

Silicon Carbide Schottky Diode

V_{RRM}	650V
I_F 125°C	8A
Q_C	30nC

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 Data

Package: ITO-220AC

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			D106508FQG2
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	16
Continuous forward current @ $T_c=125^\circ\text{C}$			8
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	43
Power Dissipation @ $T_c=110^\circ\text{C}$			19
i^2t Value @ $T_c=25^\circ\text{C}$, $t_p=10\text{ms}$	i^2t	A^2S	24
Operating junction and Storage temperature range	T_j, T_{stg}	$^\circ\text{C}$	-55 to +175

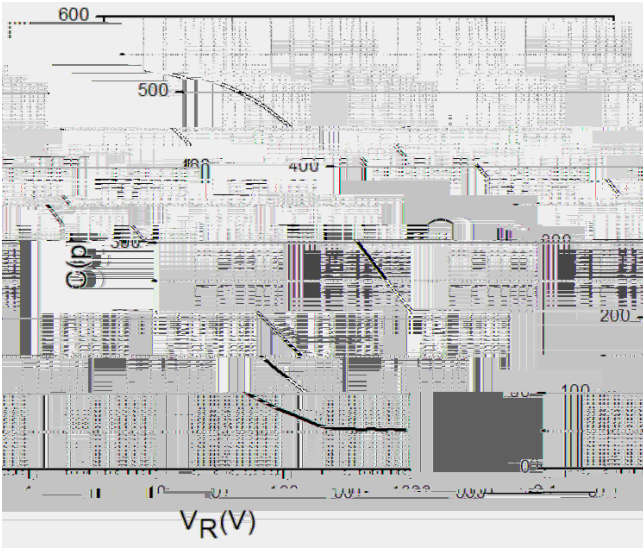


Figure 3. Capacitance vs. Reverse Voltage

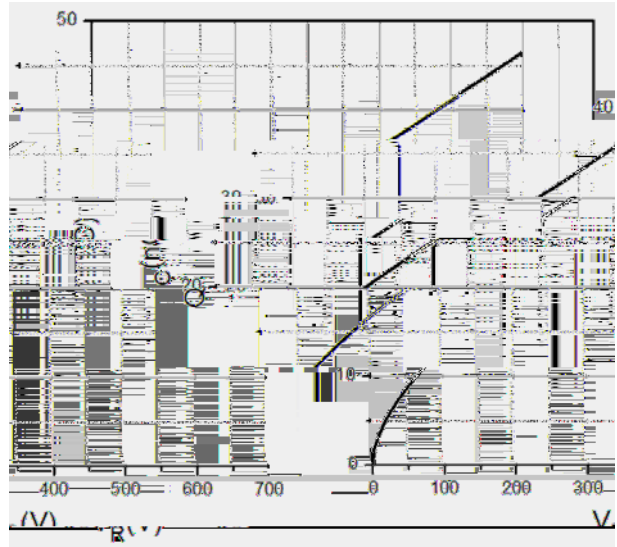


Figure 4. Total Capacitance Charge vs. Reverse Voltage

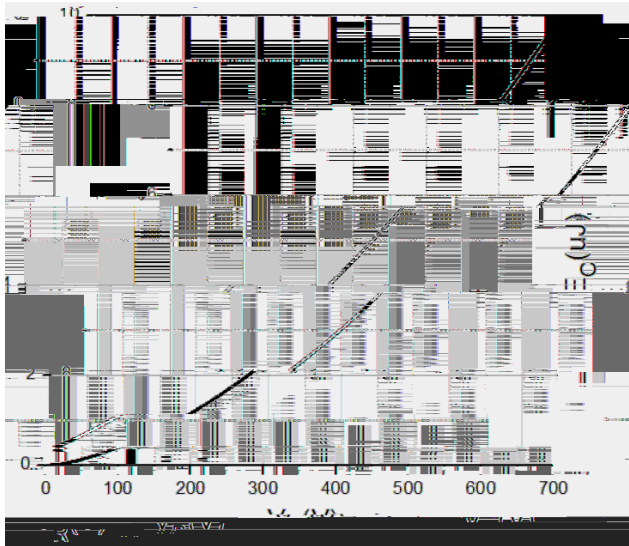


Figure 5. Capacitance Stored Energy

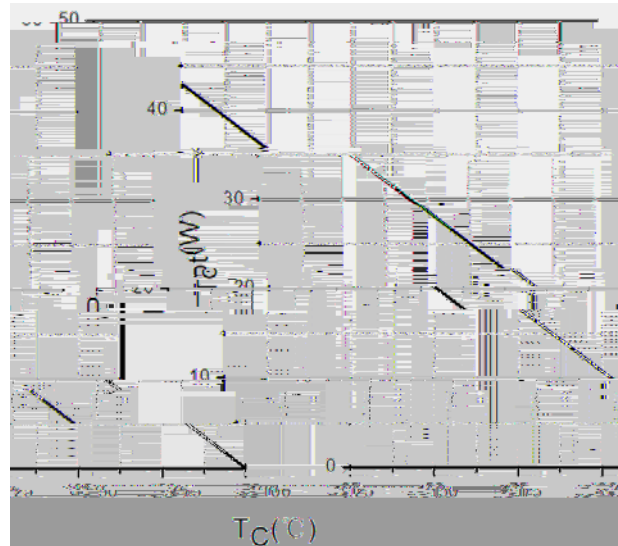


Figure 6. Power Derating

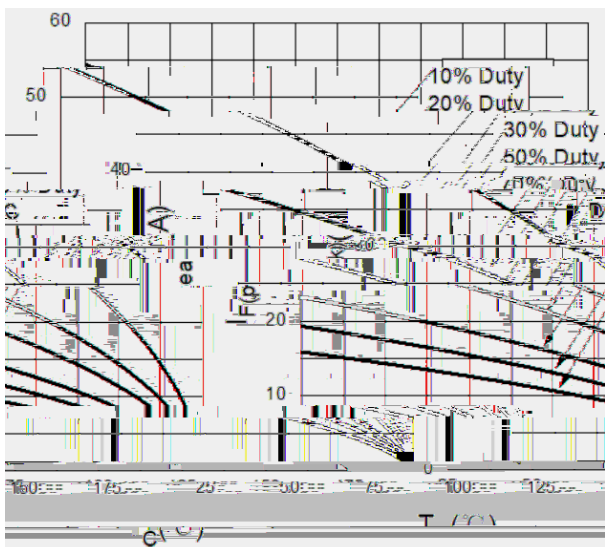


Figure 7. Current Derating

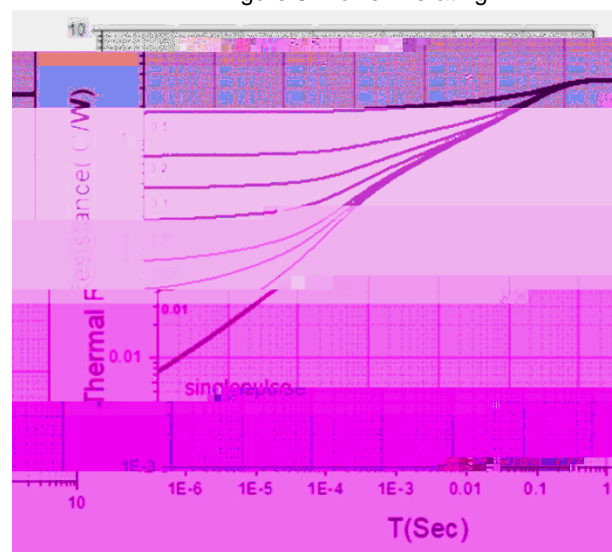
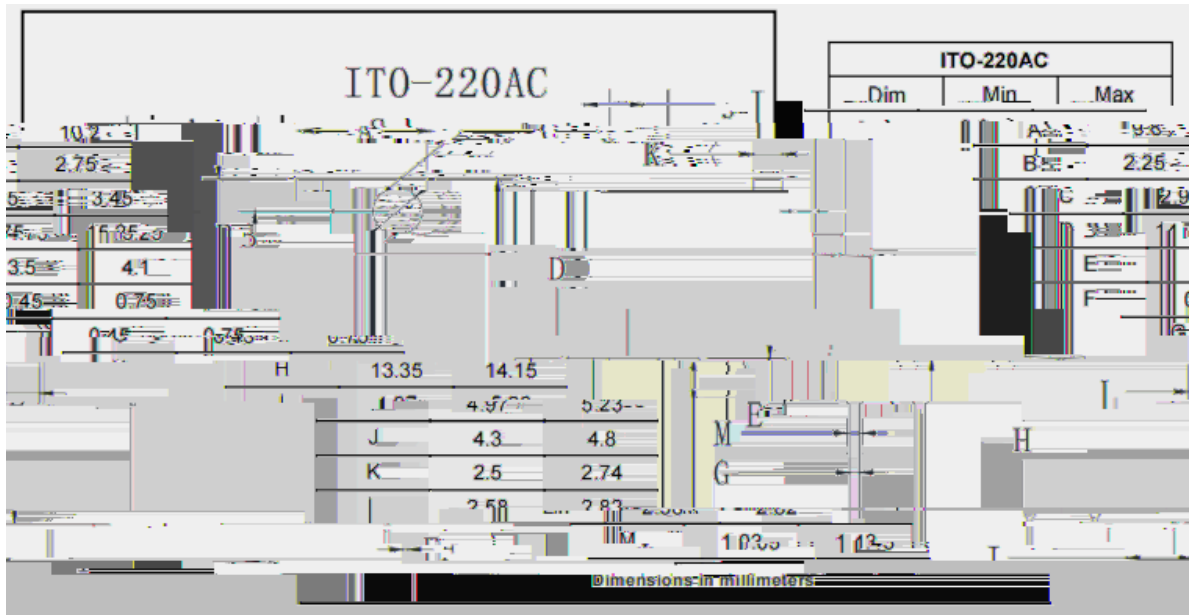


Figure 8. Transient Thermal Impedance



YJD106508FQG2

Outline Dimensions



'LVFODLPHU

7KH LQIRUPDQWRIC \$ QHWKLV GRFXPHQW<DQJRKUR X HIBQJHQZHHF(ROHFOVRUR Q&RF /VHG UHV
ULJKW WR PDNH FKD QJHRU ZW WIK R/XSMIKHRSVLRG XRF Q' R IGWV SFSDARIGHKUHUCILDEWQGMV L JQQ F
RU RWKHUZLVH

7KH SURGXFW OLVVJCH G HWRI EQH LXV B G VZH FWKURRQG IEQHTUX L S PHQW RU GHYLFHWWKDQG Q
HTXLSPHQW RU GHYLLFHH K IZJKL FKH V IH Q'RW K H PLDDEIXZOLFWKL B Q X B G QGLEDJHFHWOK XPFKQ DQVLIH
PHGLFDO LQVWUXPHQW VIT XLLSDPWSRUFHMDVFK LQX FOHDU UHDFVKNHO FFROQWUURROOHUW D Q
GHYLFHV <DQJMLHW R LE HDQD Q HDR/Q XLP H O LQV R B H V S IRDE/LQEL W/H V R O VDIQQ JGIDJRPJMMFK LP
RI VDOH

7KLV SXEOLFDWLR G SVXDSFHUW HDGIVLQ URQAPVXLSRQL B G HYRUR XDGGLRQL FSOOHD V B WRHJPLW R X
KWVZSZ \DQJMLHRFRFRPRQVXOW \RXHUT Q HVDUHHWWR & DLGJMLR W D Q B W KHU D