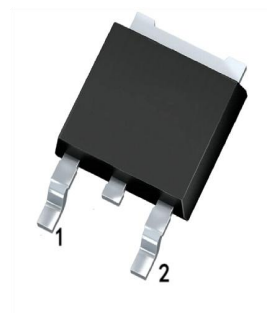




1.Features

- $V_{RRM} = 650\text{ V}$
- $I_F(T_C=160^\circ\text{C}) = 6\text{ A}$
- $V_F(T_J=25^\circ\text{C}) = 1.3\text{ V}$

TO-252



2.Mechanical Data

- Case:Molded Plastic,TO-252;
- 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°C Ambient 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 @ $T_C=25^\circ\text{C}$ @ $T_C=135^\circ\text{C}$ @ $T_C=160^\circ\text{C}$	$I_{F(AV)}$	23 11 6	A
Repetitive Peak Forward Surge Current @ $T_C=25^\circ\text{C}$, $t_p=10\text{ms}$, Half sine wave @ $T_C=110^\circ\text{C}$, $t_p=10\text{ms}$, Half sine wave	I_{FRM}	28 17	A
Non-Repetitive Peak Forward Surge Current @ $T_C=25^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Wave @ $T_C=110^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Wave	I_{FSM}	48 43	A
i^2t value @ $T_C=25^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Wave @ $T_C=110^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Wave	$\int i^2 dt$	11.4 9.1	A ² S
Power dissipation @ $T_C=25^\circ\text{C}$ @ $T_C=110^\circ\text{C}$	P_{tot}	68 29	W
Junction temperature	T_J	-55 ~ +175	°C
Storage temperature	T_{stg}	-55 ~ +150	°C
Thermal Resistance - Junction to Case	$R_{\theta JC}$	2.19(Typ)	°C/ W



Characteristics	Symbol	Test conditions	Min	TYP	Max	Unit
DC blocking voltage	V_{DC}	$I_R = 250 \mu A, T_j = 25^\circ C$	650	-	-	V
Forward voltage	V_F	$I_F = 6 A, T_j = 25^\circ C$	-	1.3	1.5	V
		$I_F = 6 A, T_j = 175^\circ C$	-	1.5	-	
Reverse current	I_R	$V_R = 650 V, T_j = 25^\circ C$	-	-	50	μA
		$V_R = 650 V, T_j = 175^\circ C$	-	-	200	
Total capacitive charge	Q_C	$V_R = 400 V, T_j = 25^\circ C$	-	18	-	nC
Total capacitance	C	$V_R = 0 V, T_j = 25^\circ C, f = 1 MHz$	-	358	-	pF
		$V_R = 200 V, T_j = 25^\circ C, f = 1 MHz$	-	36	-	
		$V_R = 400 V, T_j = 25^\circ C, f = 1 MHz$	-	30	-	
Capacitance stored energy	Q_C	$V_R = 400 V, T_j = 25^\circ C$	-	18	-	μC

4. Rating And Characteristic Curves

Fig.1 Typical forward characteristics

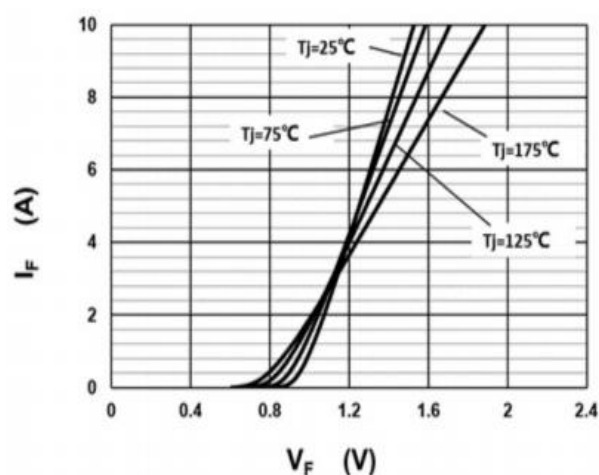


Fig.2 Typical reverse current as function of reverse voltage

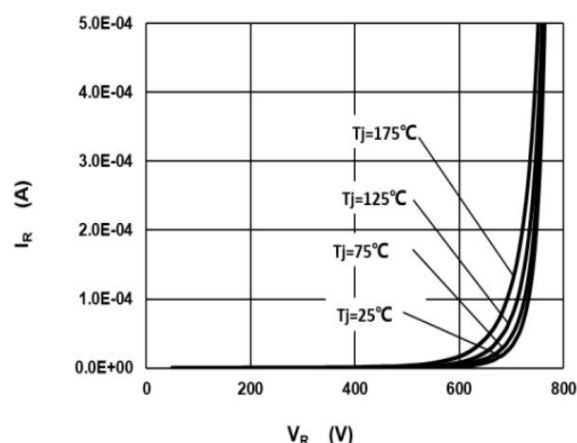


Fig.3 Diode forward current as function of temperature, D=duty cycle

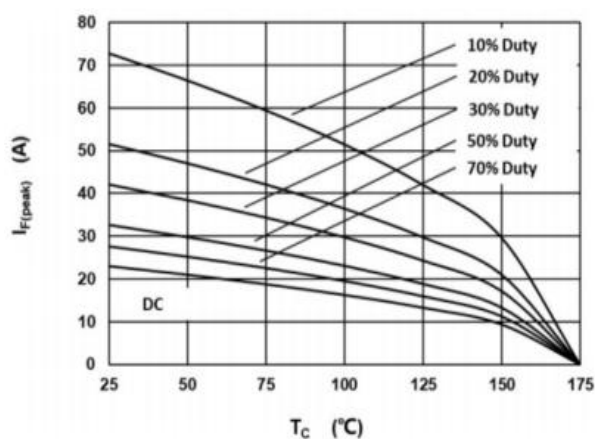


Fig.4 Typical capacitance as function of reverse voltage, $C=f(V_R)$; $T_j=25^\circ C$

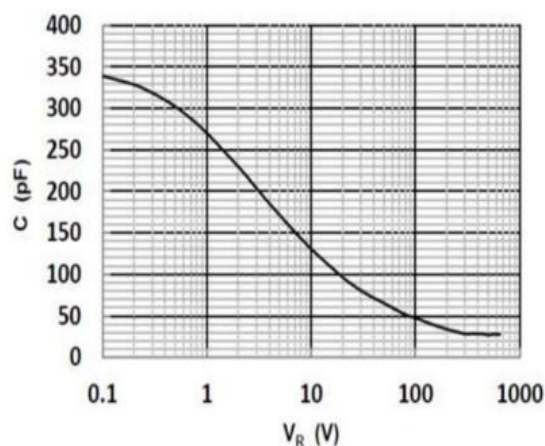




Fig.5 Typical reverse charge as function of reverse voltage

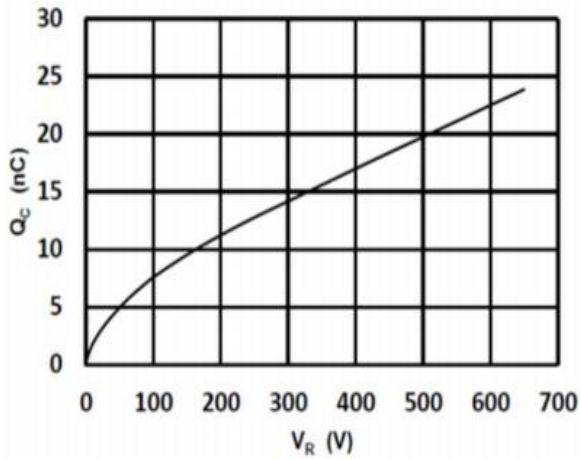


Fig.6 Power dissipation as function of case temperature

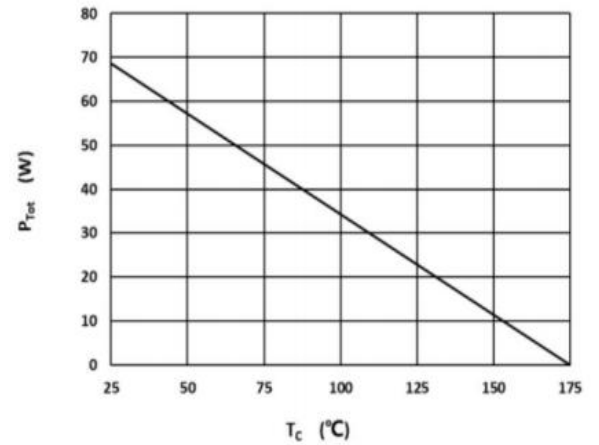


Fig.7 Capacitance stored energy

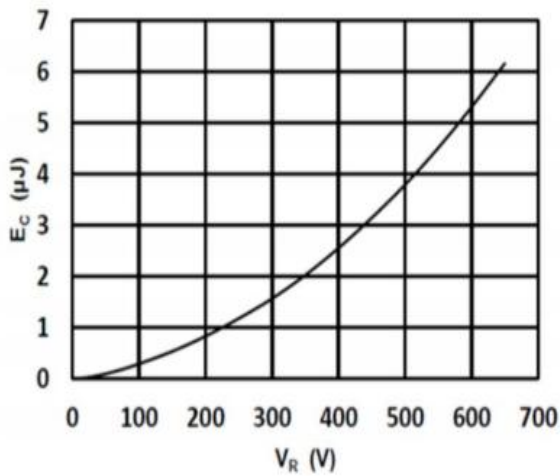
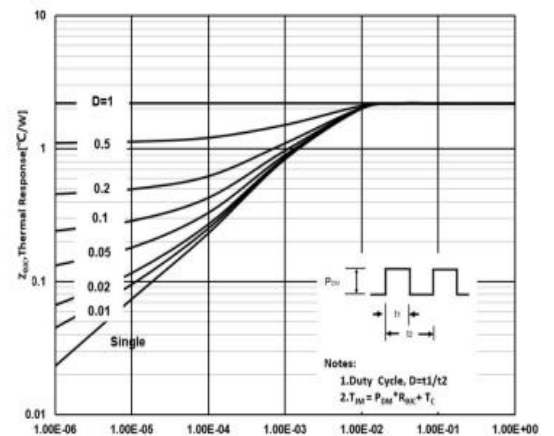
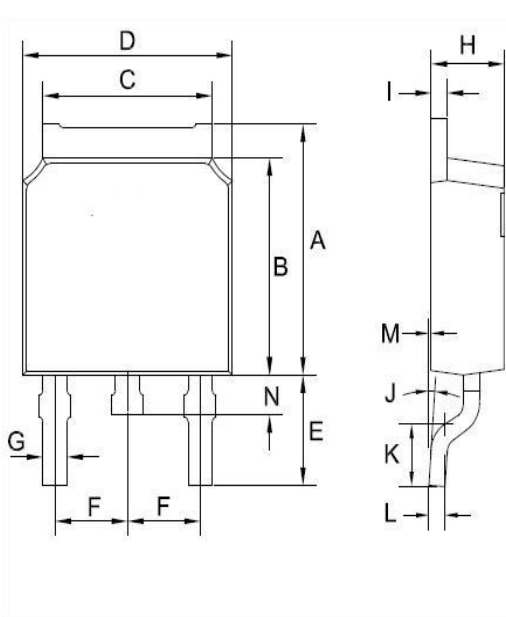


Fig.8 Max. transient thermal impedance



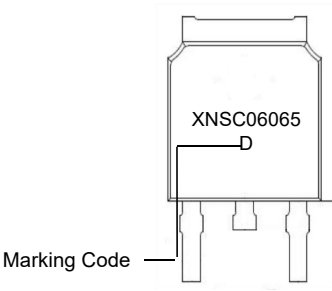
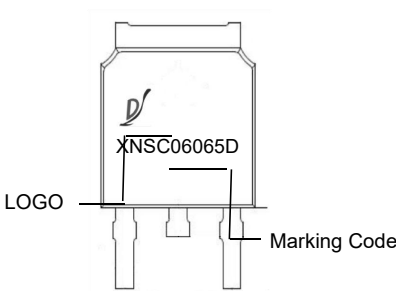


5.Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.270	0.285	6.85	7.25
B	0.232	0.248	5.90	6.30
C	0.202	0.218	5.13	5.53
D	0.252	0.268	6.40	6.80
E	0.114	0.130	2.90	3.30
F	0.086	0.094	2.19	2.39
G	0.018	0.033	0.45	0.85
H	0.087	0.094	2.20	2.40
I	0.016	0.024	0.41	0.61
J	0°	8°	0°	8°
K	0.057	0.073	1.45	1.85
L	0.016	0.024	0.41	0.61
M	0.000	0.005	0.00	0.12
N	0.024	0.039	0.60	1.00

6. Part Marking System



7. Package Information

Package	Quantity(pcs)
XNSC06065D	2500



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