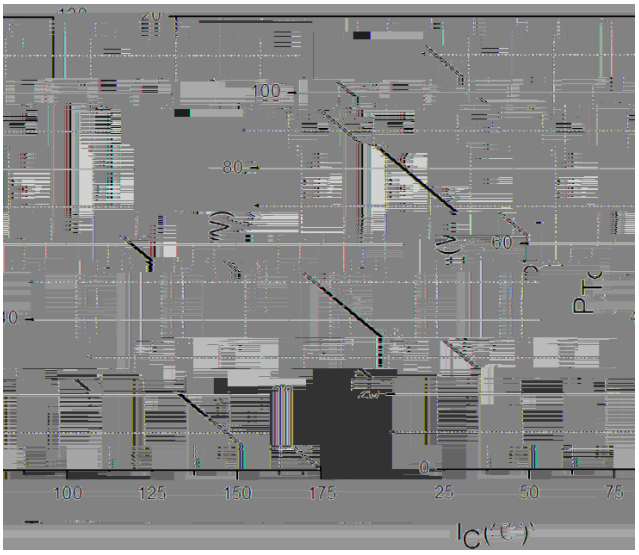

Figure 6. Power Derating

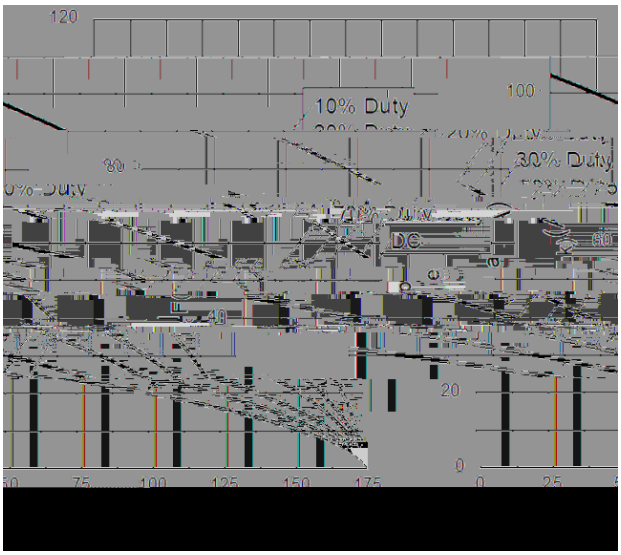

Figure 7. Current Derating

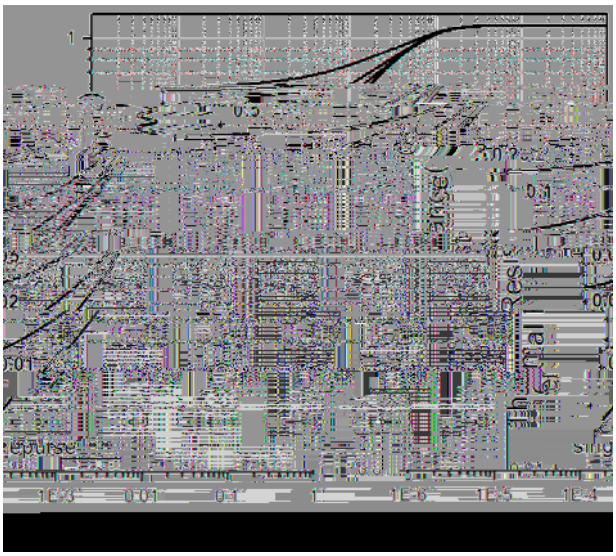

Figure 8. Transient Thermal Impedance

COMPLIANT

■Outline Dimensions

TO-247AC		
Dim	Min	Max
A	4.80	5.20
A1	2.21	2.61
A2	1.85	2.15

Disclaimer

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The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability an p