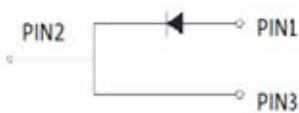


$V_{RRM}$	1200V
$I_F$ (135°C)	15A
$Q_C$	53nC

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

: TO-220  
 : Tin plated leads  
 : As marked

( $T_c=25^\circ\text{C}$  Unless otherwise specified )

Device marking code			D112010PQG2
Reverse voltage (repetitive peak) @ $T_j=25^\circ\text{C}$	$V_{RRM}$	V	1200
Reverse voltage (Surge Peak) @ $T_j=25^\circ\text{C}$	$V_{RSM}$	V	1200
Reverse voltage (DC) @ $T_j=25^\circ\text{C}$	$V_{DC}$	V	1200
Continuous forward current @ $T_c=25^\circ\text{C}$	$I_F$	A	31
Continuous forward current @ $T_c=135^\circ\text{C}$			15
Continuous forward current @ $T_c=157^\circ\text{C}$			10
Non-repetitive peak forward surge current @ $T_c=25^\circ\text{C}$ , $t_p=10\text{ms}$ , Half Sine Wave	$I_{FSM}$	A	85
Power Dissipation @ $T_c=25^\circ\text{C}$	$P_{TOT}$	W	170
Power Dissipation @ $T_c=110^\circ\text{C}$			73
$i^2t$ Value @ $T_c=25^\circ\text{C}$ , $t_p=10\text{ms}$	$\int i^2 dt$	$\text{A}^2\text{S}$	36
Operating junction and Storage temperature range	$T_j, T_{stg}$	$^\circ\text{C}$	-55 to +175



Forward voltage drop	$V_F$	V	$I_F=10A, T_j=25^\circ C$	1.42	1.54
			$I_F=10A, T_j=175^\circ C$	2.1	-
Reverse leakage current	$I_R$	$\mu A$	$V_R=1200V, T_j=25^\circ C$	1.3	13
			$V_R=1200V, T_j=175^\circ C$	6	-
Total capacitive charge	$Q_C$	nC	$V_R=800V, T_j=25^\circ C, Q_C=\int_0^{V_R} I_C(V)dV$	53	
Total capacitance	C	$\mu F$	$V_R=0V, f=1MHz$	700	-
			$V_R=400V, f=1MHz$	49	-
			$V_R=800V, f=1MHz$	39	-
Capacitance Stored Energy	$E_C$	$\mu J$	$V_R=800V$	14	-

( $T_a=25^\circ C$  Unless otherwise specified)

Thermal resistance	$R_{j-c}$	$^\circ C/W$	0.88

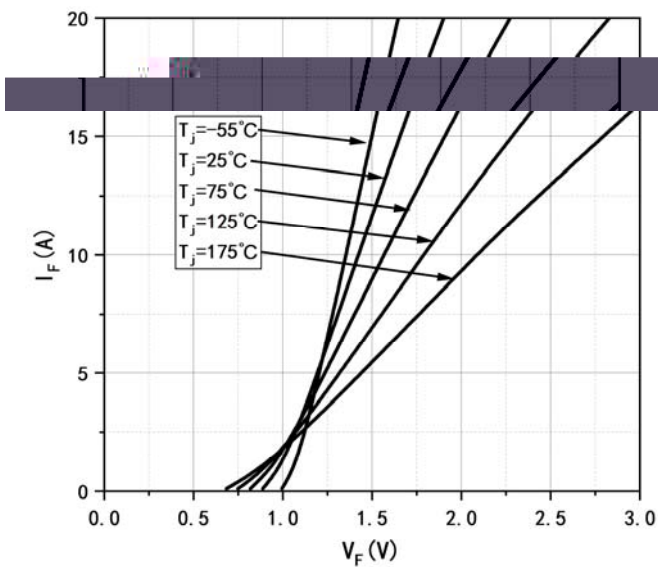


Figure 1. Forward Characteristics

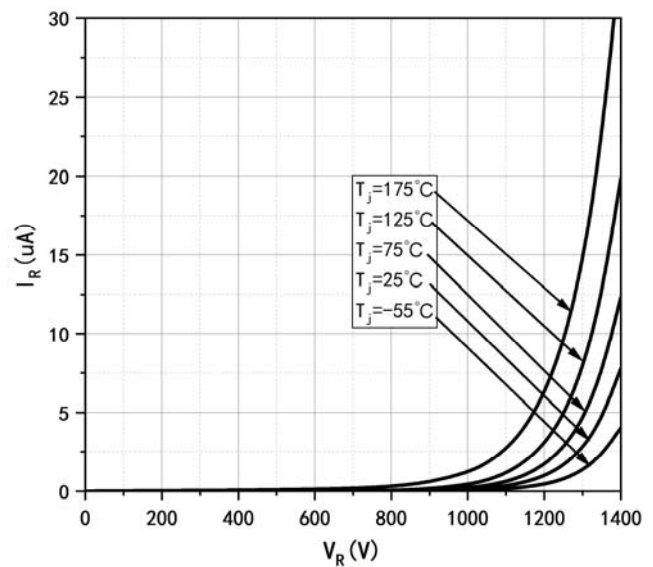


Figure 2. Reverse Characteristic

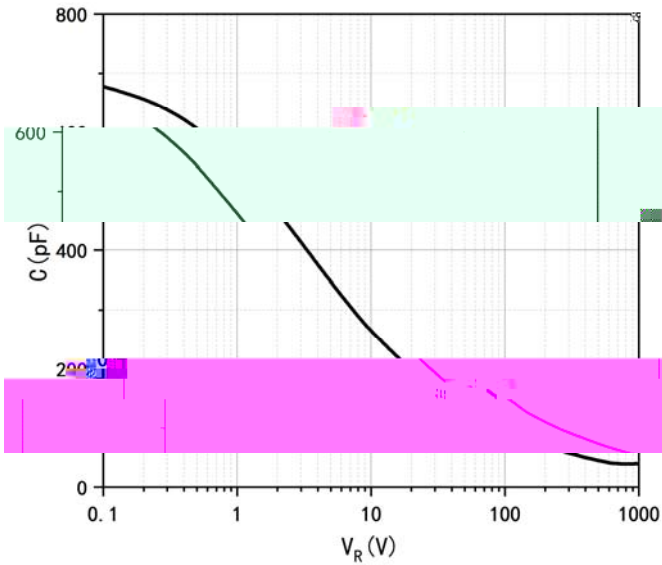


Figure 3. Capacitance vs. Reverse Voltage

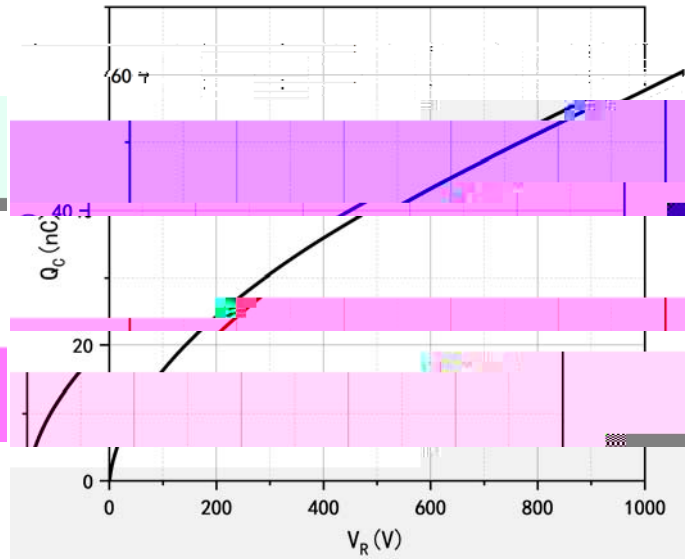


Figure 4. Total Capacitance Charge vs. Reverse Voltage

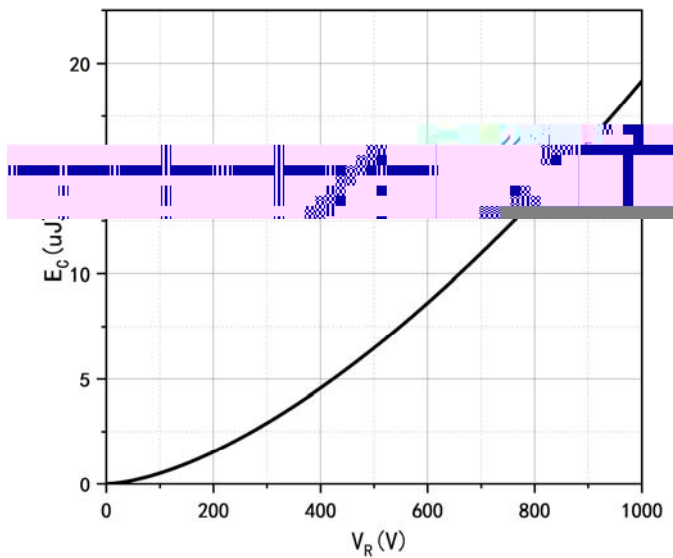


Figure 5. Capacitance Stored Energy

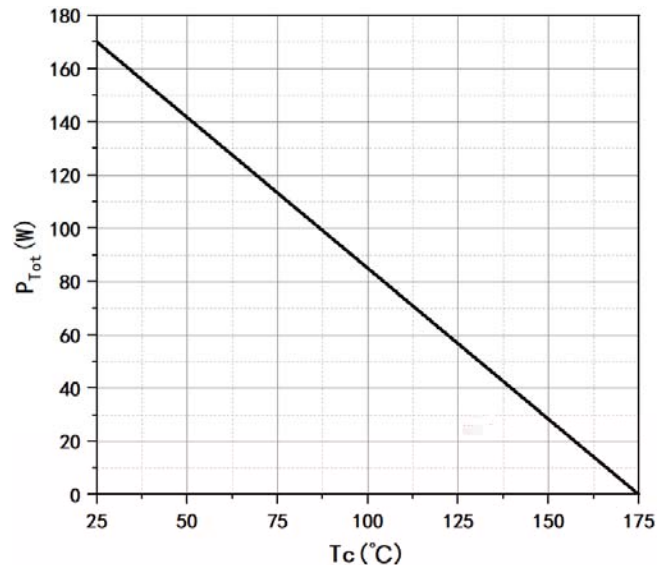


Figure 6. Power Derating

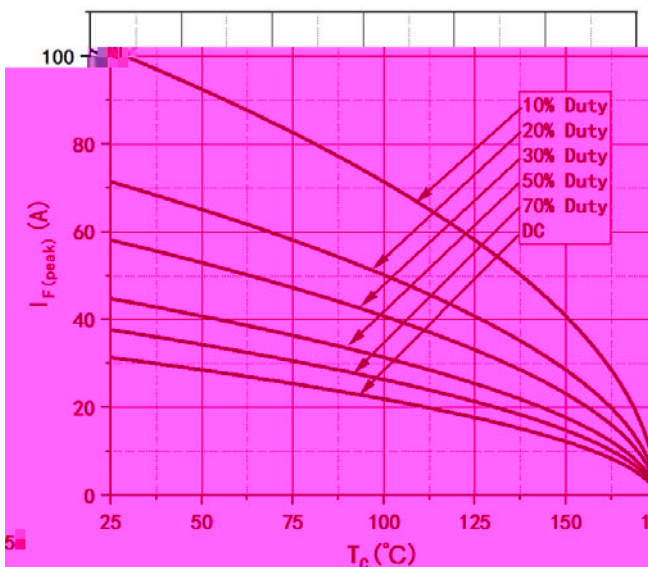


Figure 7. Current Derating

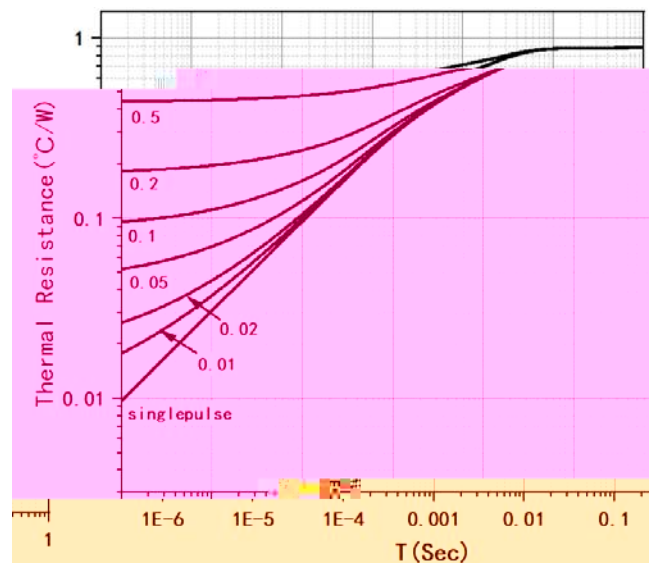
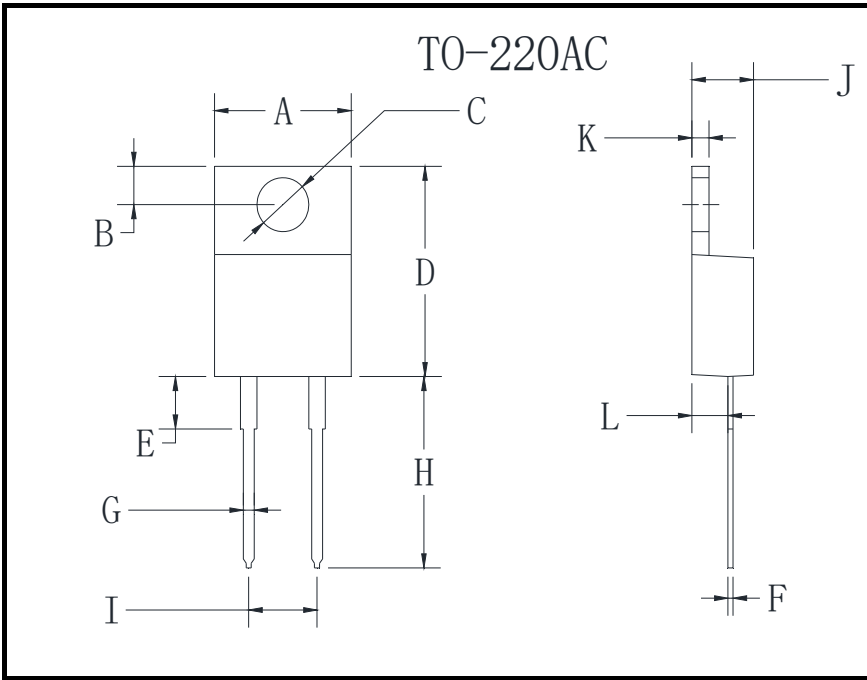


Figure 8. Transient Thermal Impedance



Dim	Min	Max
A	9.95	10.35
B	2.55	2.95
C	3.75	4.05
D	14.95	15.25
E	3.75	4.25
F	0.26	0.5
G	0.68	0.94
H	13.3	13.9
I	4.86	5.26
J	4.38	4.78
K	1.14	1.4
L	2.37	2.79



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