

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

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	SYMBOL	UNIT	VALUE
Device marking code			D106510NQG2
Reverse voltage (repetitive peak) @ $T_j=25^\circ\text{C}$	V_{RRM}	V	650
Reverse voltage (Surge Peak) @ $T_j=25^\circ\text{C}$	V_{RSM}	V	650
Reverse voltage (DC) @ $T_j=25^\circ\text{C}$	V_{DC}	V	650
Continuous forward current @ $T_c=25^\circ\text{C}$	I_F	A	27
Continuous forward current @ $T_c=135^\circ\text{C}$			13
Continuous forward current @ $T_c=153^\circ\text{C}$			10
Non-repetitive peak forward surge current @ $T_c=25^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Wave	I_{FSM}	A	70
Power Dissipation @ $T_c=25^\circ\text{C}$	P_{TOT}	W	126
Power Dissipation @ $T_c=110^\circ\text{C}$			54
i^2t Value @ $T_c=25^\circ\text{C}$, $t_p=10\text{ms}$	i^2t	A ² S	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	$I_F=10A, T_j=25^{\circ}C$		1.55
			$I_F=10A, T_j=.75^{\circ}C$	1.8	-
Reverse leakage current	I_R	μA	$V_R=650V, T_j=25^{\circ}C$	0.5	

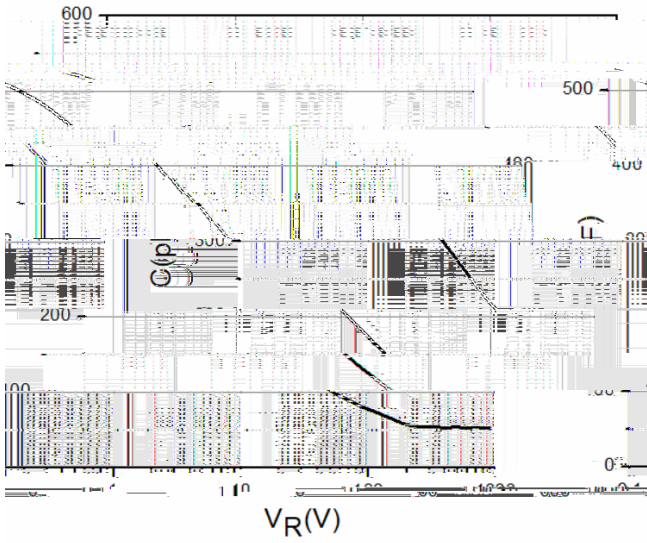


Figure 3. Capacitance vs. Reverse Voltage

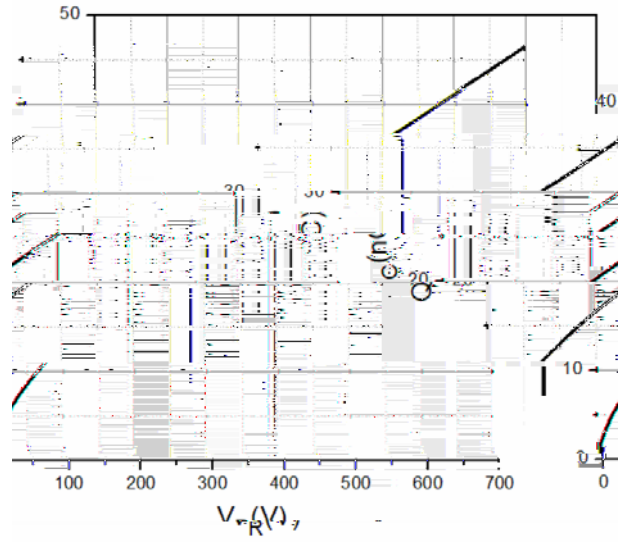


Figure 4. Total Capacitance Charge vs. Reverse Voltage

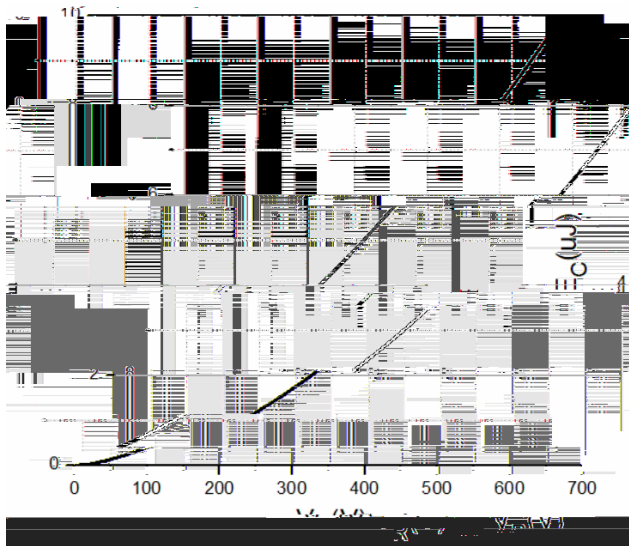


Figure 5. Capacitance Stored Energy

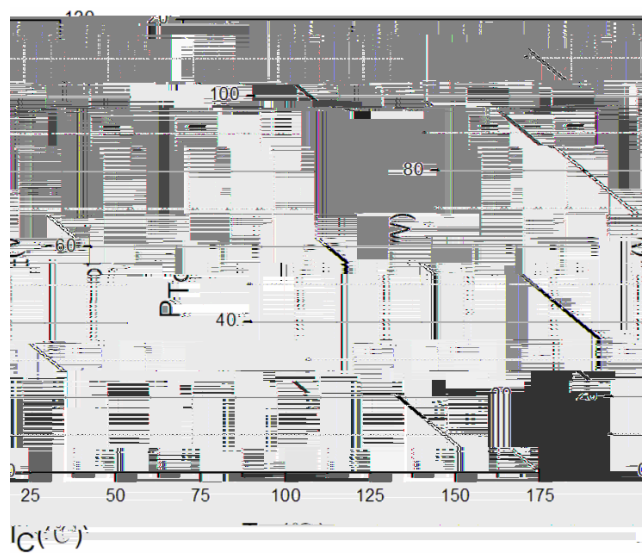


Figure 6. Power Derating

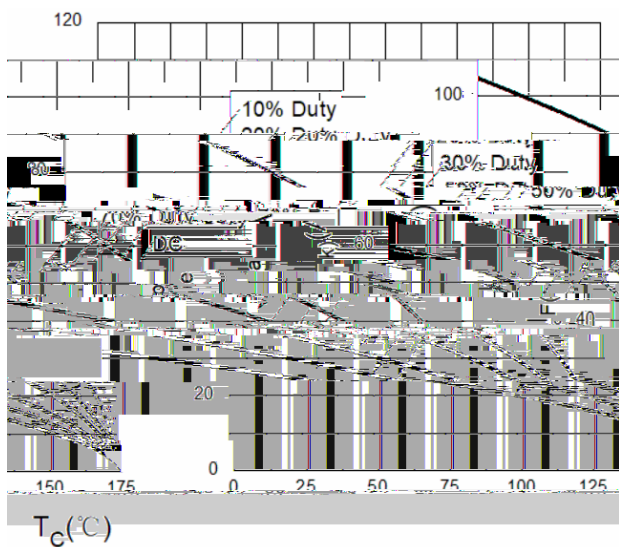


Figure 7. Current Derating

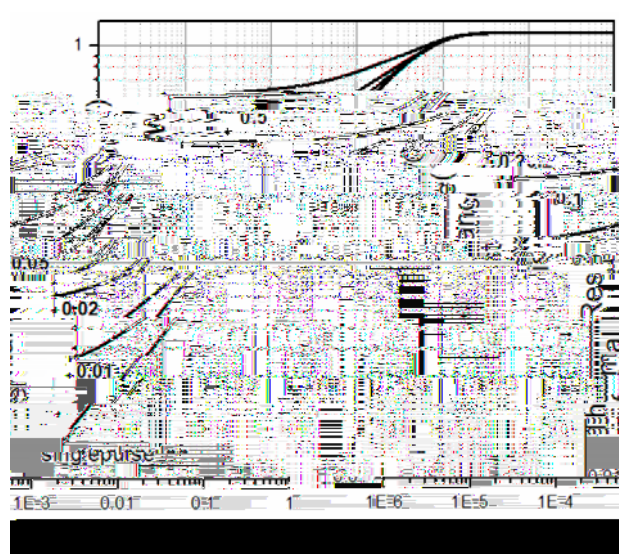


Figure 8. Transient Thermal Impedance



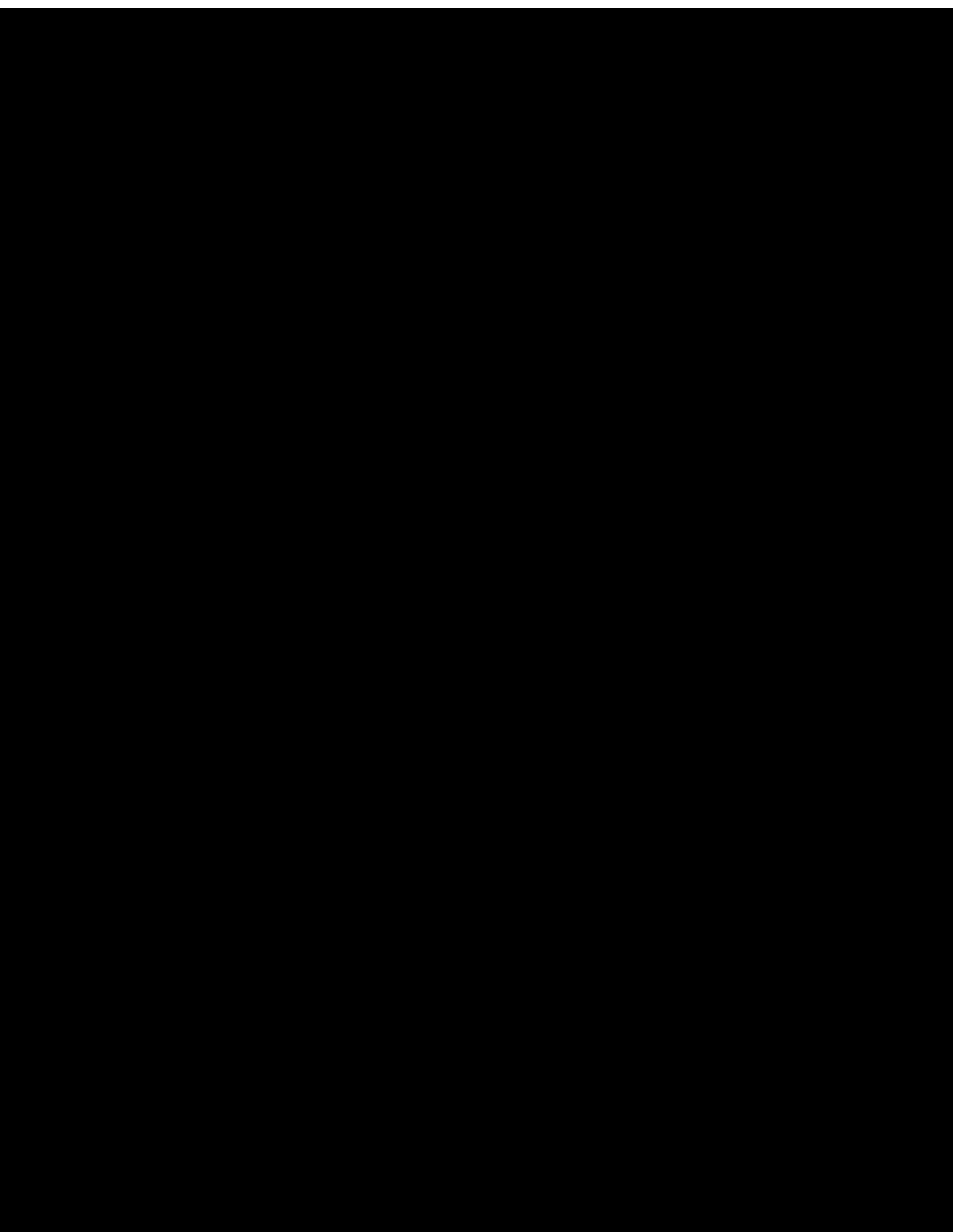
YJD106510NQG2

RoHS
COMPLIANT

Outline Dimensions

TO-247AC		
Dim	Min	Max
A	4.80	5.20
A1	2.21	2.61
A2	1.85	2.15
b	1.11	1.36
b2	1.91	2.21
c	0.51	0.75
D	20.70	21.30

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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