Silicon Carbide Schottky Diode

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)

PARAMTETER	SYMBOL	UNIT	VALUE
Device marking code			D106540NCTQG2
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	56/112
Continuous forward current @ T_c=135°C			26/52
Continuous forward current @ T_c=148°C			20/40
Non-repetitive peak forward surge current @ T_c=25°C, tp=10ms, Hal M. I nu p re c p b , ”			
Power Dissipation@ T_c=110°C			81/158
i^2t Value@ Tc=25°C ,tp=10ms	$\int i^2dt$	A^2S	128(1)
Operating junction and Storage temperature range	T_j ,T_{stg}	°C	-55 to +175

(1) Per Leg, (2) Per Device

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5 H Y H U V H O H D N D J H F X U U H Q W	5		9 5 9 M 7 f & , $ 9 5 9 M 7 f &
7 R W D O F D S D F L W L Y H F K D U J H	&		Q 4 &

7 R W U U H H O &

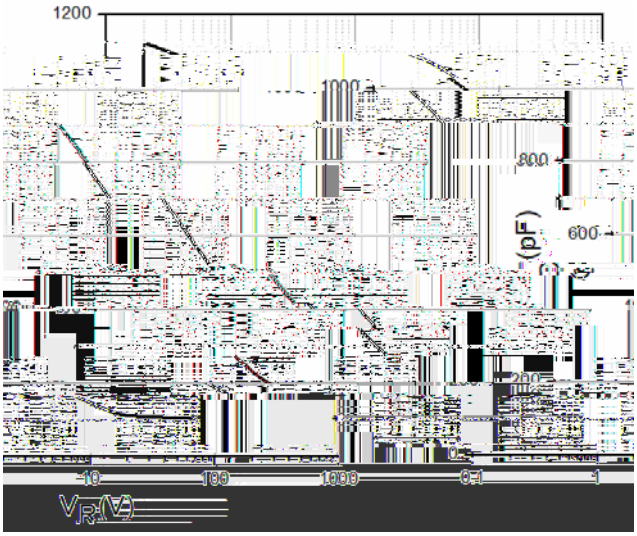


Figure 3. Capacitance vs. Reverse Voltage

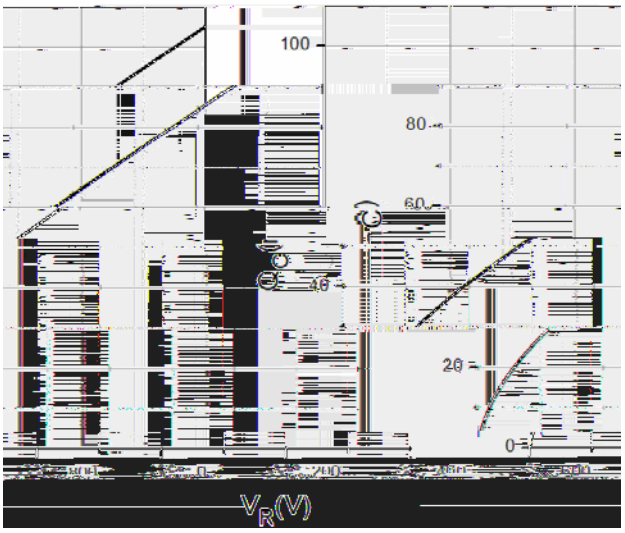


Figure 4. Total Capacitance Charge vs. Reverse Voltage

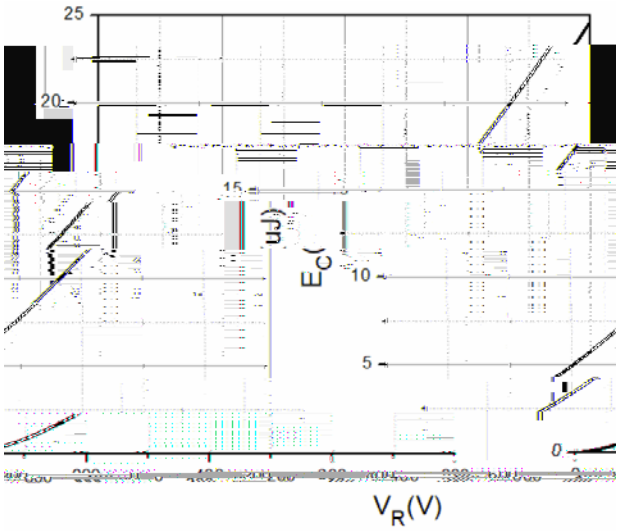


Figure 5. Capacitance Stored Energy

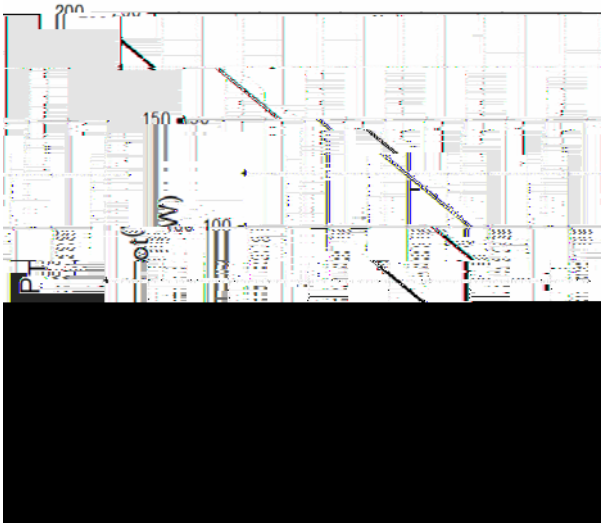


Figure 6. Power Derating

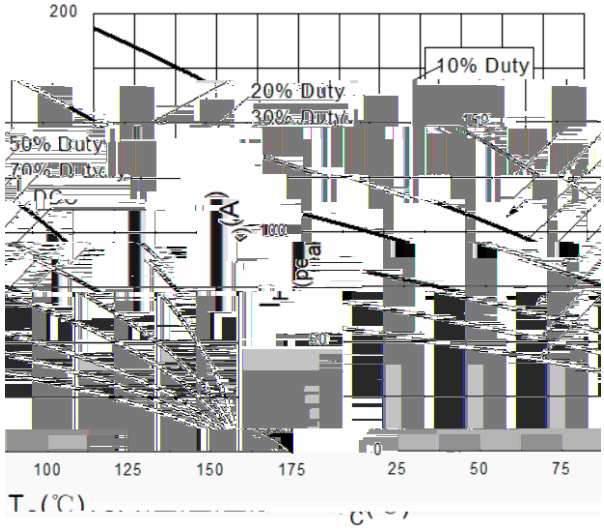
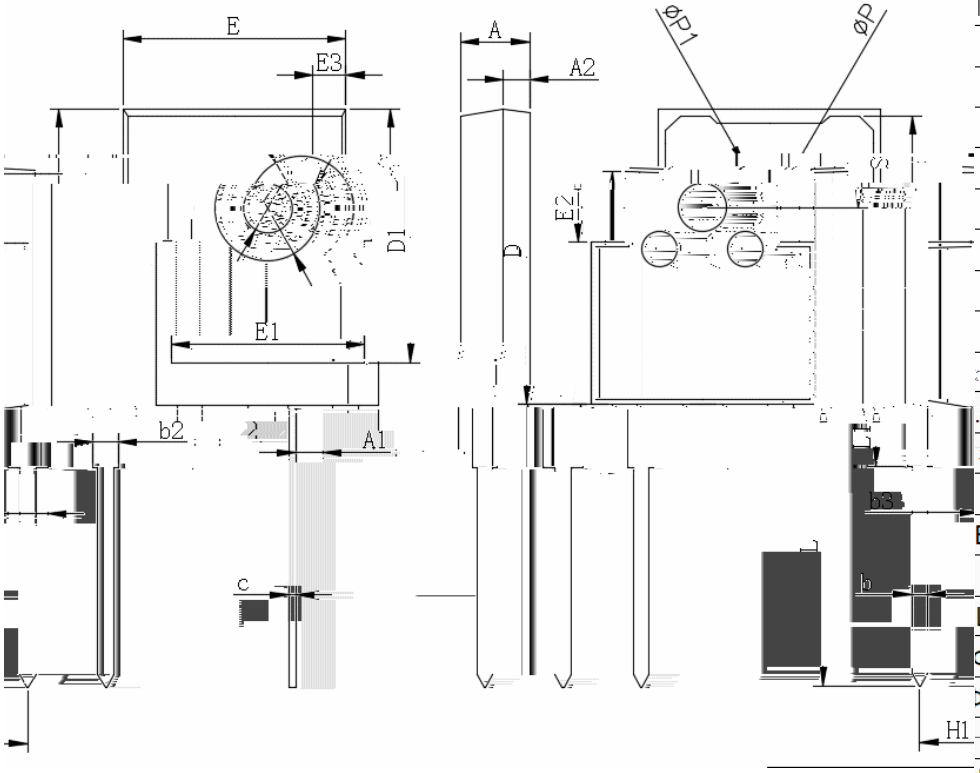


Figure 7. Current Derating

■Outline Dimensions



TO-247AB		
Dim	Min	Max
A	4.8	5.2
A1	2.21	2.61
A2	1.85	2.15
b	1	1.4
b2	1.91	2.21
C	0.5	0.7
D	20.7	21.3
D1	16.25	16.25
E	15.5	16
E2	1.0	1.45
E3	2.3	2.7
L	19.62	20.22
L1	-	4.3
ΦP	3.4	3.8
ΦP1		7.3
S	6.15TYP	
H1	5.44TYP	

Disclaimer

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