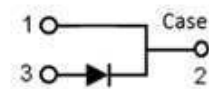


### ◆ Features

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

650V SILICON CARBIDE SCHOTTKY DIODE	
$V_{RRM}$	650V
$I_F$	10A ( $T_C=135^\circ\text{C}$ )
$Q_C$	30nC



ITO-220AC

### ◆ Benefits

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

### Maximum Ratings ( $T_C=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit	Note	
$V_{RRM}$	Repetitive peak reverse voltage	650	V		
$I_F$	Continuous forward current	$T_C=25^\circ\text{C}$	21	A	Figure 3
		$T_C=135^\circ\text{C}$	10	A	
$I_{FSM}$	Non-repetitive forward surge current	$T_C=25^\circ\text{C}$ , $t_p=10\text{ms}$ , Half sine pulse	92	A	
		$T_C=110^\circ\text{C}$ , $t_p=10\text{ms}$ , Half sine pulse	86	A	
$I_{FRM}$	Repetitive Peak Forward Surge Current	$T_C=25^\circ\text{C}$ , $t_p=10\text{ms}$ , Half sine pulse	90	A	
$\int i^2 dt$	$i^2t$ value	$T_C=25^\circ\text{C}$ , $t_p=10\text{ms}$	42	$\text{A}^2\text{S}$	
		$T_C=110^\circ\text{C}$ , $t_p=10\text{ms}$	37	$\text{A}^2\text{S}$	
$P_{tot}$	Power Dissipation	$T_C=25^\circ\text{C}$	66	W	Figure 4
		$T_C=110^\circ\text{C}$	28	W	
		$T_C=150^\circ\text{C}$	10	W	
$T_j, T_{stg}$	Operating and Storage Temperature	-55 to +175	$^\circ\text{C}$		

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

Symbol	Parameter	Test Conditions	Value			Unit	Note
			Min.	Typ.	Max.		
$V_{DC}$	DC blocking voltage		650	-	-	V	
$V_F$	Forward voltage	$I_F=5A$	-	1.17	-	V	Figure 1
		$I_F=10A, T_c=25^\circ C$	-	1.37	1.6	V	
		$I_F=10A, T_c=175^\circ C$	-	1.66	-	V	
$I_R$	Reverse current	$V_R=650V, T_c=25^\circ C$	-	5	60	uA	Figure 2
		$V_R=650V, T_c=175^\circ C$		12			
$Q_C$	Total capacitive charge	$V_R=400V$	-	30	-	nC	Figure 6
$C$	Total capacitance	$V_R=1V, f=1MHZ$	-	455	-	pF	Figure 5
		$V_R=200V, f=1MHZ$	-	57	-	pF	
		$V_R=400V, f=1MHZ$	-	56	-	pF	
$E_C$	Capacitance Stored Energy	$V_R=400V$	-	4.8	-	uJ	Figure 7

**Thermal Characteristics**

Symbol	Parameter	Value		Unit	Note
		Typ.	Max.		
$R_{th(j-c)}$	Thermal resistance (Junction to case)	2.25	-	°C/W	Figure 8

**Electrical Characteristic Curves**

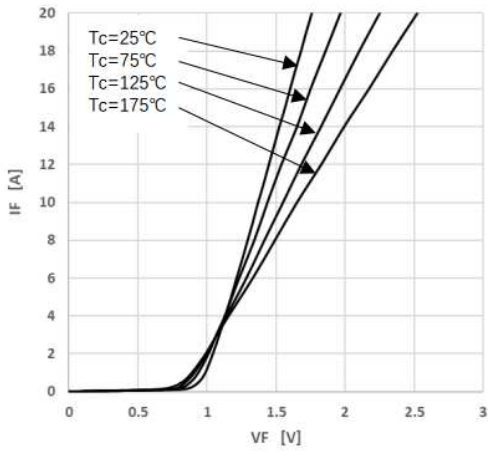


Figure 1 Forward Characteristics

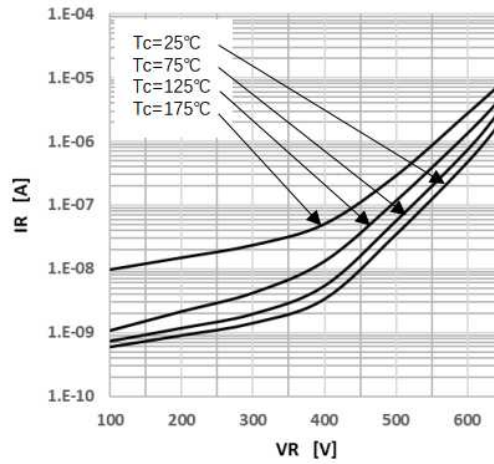


Figure 2 Reverse Characteristics

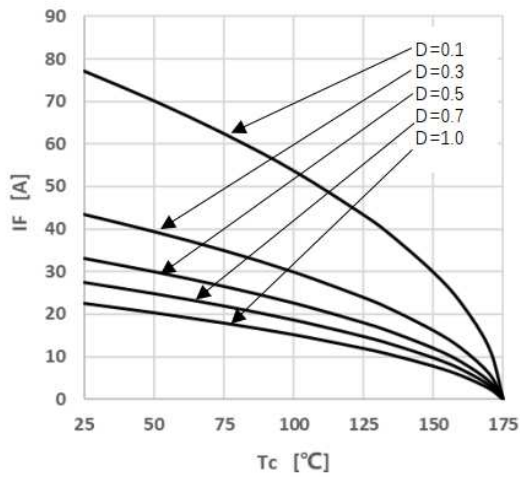


Figure 3 Peak Forward Current Derating

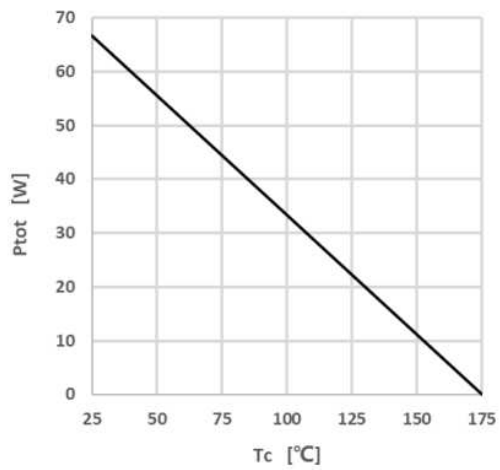


Figure 4 Power Dissipation

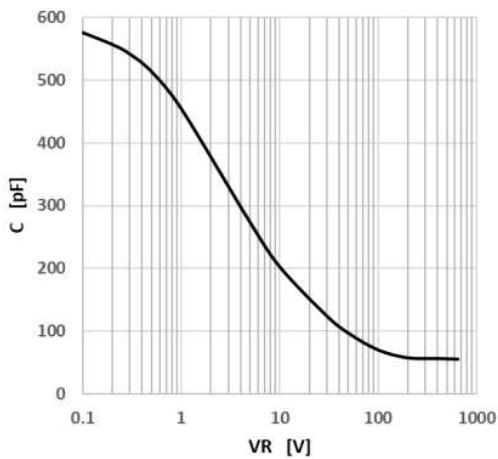


Figure 5 Capacitance vs. Reverse Voltage

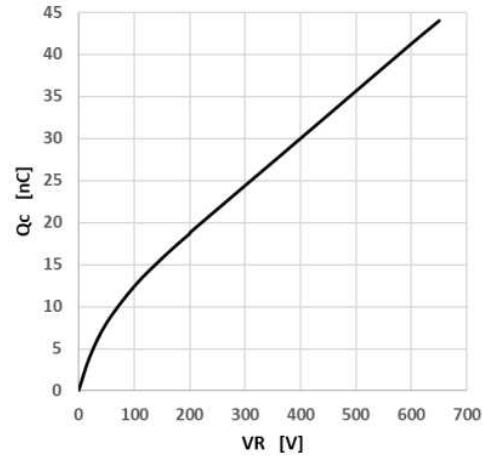


Figure 6 Capacitance Charge vs. Reverse Voltage

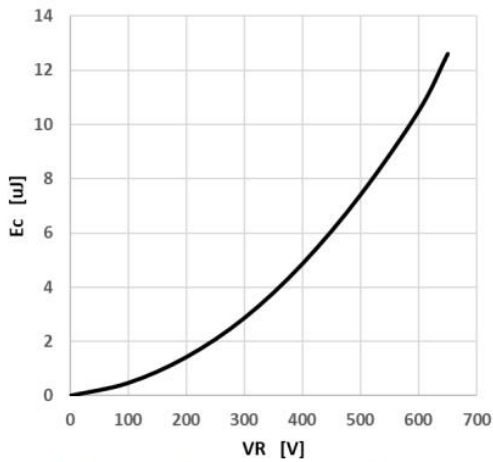


Figure 7 Capacitance Stored Energy

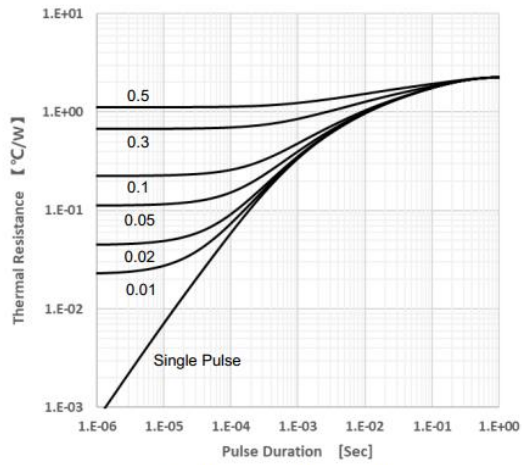
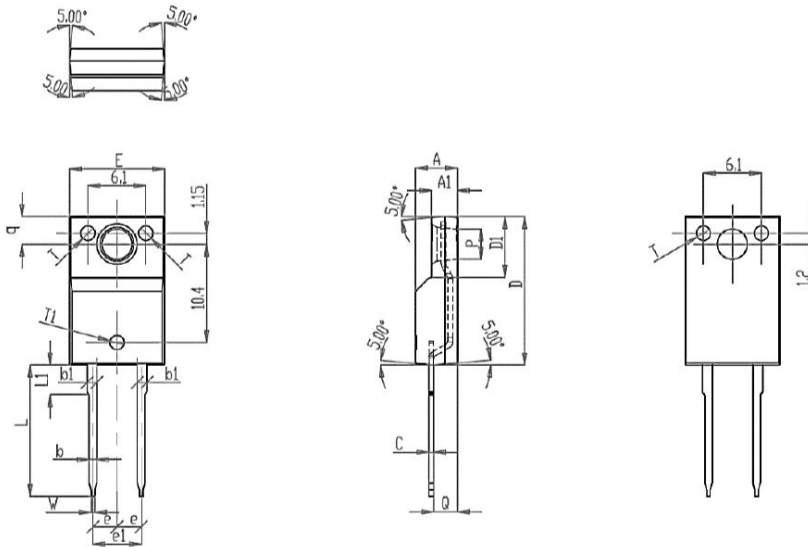


Figure 8 Transient Thermal Impedance

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	