XNSC10065F

SiC Schottky Diode

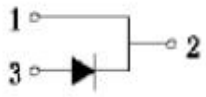
1.Features

- V_{RRm} = 650 V
- $I_F(T_C$=135℃) = 10A
- V_F(Tj=25℃) = 1.3V

ITO-220AC

2.Mechanical Data

- Case:Molded Plastic,ITO-220AC;
- Epoxy:UL 94V-0 rate flame retardant
- Terminals:Plated Leads Solderable per MIL-STD-750,Method-2026.
- Marking: marked on body.
- Mounting Position : Any.



3.Maximum Ratings and Electrical Characteristics

Rating at 25℃ Cambient temperature unless otherwise specified

Characteristics		Symbol	Ratings	Unit
Peak repetitive reverse voltage		V_{RRM}	650	V
Surge peak reverse voltage (DC)		V_{RSM}	650	V
Continuous Forward Current	@T_C=25℃	$I_{F(AV)}$	23	A
	@T_C=125℃		15	
	@T_C=135℃		10	
Repetitive Peak Forward Surge Current	@T_C=25℃, t_P=10ms,Half sine wave	I_{FRM}	45	A
	@T_C=110℃,t_P=10ms,Half sine wave		27	
Non-Repetitive Peak Forward Surge Current	@T_C=25℃,t_P=10ms,Half Sine Wave	I_{FSM}	80	A
	@T_C=110℃,t_P=10ms,Half Sine Wave		70	
i^2t value	@T_C=25℃,t_P=10ms,Half Sine Wave	$\int i^2dt$	31.7	A^2S
	@T_C=110℃,t_P=10ms,Half Sine Wave		24.3	
Power dissipation	@T_C=25℃	P_{tot}	59	W
	@T_C=110℃		26	
Junction temperature		T_j	-55 ~ +175	°C
Storage temperature		T_{stg}	-55 ~ +150	°C
Thermal Resistance - Junction to Case		$R_{\theta JC}$	2.54(Typ)	°C/ W

Characteristics	Symbol	Test conditions	Min	TYP	Max	Unit
DC blocking voltage	V_{DC}	I_R= 250 μA, Tj= 25°C	650	-	-	V
Forward voltage	V_F	IF = 10A, Tj=25℃	-	1.35	1.6	V
		IF = 10A, Tj=175℃	-	1.6	-	
Reverse current	I_R	VR = 650V, Tj=25℃	-	-	50	μA
		VR = 650V, Tj=175℃	-	-	200	
Total capacitive charge	Q_C	VR = 400V,Tj=25℃	-	30	-	nC
Total capacitance	C	VR = 0V, Tj=25℃, f=1MHz	-	550	-	pF
		VR = 200V, Tj=25℃, f=1MHz	-	58	-	
		VR = 400V, Tj=25℃, f=1MHz	-	52	-	
Capacitance stored energy	E_C	V_R=400V	-	8	-	μJ

4.Rating And Characteristic Curves

Fig.1 Typical forward characteristics

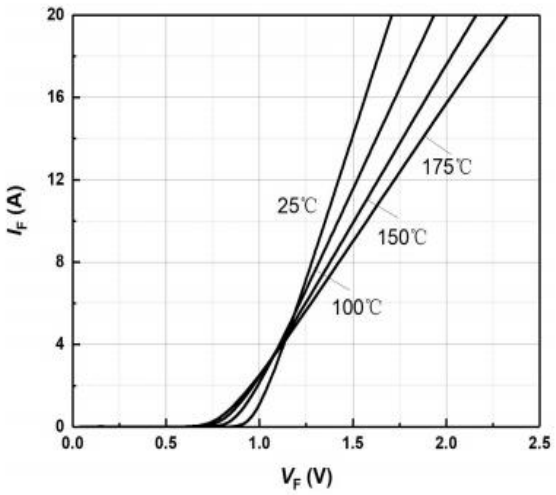


Fig.2 Typical reverse current as function of reverse voltage

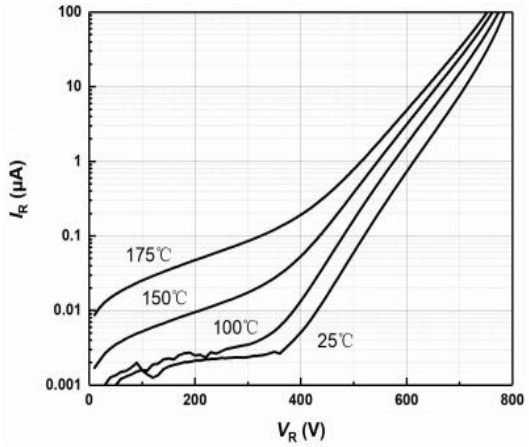


Fig.3 Diode forward current as function of temperature, D=duty cycle

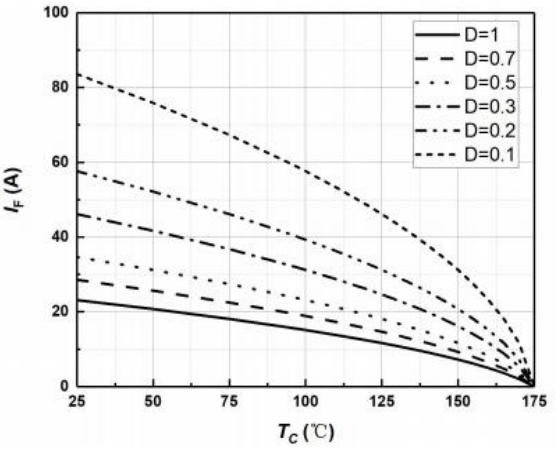


Fig.4 Typical capacitance as function of reverse voltage, C=f(VR); Tj=25°C

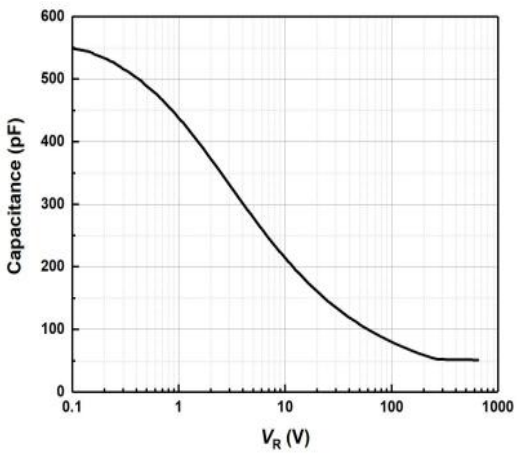


Fig.5 Typical reverse charge as function of reverse voltage

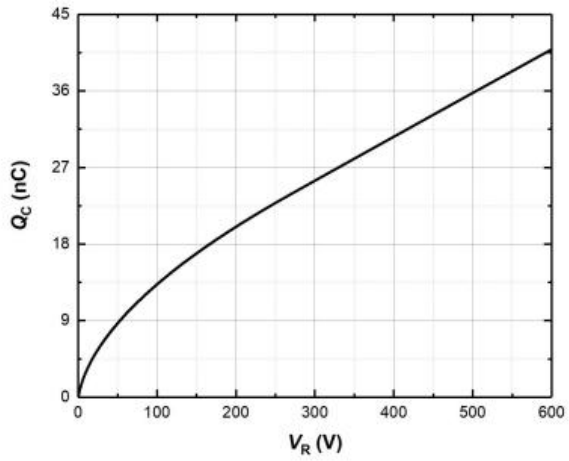


Fig.6 Power dissipation as function of case temperature

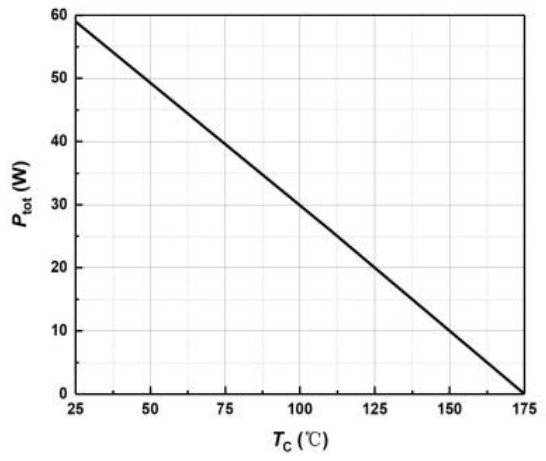


Fig.7 Capacitance stored energy

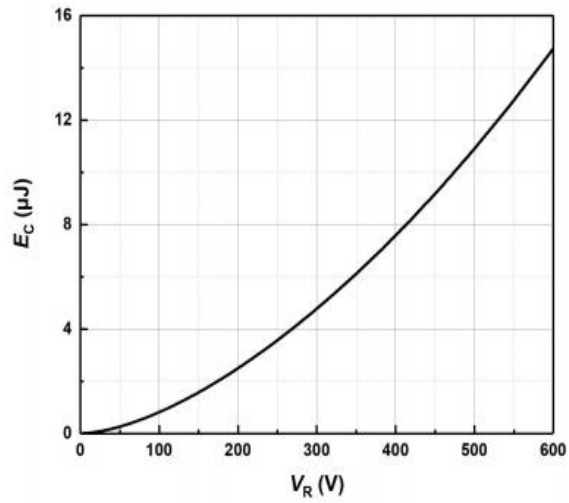
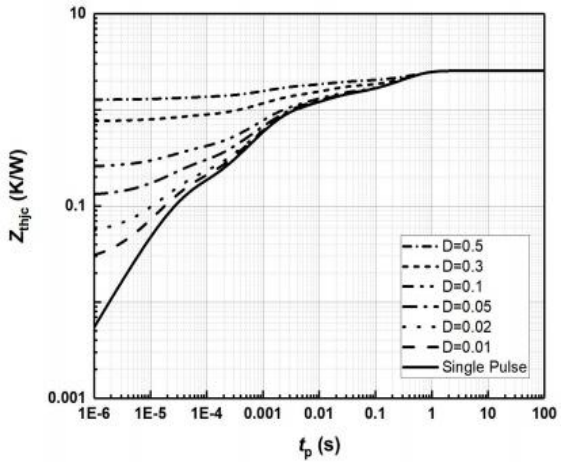
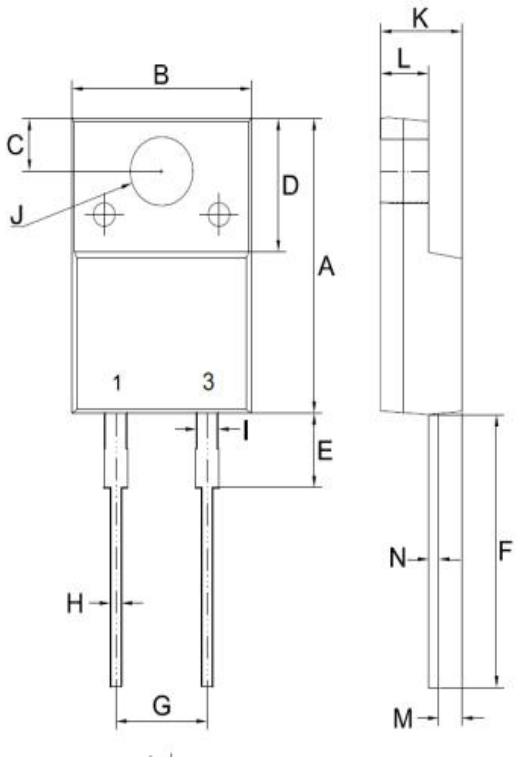


Fig.8 Max. transient thermal impedance

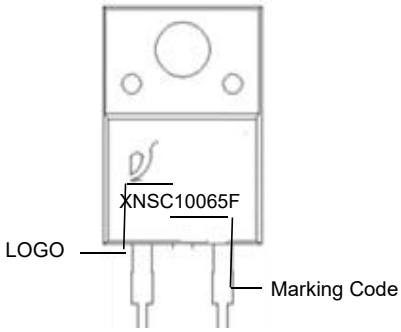


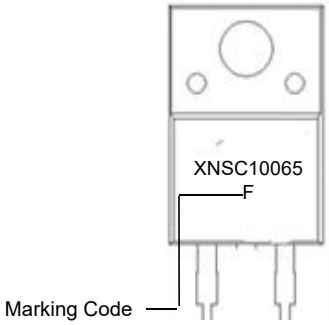
5.Dimensions



DIM	Unit(inch)		Unit(mm)	
	MIN	MAX	MIN	MAX
A	0.571	0.630	14.50	16.00
B	0.374	0.413	9.50	10.50
C	0.098	0.114	2.50	2.90
D	0.248	0.287	6.30	7.30
E	0.118	0.134	3.00	3.40
F	0.512	0.551	13.00	14.00
G	0.193	0.209	4.90	5.30
H	0.020	0.036	0.50	0.91
I	0.035	0.059	0.90	1.50
J	0.123	0.138	3.13	3.50
K	0.167	0.191	4.24	4.84
L	0.099	0.111	2.52	2.82
N	0.019	0.025	0.47	0.64

6. Part Marking System





7. Package Information

Package	Packing Type	Quantity(pcs)
ITO220	Tube	50

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