

V_{RRM}	1200V
I_F	10A ($T_C=161^\circ\text{C}$)
Q_C	52nC

1200V SILICON CARBIDE
SCHOTTKY DIODE

◆ Features

- Negligible reverse recovery
- High-speed switching
- Positive Temperature Coefficient
- Temperature-Independent Switching
- RoHS compliant



◆ Benefits

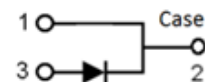
- Higher frequency
- Low heat dissipation requirements
- Reduce size and cost of the system
- High-reliability



ITO-220AC

◆ Applications

- Switch mode power supply
- Solar inverter
- Data Center
- Uninterruptible power supply



Maximum Ratings (Tc=25°C unless otherwise noted)

Symbol	Parameter		Value	Unit	Note
V_{RRM}	Repetitive peak reverse voltage		1200	V	
I_F	Continuous forward current	Tc=25°C	39	A	Figure 3
		Tc=135°C	19	A	
		Tc=161°C	10	A	
I_{FSM}	Non-repetitive forward surge current	Tc=25°C, $t_p=10ms$, Half sine pulse	64	A	
		Tc=110°C, $t_p=10ms$, Half sine pulse	51	A	
I_{FRM}	Repetitive Peak Forward Surge Current	Tc=25°C, $t_p=10ms$, Half sine pulse	55	A	
		Tc=110°C, $t_p=10ms$, Half sine pulse	45	A	
$\int i^2 dt$	i^2t value	Tc=25°C, $t_p=10ms$	20	A ² S	
		Tc=110°C, $t_p=10ms$	15	A ² S	
P_{tot}	Power Dissipation	Tc=25°C	238	W	Figure 4
		Tc=110°C	103	W	
		Tc=150°C	40	W	
T_j, T_{stg}	Operating and Storage Temperature		-55 to +175	°C	

Electrical Characteristics (Tc=25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Value			Unit	Note
			Min.	Typ.	Max.		
V_{DC}	DC blocking voltage		1200	-	-	V	
V_F	Forward voltage	$I_F=5A$	-	1.20	-	V	Figure 1
		$I_F=10A, T_c=25^\circ C$	-	1.43	1.70	V	
		$I_F=10A, T_c=175^\circ C$	-	2.0	-	V	
I_R	Reverse current	$V_R=1200V, T_c=25^\circ C$	-	2.0	60	uA	Figure 2
		$V_R=1200V, T_c=175^\circ C$	-	4.0	-	uA	
Q_C	Total capacitive charge	$V_R=800V$	-	52	-	nC	Figure 6
C	Total capacitance	$V_R=1V, f=1MHZ$	-	546	-	pF	Figure 5
		$V_R=400V, f=1MHZ$	-	47	-	pF	
		$V_R=800V, f=1MHZ$	-	41	-	pF	
E_C	Capacitance Stored Energy	$V_R=800V$	-	15.86	-	uJ	Figure 7

Thermal Characteristics

Symbol	Parameter	Value		Unit	Note
		Typ.	Max.		
$R_{th(j-c)}$	Thermal resistance (Junction to case)	0.63	-	°C/W	Figure 8

Electrical Characteristic Curves

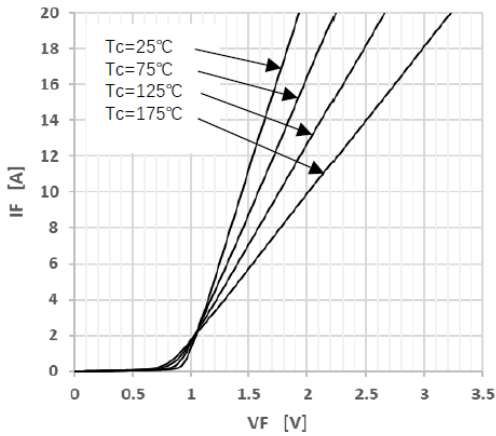


Figure 1 Forward Characteristics

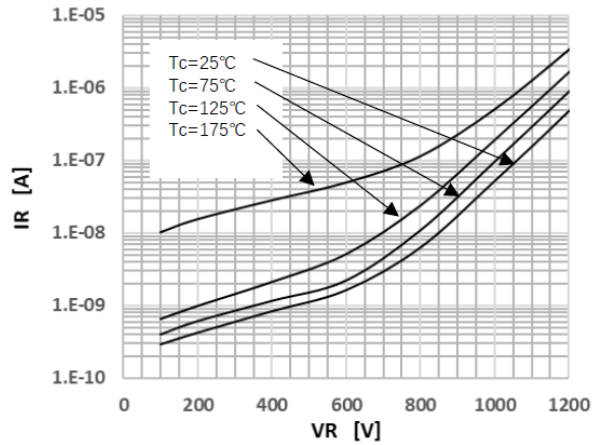


Figure 2 Reverse Characteristics

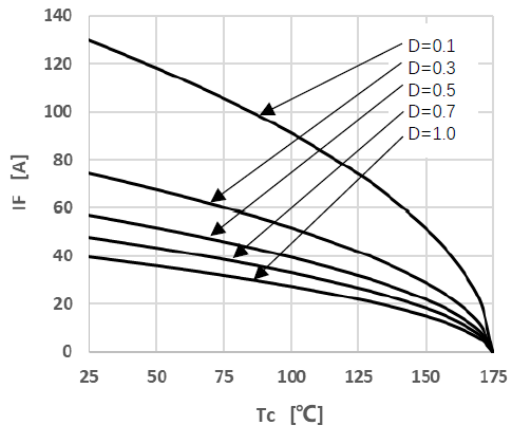


Figure 3 Peak Forward Current Derating

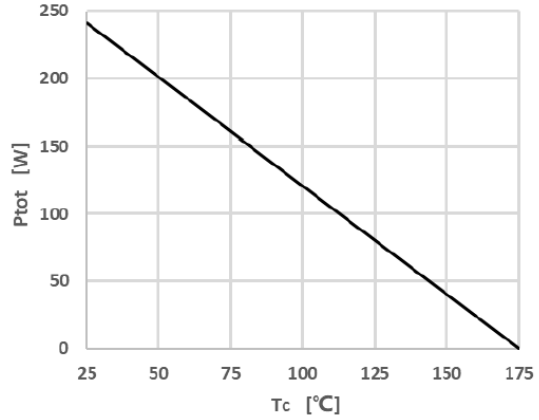


Figure 4 Power Dissipation

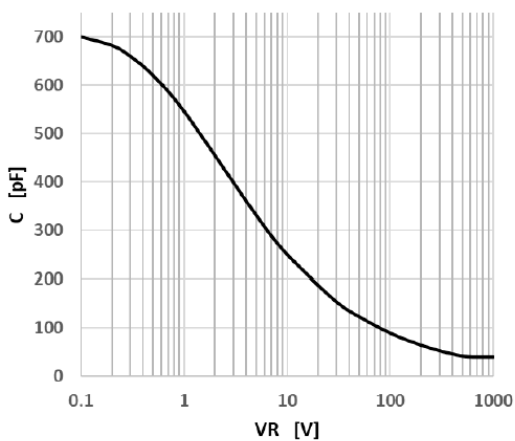


Figure 5 Capacitance vs. Reverse Voltage

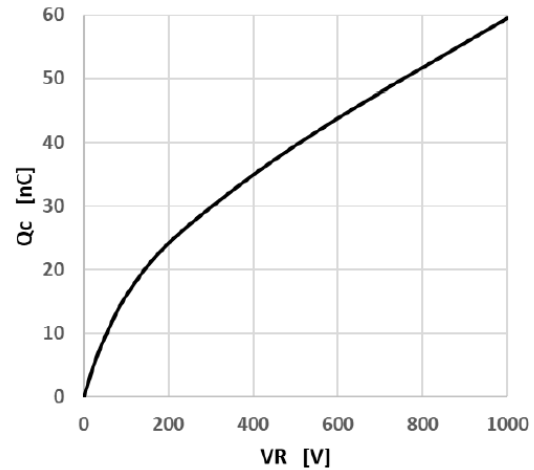


Figure 6 Capacitance Charge vs. Reverse Voltage

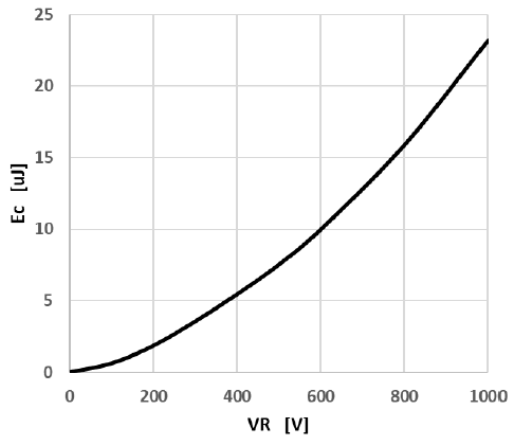


Figure 7 Capacitance Stored Energy

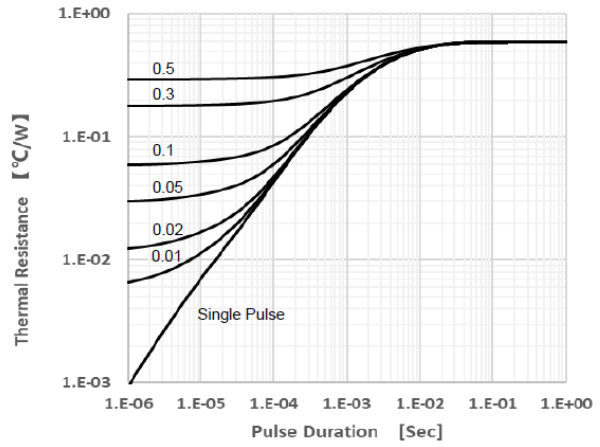
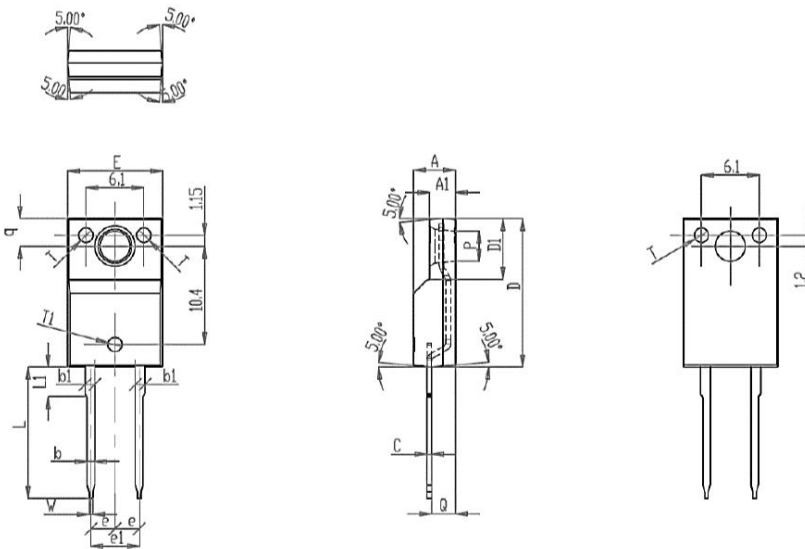


Figure 8 Transient Thermal Impedance

ITO-220AC Package Dimensions : (Unit : mm)



SYMBOL	MILLIMETERS			NOTES	SYMBOL	MILLIMETERS			NOTES
	Normal	MIN.	MAX.			Normal	MIN.	MAX.	
A	4.4	4.2	4.6		e1	5.08	5	5.12	
A1	2.7	2.5	2.9		L	13.90	13.5	14.4	
b	0.8	0.7	0.9		L1	3.12	2.8	3.3	
b1	1.07	0.9	1.3		P	3.14	3.00	3.20	
C	0.5	0.4	0.6		Q	2.44	2.3	2.6	
D	15.63	15.4	15.8		q	2.87	2.6	3	
D1	6.22	6	6.4		W	0.37	0.3	0.5	
E	10.06	9.7	10.3		T	1.52	1.3	1.7	
e	2.54	2.5	2.58		T1	1.20	1.1	1.3	

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