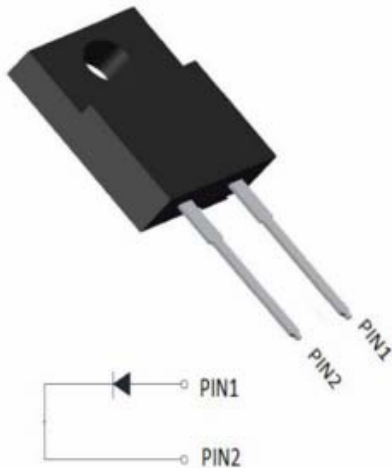


$V_{RRM}$	650V
$I_F$ 125°C	8A
$Q_C$	30nC

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 are in power factor correction(PFC), solar inverter, uninterruptible power supply, motor drives, photovoltaic inverter, electric car and charger.

: ITO-220AC

Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free

: Tin plated leads

: As marked

( $T_C=25$  Unless otherwise specified)

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



Forward voltage drop	$V_F$	V	$I_F=8A, T_J=25^\circ C$	1.3	1.55
			$I_F=8A, T_J=175^\circ C$	1.6	-
Reverse leakage current	$I_R$	$\mu A$	$V_R=650V, T_J=25^\circ C$	0.5	25
			$V_R=650V, T_J=175^\circ C$	2	-
Total capacitive charge	$Q_C$	nC	$V_R=400V, T_J=25^\circ C, Q_C=\int_0^{V_R} I_C(V)dV$	30	-
Total capacitance	C	$\mu F$	$V_R=0V, f=1MHz$	543	-
			$V_R=200V, f=1MHz$	55	-
			$V_R=400V, f=1MHz$	52	-
Capacitance Stored Energy	$E_C$	$\mu J$	$V_R=400V$	3.7	-

( $T_a=25$  Unless otherwise specified)

Thermal resistance	$R_{J-C}$	$^\circ C/W$	3.5

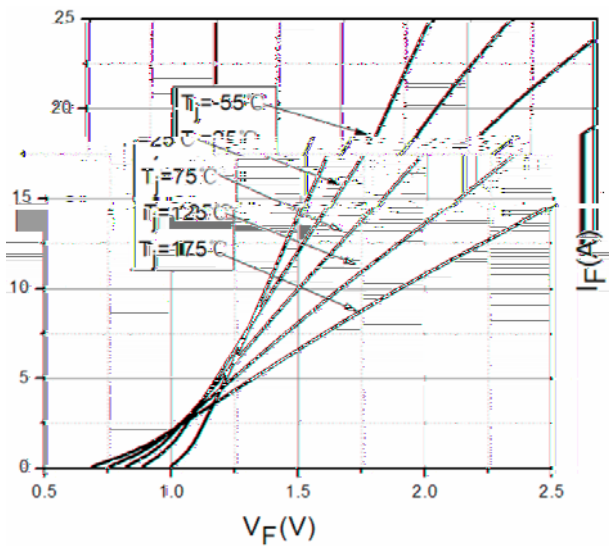


Figure 1. Forward Characteristics

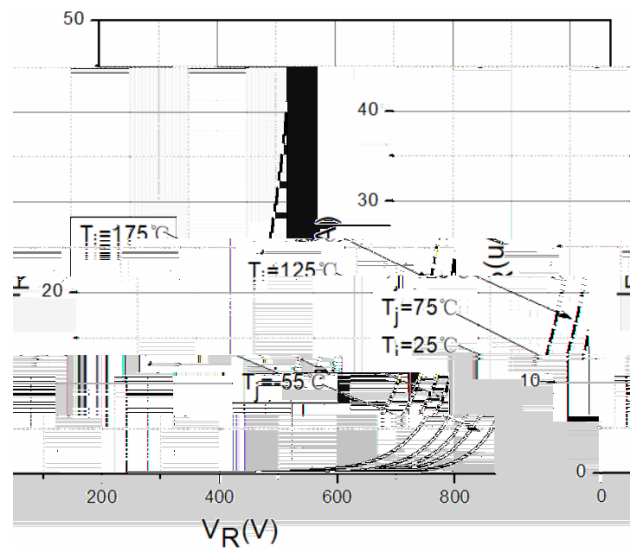


Figure2. Reverse Characteristic

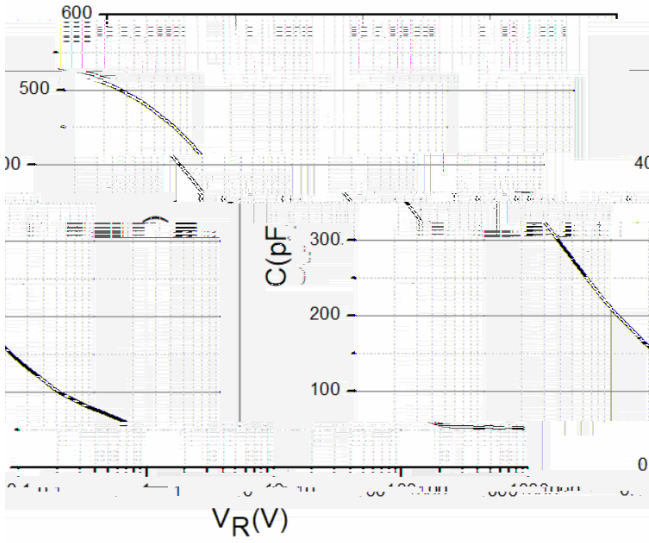


Figure 3. Capacitance vs. Reverse Voltage

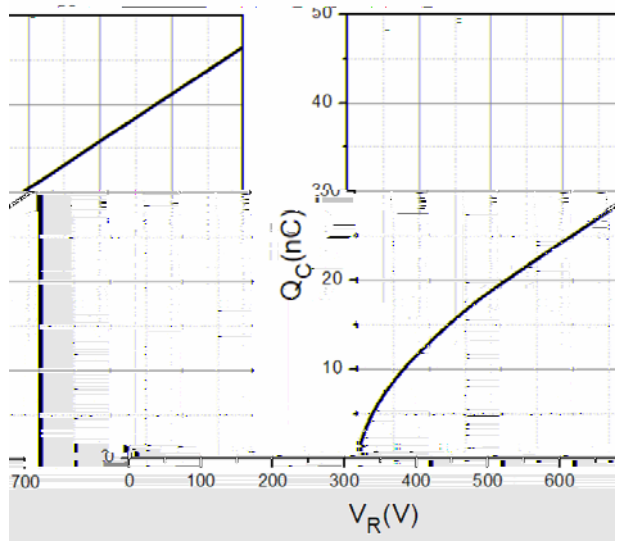


Figure 4. Total Capacitance Charge vs. Reverse Voltage

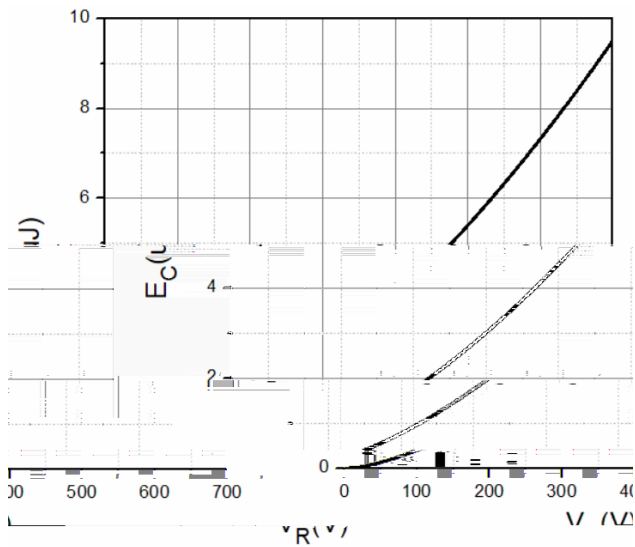


Figure 5. Capacitance Stored Energy

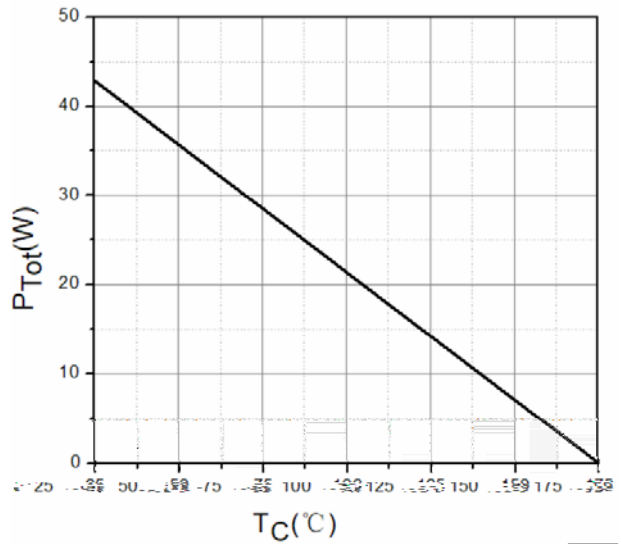


Figure 6. Power Derating

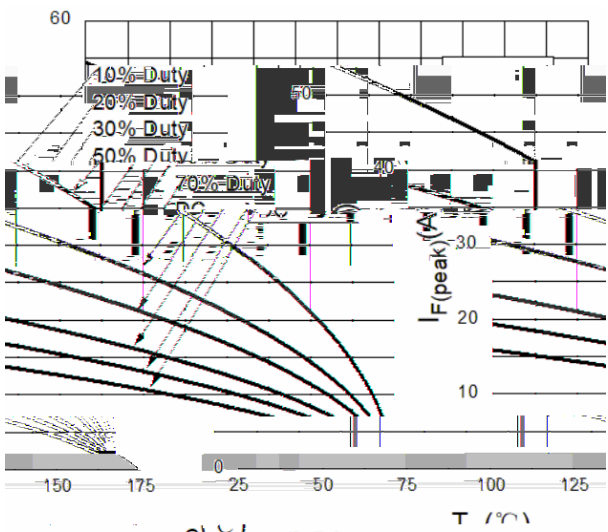


Figure 7. Current Derating

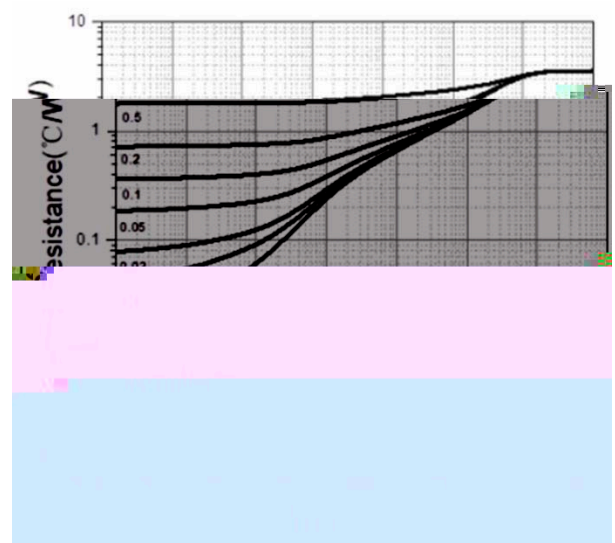
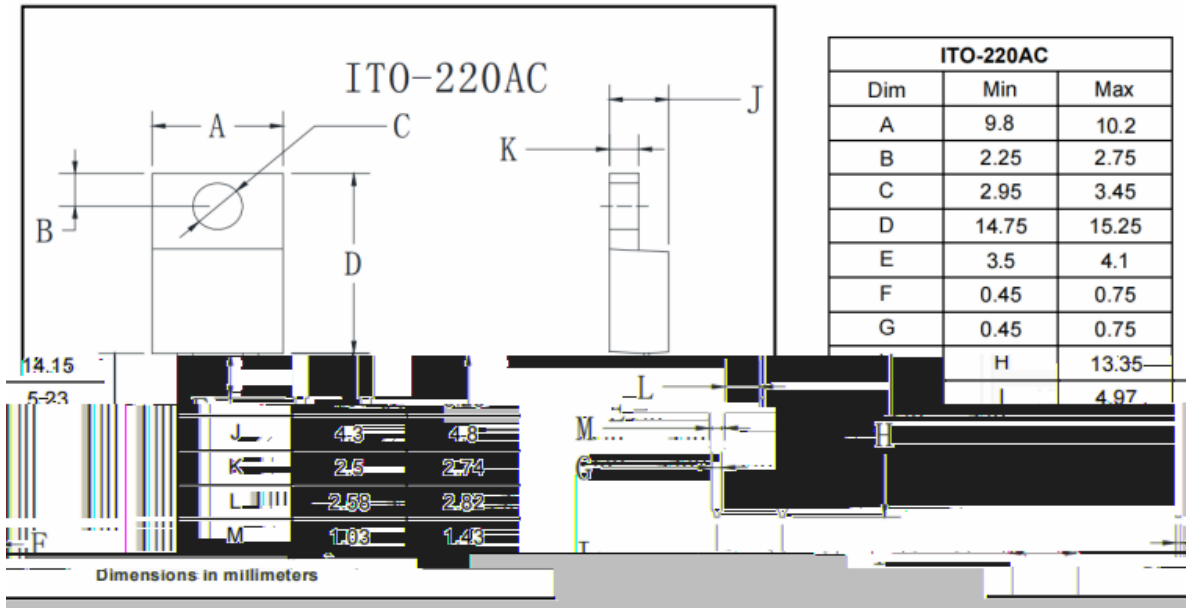


Figure 8. Transient Thermal Impedance





---

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.frxelec.com](http://www.frxelec.com) , or consult your nearest Yangjie's sales office for further assistance.