

## 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 @ $T_c=25^\circ\text{C}$ , $t_p=10\text{ms}$	$i^2t$	$\text{A}^2\text{S}$	24
Operating junction and Storage temperature range	$T_j, T_{stg}$	$^\circ\text{C}$	-55 to +175



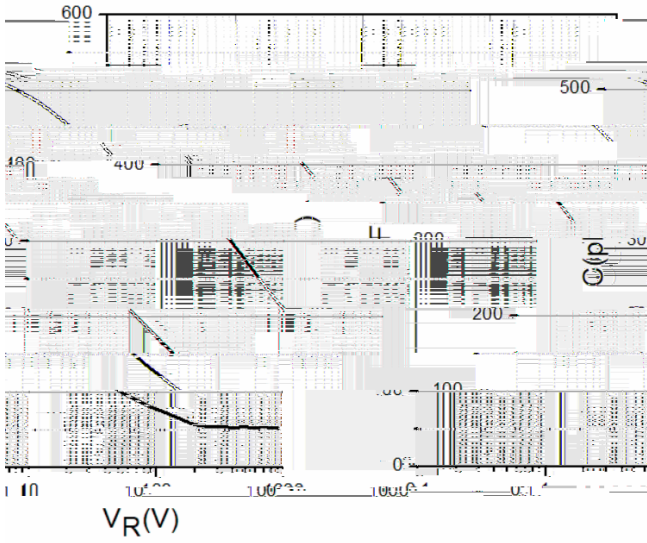


Figure 3. Capacitance vs. Reverse Voltage

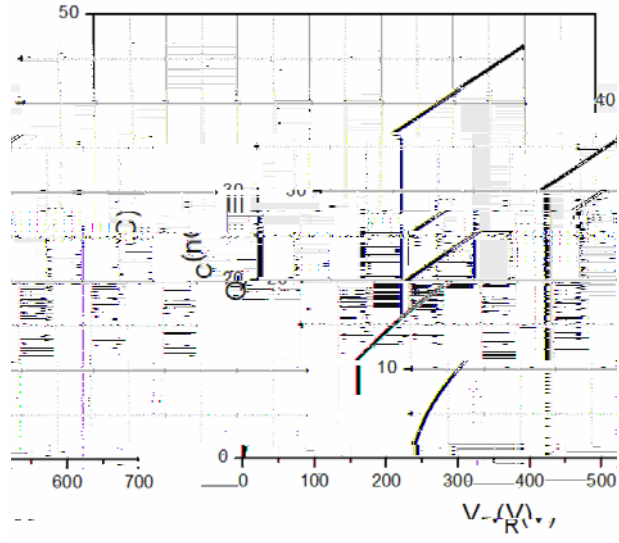


Figure 4. Total Capacitance Charge vs. Reverse Voltage

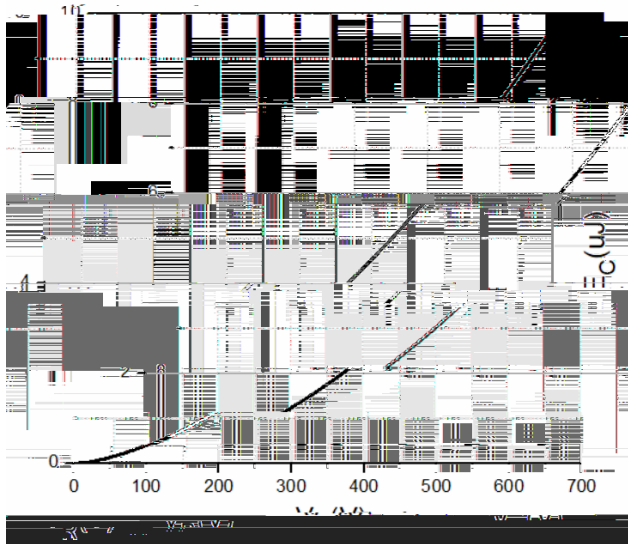


Figure 5. Capacitance Stored Energy

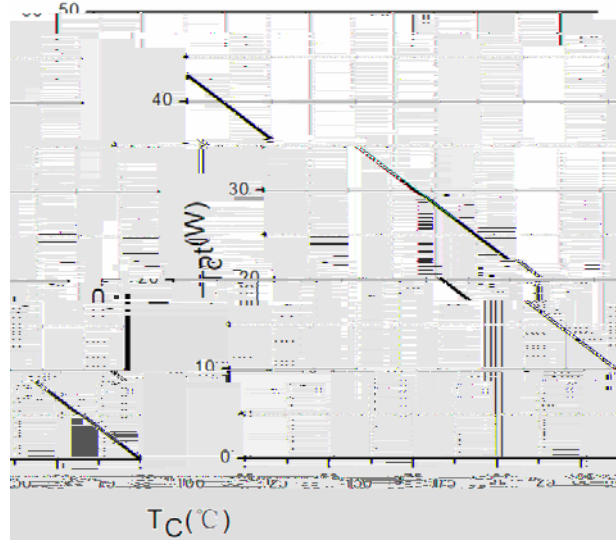


Figure 6. Power Derating

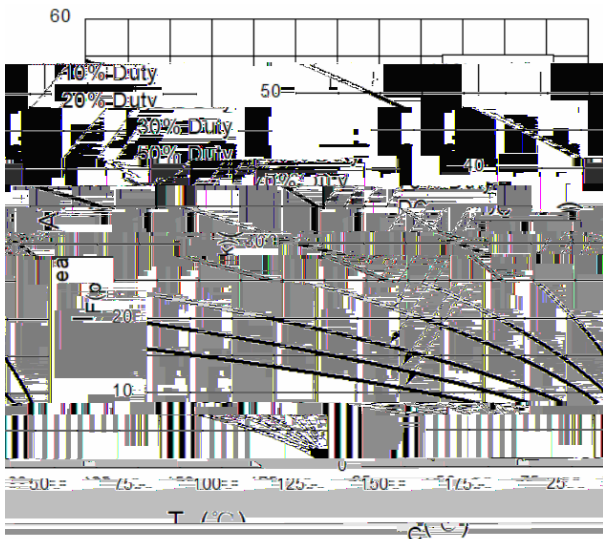


Figure 7. Current Derating

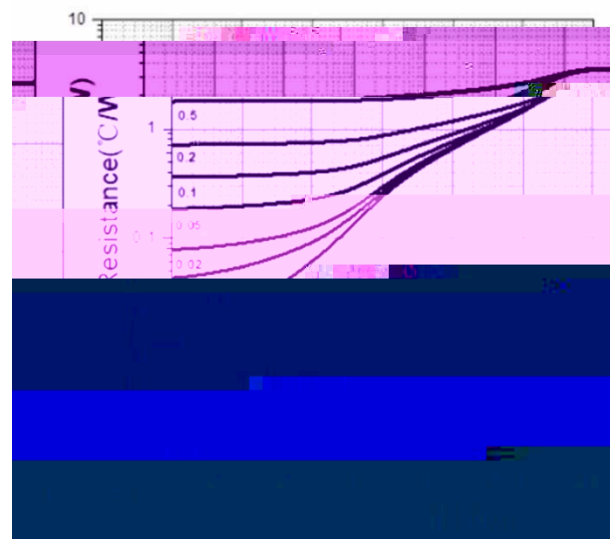
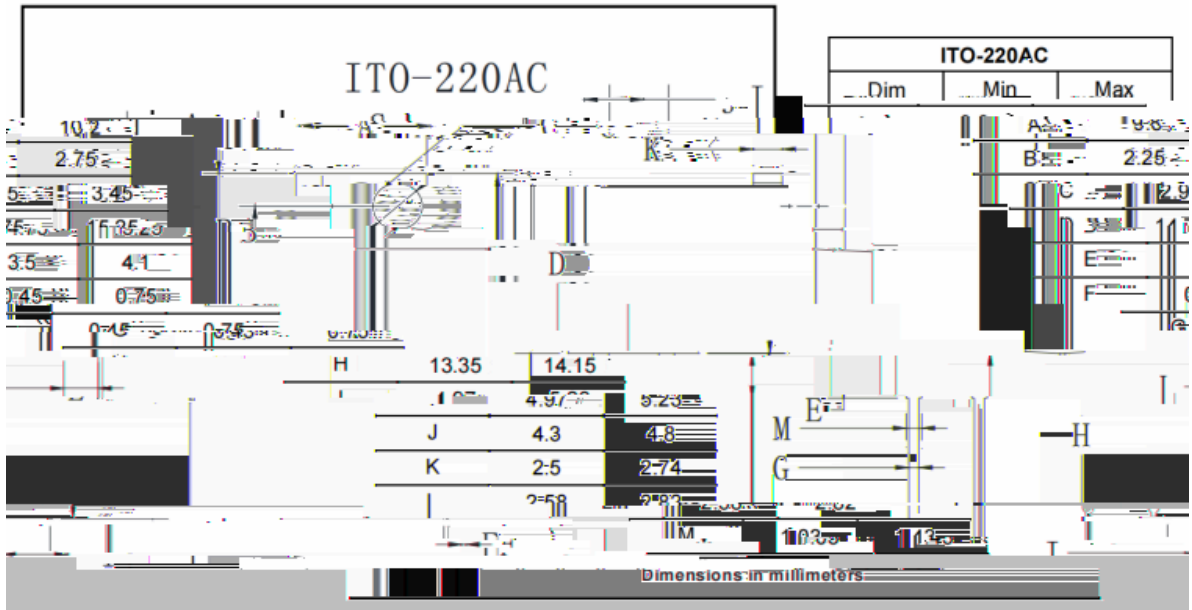


Figure 8. Transient Thermal Impedance



# YJD106508FQG2

## Outline Dimensions



'LVFODLPHU

7KH LQIRUPDQWRIC \$ QHWKLV GRFXPHQW<DQJ RKR X HIBQJHQZHHF(ROHFOVRUR Q&RF /VHG UHV  
ULJKW WR PDNH FKD QJHRU ZW WIK R/XSM ROR SWLRG XRF Q' R IGWV SFOUARIYGHKUHUCILDEWQGMV L JQQ F  
RU RWKHUZLVH

7KH SURGXFW OLVVJCH G HWRI EQH LXW B G VZH FWKURRQGEFQHTUXLSPHQW RU GHYLFHWWKDQG Q  
HTXLSPHQW RU GHYLLFHH KIZJKL FKH VHHORW K H PLDDEIXOLFWML R QX RIG QGLEDJHFHUK XPFKQDOLIH  
PHGLFDO LQVWUXPHRQV H T WLSDFWSSORFHMHDV K LQX FOHDU UHDFVKHUO FFRODWURROOHUW D Q  
GHYLFHV <DQJMLHW R LE HDIDR Q HDR/Q XLP H O LQRI R HV SIRDE/LQEL W/H V R O VDIQQ JGIDJRPJMMFK LP  
RI VDOH

7KLV SXEOLFDWLRQ SVXDSFHUW HDGVLQURQJPDVXLSRQL H G HYRUR XDGGLRQL FSOOHD V R WRHJPLW R X  
KWVZSZ \DQJMLHRFRFRQVXOW \RXHUQ HVDUOHWWR & DLGJMLR W D Q F W KHU D