



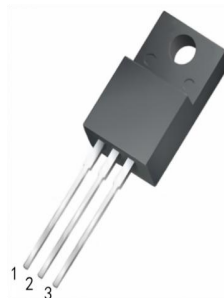
1.Features

- V_{DS} 650V
- I_D 7A
- $R_{DS(on)}$ (at $V_{GS}=10V$) 525m Ω

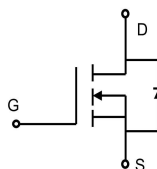
2.Mechanical Data

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

ITO220AB



1. Gate
2. Drain
3. Source



3.Maximum Ratings and Electrical Characteristics

Electrical Characteristics ($T_J=25^{\circ}\text{C}$ unless otherwise noted)

Characteristics		Symbol	Ratings		Unit
Drain-Source Voltage		V _{DS}	650		V
Gate-Source Voltage		V _{GS}	±30		V
Drain Current-Continuous	T _C =25°C	I _D	7		A
Drain Current – Pulsed(Note1)		I _{DM}	24		A
Maximum Power Dissipation		P _D	28		W
Single Pulsed Avalanche energy(Note1)		E _{AS}	129		mJ
Junction and Storage Temperature Range		T _J , T _{stg}	-55 to +150		°C
Thermal Characteristics					
Parameter		Symbol	Typ	Max	Unit
Thermal Resistance, Junction-to-Case		R _{θJC}	-	4.8	°C/W
Thermal Resistance, Junction-to-Ambient		R _{θJA}	-	62	°C/W



Characteristics	Symbol	Test conditions	Min	TYP	Max	Unit
STATIC PARAMETERS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V,I _D =250μA	650	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 650V,V _{GS} = 0V	-	-	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} = ±30V,V _{DS} = 0V	-	-	±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{GS} =V _{DS} , I _D =250μA	2	-	4	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =10V, I _D =3.5A	-	525	600	mΩ
DYNAMIC PARAMETERS						
Input Capacitance	C _{iss}	V _{DS} =50V	-	715	-	pF
Output Capacitance	C _{oss}	V _{GS} =0V	-	35	-	
Reverse Transfer Capacitance	C _{rss}	f=1HZ	-	1.7	-	
SWITCHING PARAMETERS						
Turn-on Delay Time	t _{d(on)}	V _{DD} = 325V, I _D = 7 A, V _{GS} =10V, R _G =25Ω(Note1)	-	17	-	nS
Turn-on Rise Time	t _r		-	26	-	
Turn-off Delay Time	t _{d(off)}		-	53	-	
Turn-off Fall Time	t _f		-	38	-	
Total Gate Charge	Q _g	V _{DD} =520V, I _D =7A V _{GS} =10V (Note1)	-	13	-	nC
Gate-Source Charge	Q _{gs}		-	2.1	-	
Gate-Drain Charge	Q _{gd}		-	6.9	-	
Diode Forward Voltage	V _{SD}	V _{GS} =0V , I _S =3.5A , T _J =25℃	-	-	1.4	V
Reverse Recovery Time	trr	I _F = 1A, V _R = 30 V dI _F / dt = 100 A/μs	-	151	-	ns
Reverse Recovery Charge	Qrr		-	565	-	uC
Maximun Body-Diode Continuous Current	I _S		-	-	7	A
Maximun Body-Diode Pulsed Current(Note1)	I _{SM}		-	-	24	A

Notes:

1. Pulse test: 300 μs pulse width, 2 % duty cycle



4. Rating And Characteristic Curves

Fig.1 V_{DS} vs. I_D

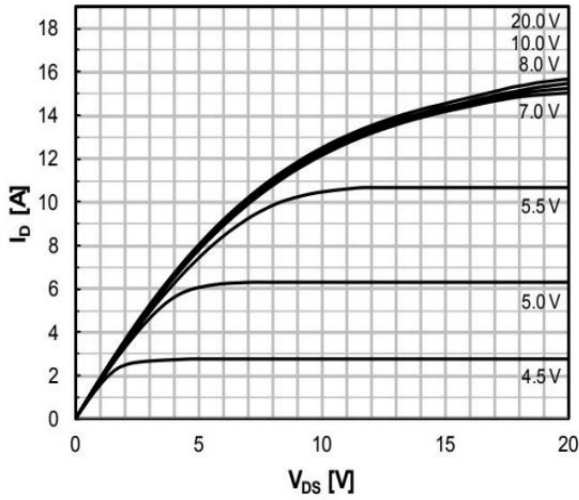


Fig.2 V_{DS} vs. C (pF)

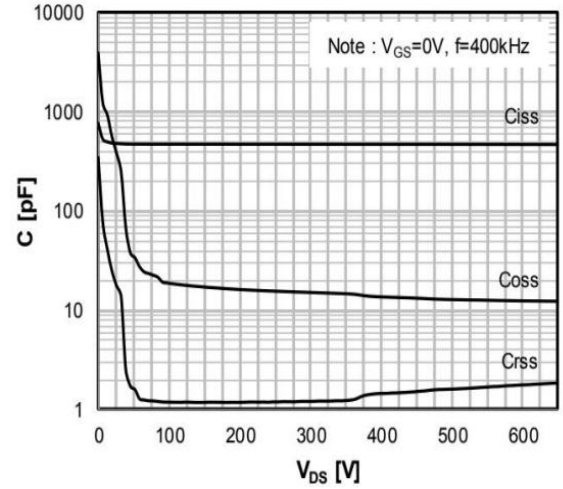


Fig.3 I_D vs. $R_{DS(ON)}$

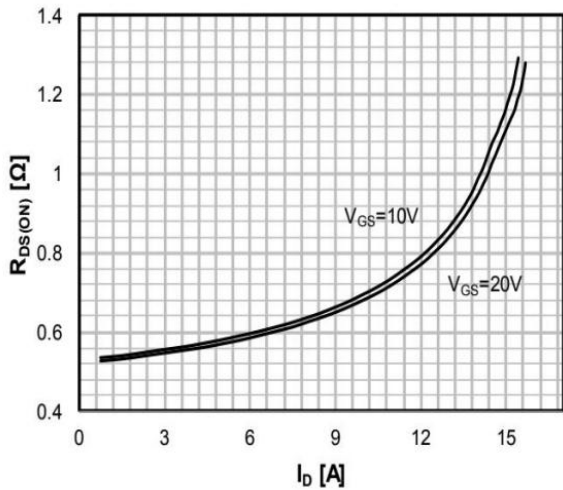


Fig.4 T_J vs. $R_{DS(ON)}$

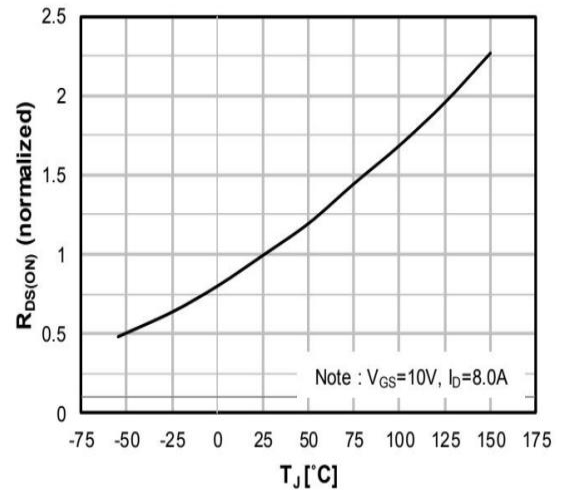


Fig.5 V_{GS} vs. I_D

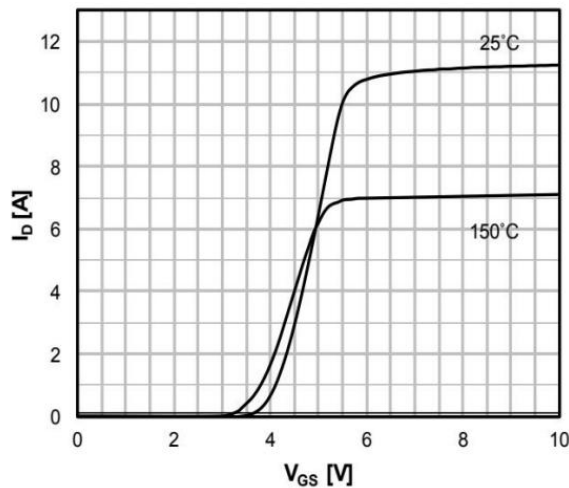


Fig.6 T_J vs. BV_{DSS}

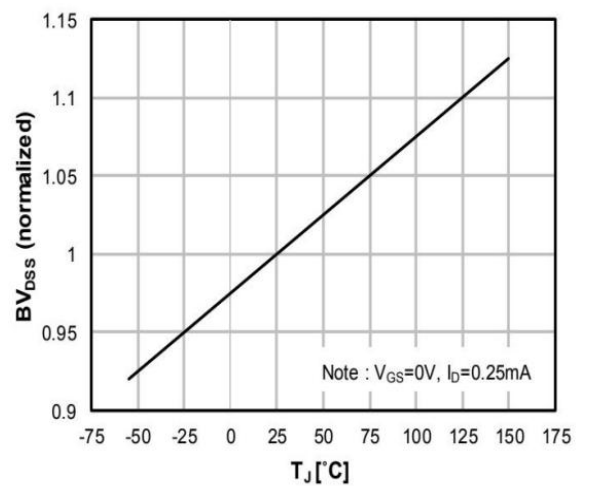




Fig.7 Q_g vs. V_{GS}

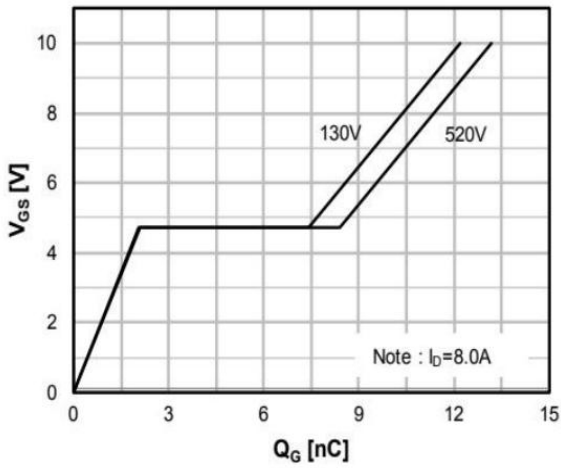


Fig.8 T_c vs. I_D

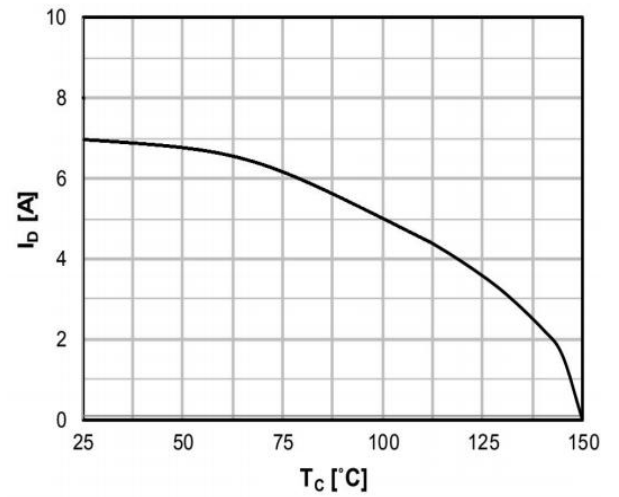


Fig.9 T_P vs. Z_{thj}

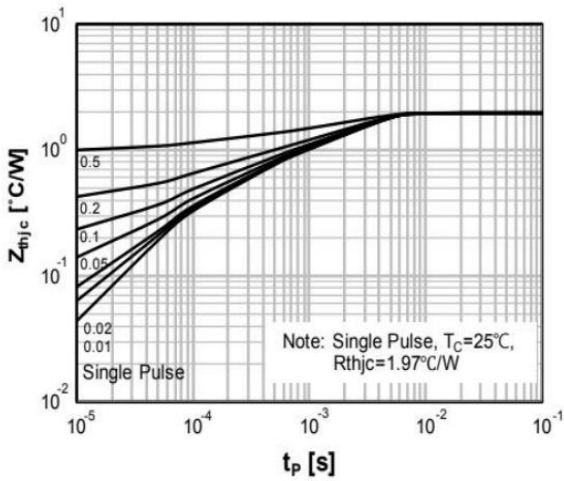


Fig.10 V_{SD} vs. I_S

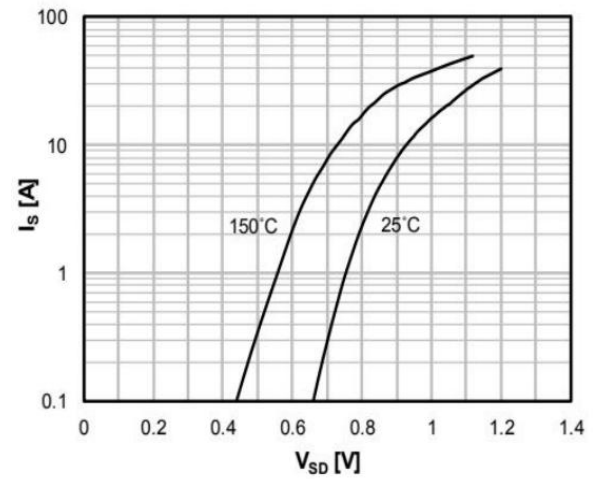
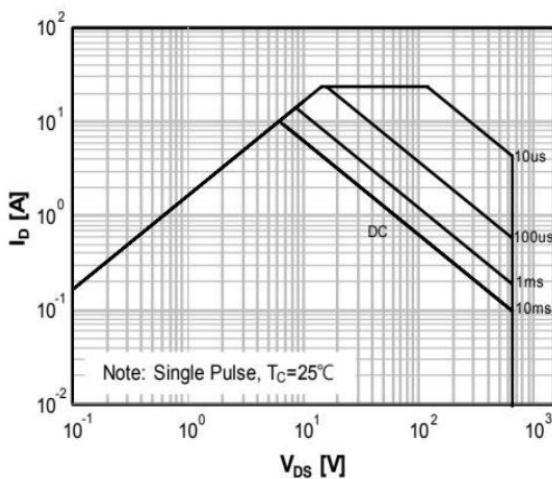
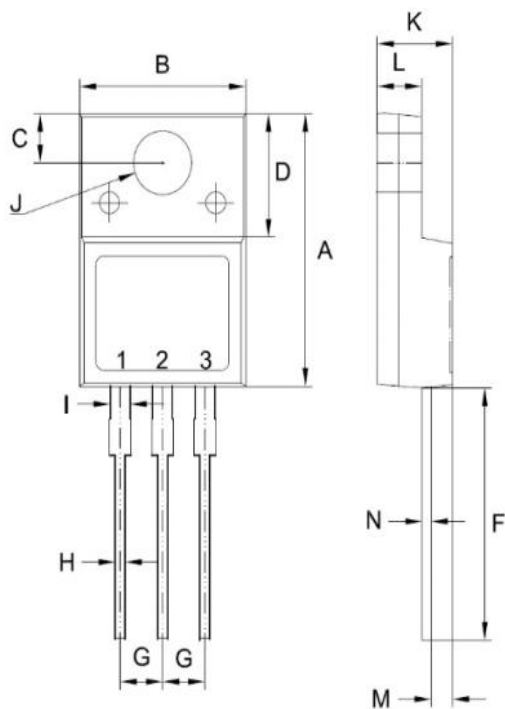


Fig.11 V_{DS} vs. I_D



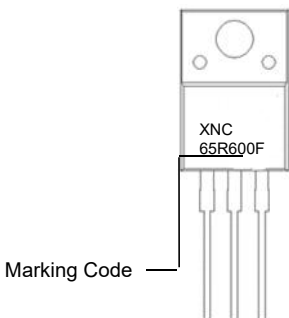
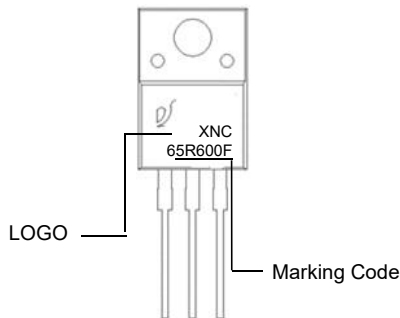


5.Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.571	0.646	14.50	16.40
B	0.374	0.413	9.50	10.50
C	0.098	0.140	2.50	3.55
D	0.248	0.287	6.30	7.30
F	0.488	0.551	12.40	14.00
G	0.093	0.108	2.35	2.75
H	0.012	0.037	0.30	0.95
I	0.035	0.059	0.90	1.50
J	0.114	0.150	2.90	3.80
K	0.167	0.198	4.24	5.02
L	0.091	0.115	2.30	2.92
N	0.016	0.025	0.40	0.63

6. Part Marking System



7. Package Information

Package	Packing Type	Quantity(pcs)
ITO-220	Tube	50



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