



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)

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

(1) Per Leg, (2) Per Device

v(OHFWULFDO & KDUBWHJLVWLFV

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)RUZDUG YROWDJH GURS)) \$ M f &		
			9 9		
5HYHUVH OHDNDJH FXUUHQW	5		9 ₅ 9 M f &		
			9 ₅ 9 M f &		
7RWDO FDSDFLWLYH FKDUJH	&		Q&		

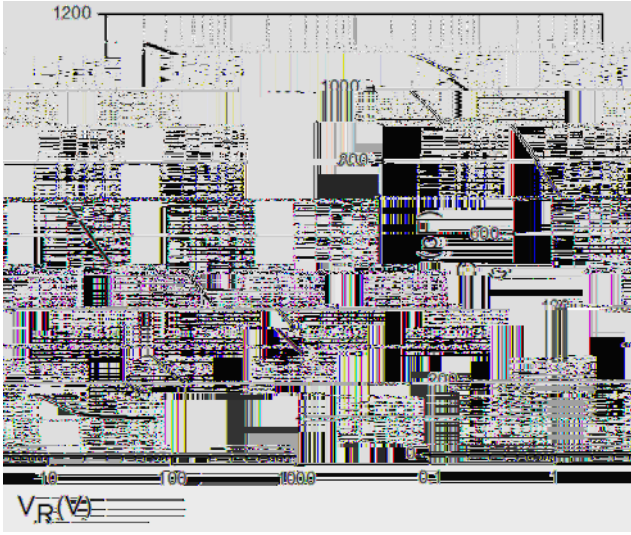


Figure 3. Capacitance vs. Reverse Voltage

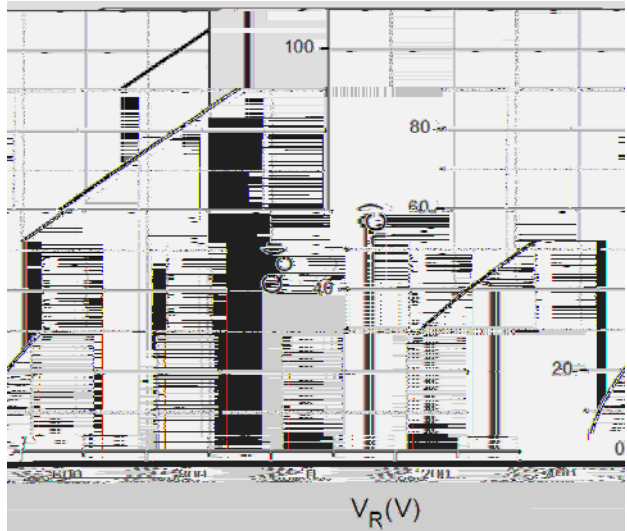


Figure 4. Total Capacitance Charge vs. Reverse Voltage

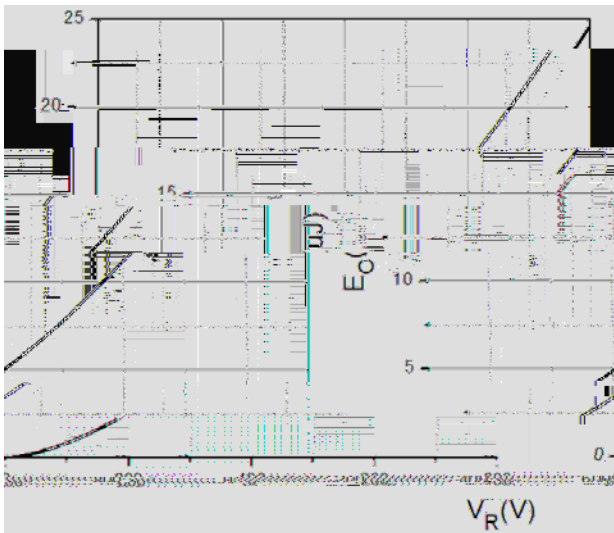


Figure 5. Capacitance Stored Energy



Figure 6. Power Derating

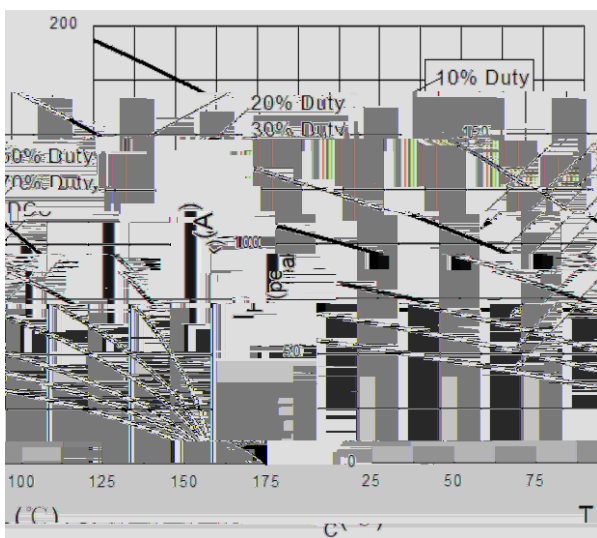
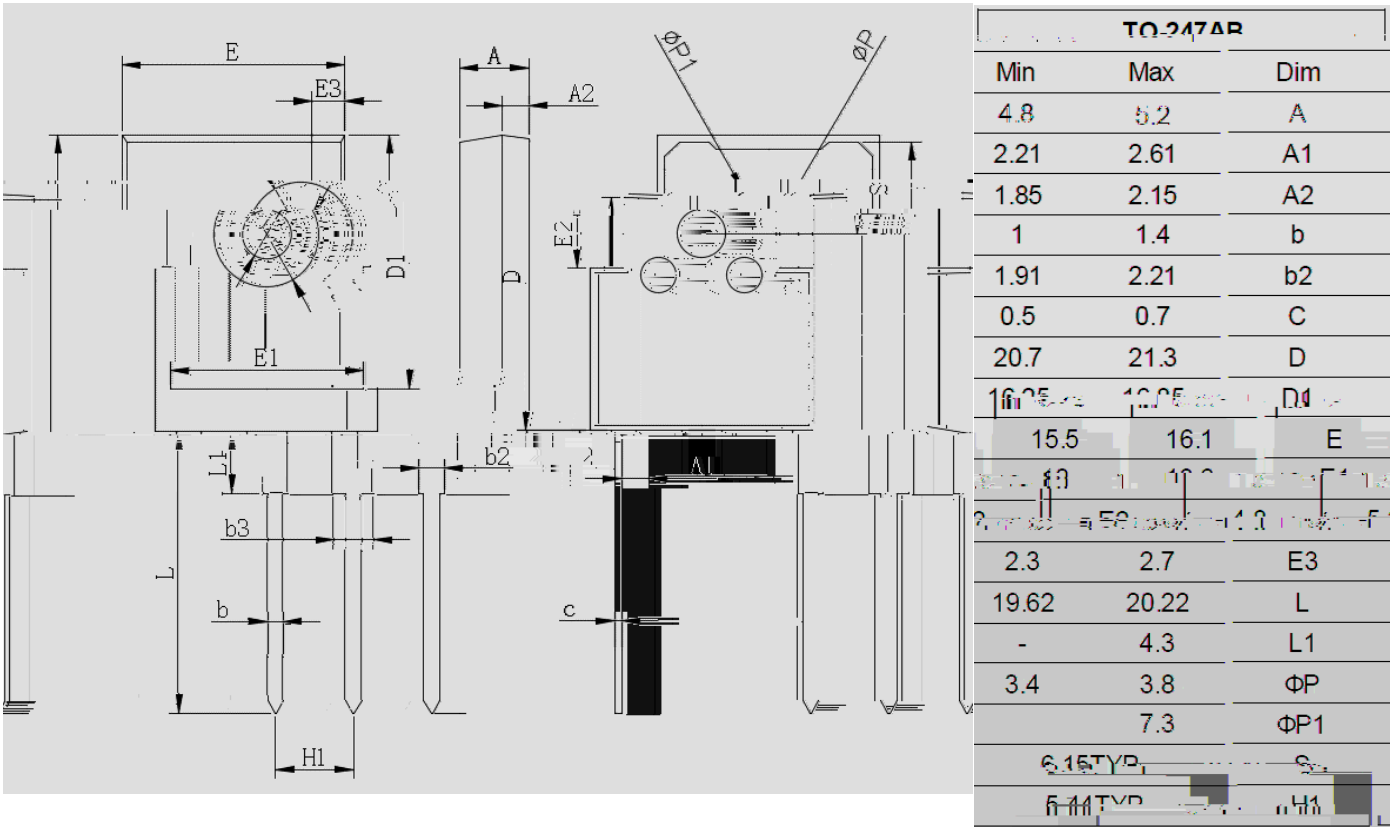


Figure 7. Current Derating





Outline Dimensions





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