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 voltage
- 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

[redacted]	SYMBOL	UNIT	VALUE

■Electrical Characteristics

PARAMTETER	SYMBOL	UNIT	TEST CONDITIONS	Typ.	Max.
Forward voltage drop	V_F	V	I_F=6A, T_j=25°C	1.31	1.5
			I_F=6A, T_j=175°C	1.65	-
Reverse leakage current	I_R	μA	V_R=650V, T_j=25°C	0.5	25
			V_R=650V, T_j=175°C	5	-
Total capacitive charge	Q_C	nC	V_R=400V, T_j=25°C , $QC=\int_0^{VR} C(V)dV$	25	-
Total capacitance	C	pF	V_R=0V, f=1MHZ	378	-
			V_R=200V, f=1MHZ	51	-
			V_R=400V, f=1MHZ	49	-
Capacitance Stored Energy	E_C	μJ	V_R=400V	3	-

■Thermal Characteristics (T_a=25 Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Value
Thermal resistance	$R_{\theta J\text{-}C}$	°C /W	4.76

■Typical Characteristics

Figure 1. Forward CharacterCharacteristi

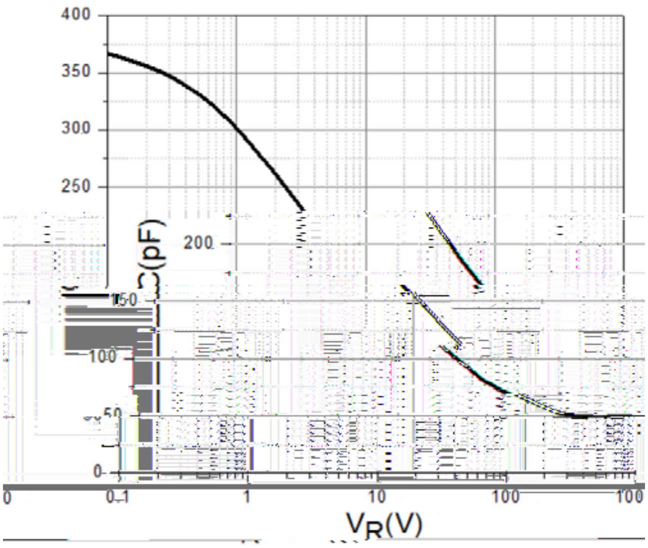


Figure 3. Capacitance vs. Reverse Voltage

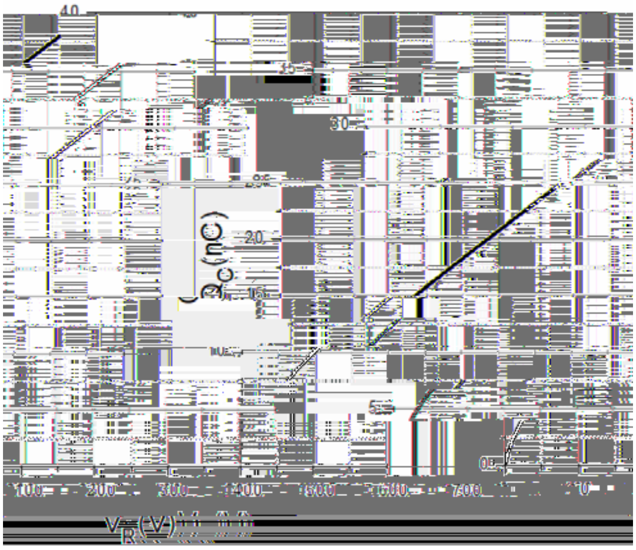


Figure 4. Total Capacitance Charge vs. Reverse Voltage

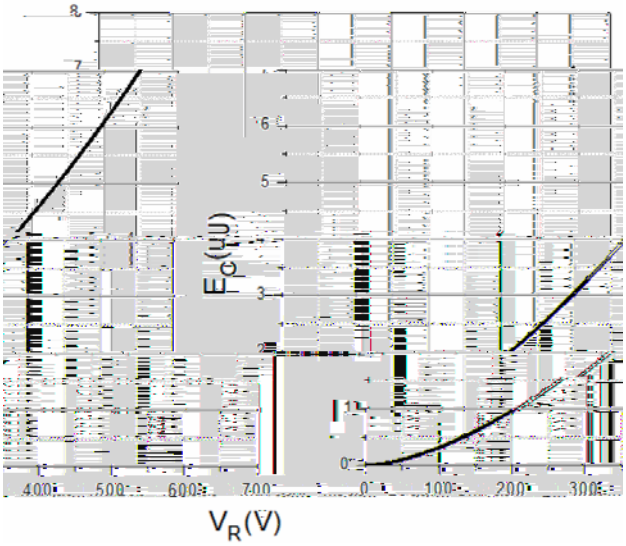


Figure 5. Capacitance Stored Energy

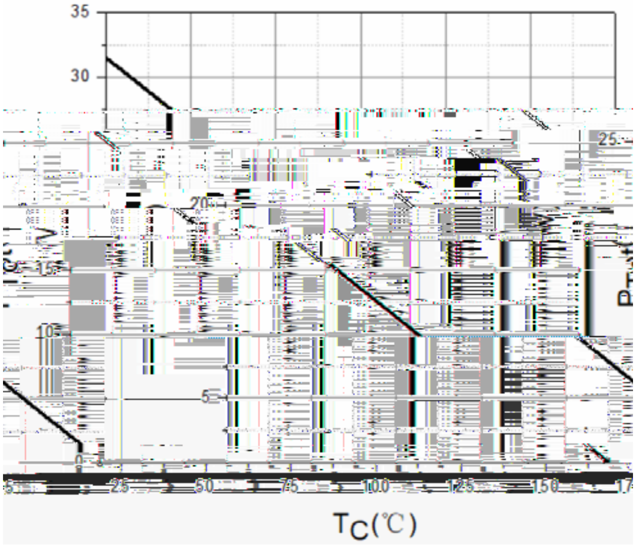


Figure 6. Power Derating

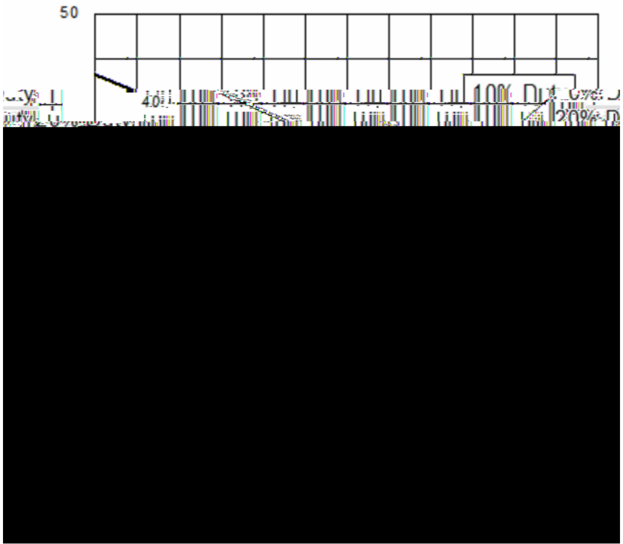


Figure 7. Current Derating

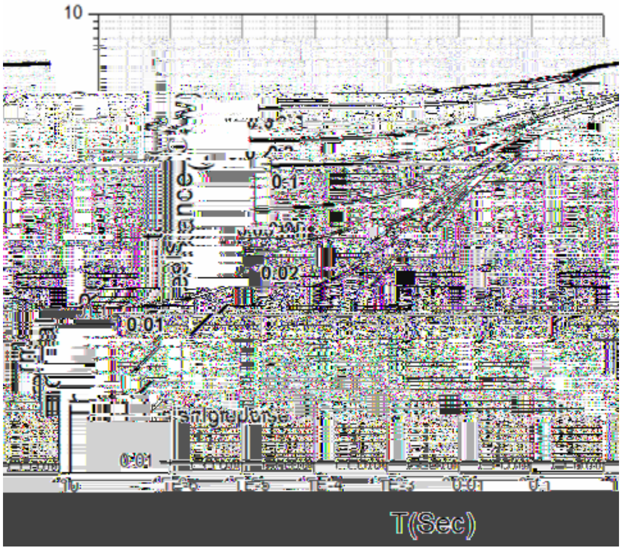
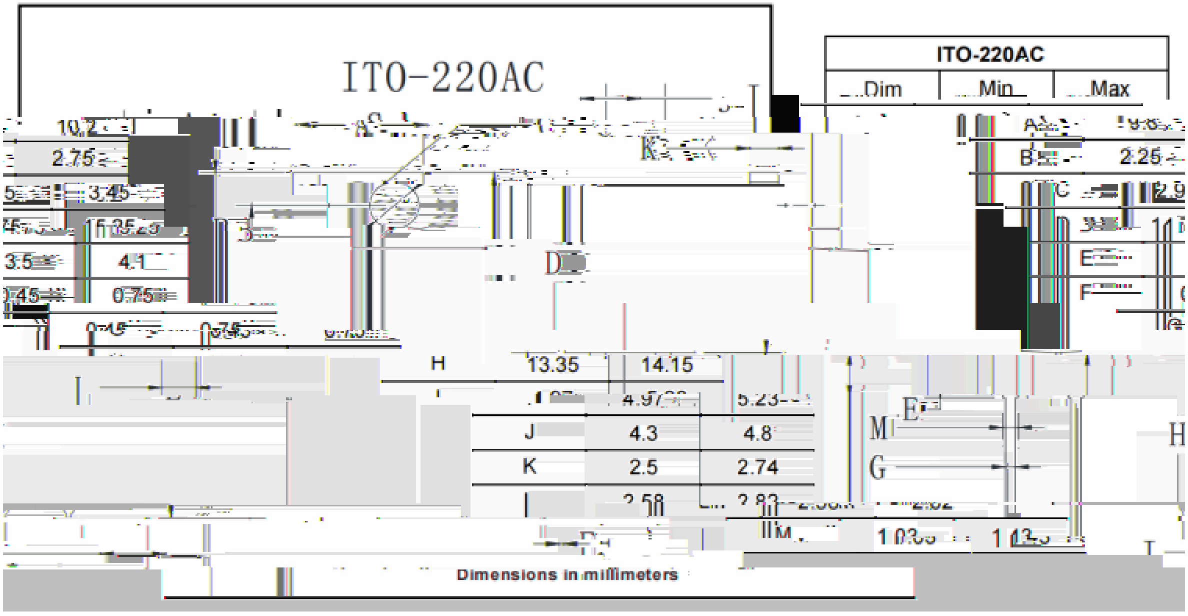


Figure 8. Transient Thermal Impedance

■Outline Dimensions



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RU RWKHUZLVH

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