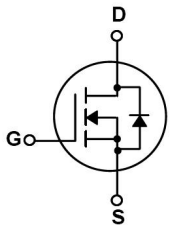
TO-220FL N MOS N-CHANNEL MOSFET in a TO-220FL Plastic Package.

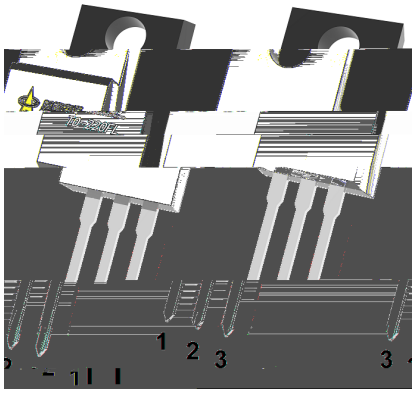
, , ,

Low gate charge, Low Crss , Fast switching, HF Product.

, ,UPS

High efficiency switch mode power supplies, Electronic lamp ballasts based on half bridge, UPS.





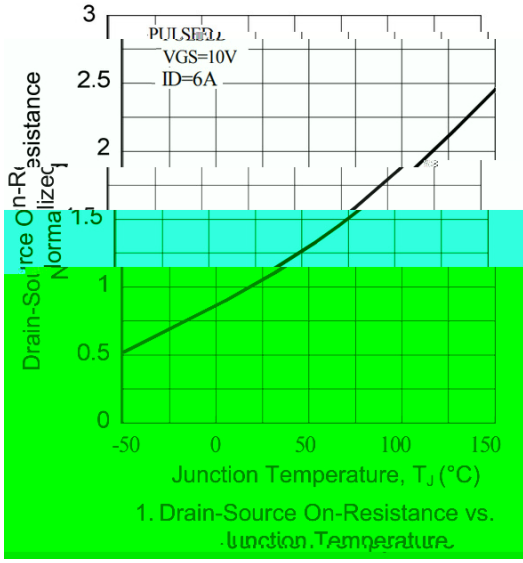
PIN1 G PIN 2 D PIN 3 S

See Marking Instructions.

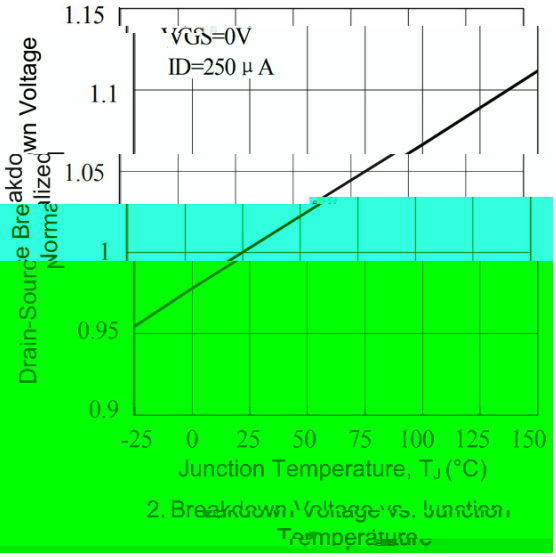
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	700	V
Drain Current	I_D(Tc=25)	12	A
Drain Current	I_D(Tc=100)	10	A
Drain Current - Pulsed	I_{DM}	48	A
Gate-Source Voltage	V_{GSS}	±30	V
Single Pulsed Avalanche Energy	E_{AS}	405	mJ
Avalanche Current	I_{AS}	9	A
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.27	/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	100	/W
Power Dissipation	P_D	55	W
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	700			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=700V V_{GS}=0V			1.0	μA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±30V V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250μA	2.0	3.4	4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=6A		0.65	0.8	Ω
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=12A			1.4	V
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		2180		pF
Output Capacitance	C_{oss}			55		pF
Reverse Transfer Capacitance	C_{rss}			6		pF
Total Gate Charge	Q_G	V_{DD}= 350V I_D= 12A V_{GS}= 10V		47		nC
Gate-Source Charge	Q_{GS}			10		nC
Gate-Drain Charge	Q_{GD}			18		nC

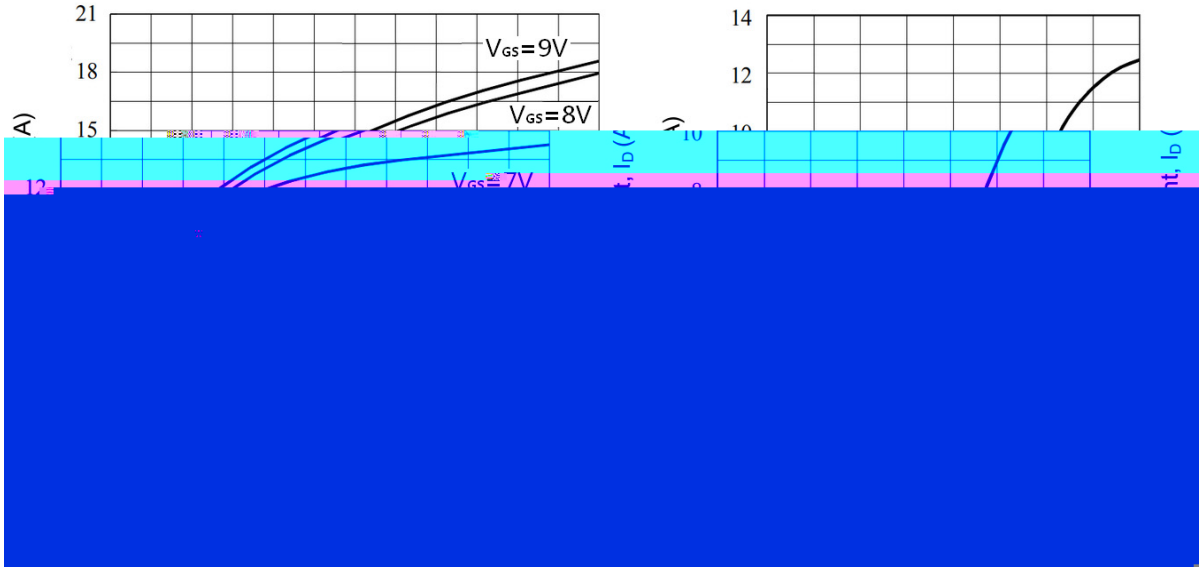
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	td(on)	V_{DD}=350V I_D=12A R_G=9.1Ω V_{GS}=10V		18		ns
Turn-On Rise Time	tr			33		
Turn-Off Delay Time	td(off)			58		
Turn-Off Fall Time	tf			44		
Maximum Continuous Drain-Source Diode Forward Current	I_S				12	A
Maximum Pulsed Drain-Source Diode Forward Current	I_{SM}				48	A
Reverse Recovery Time	trr	V_{GS} = 0V I_S = 12A dI_F/dt = 100 A/μs		332		ns
Reverse Recovery Charge	Qrr			2803		nC

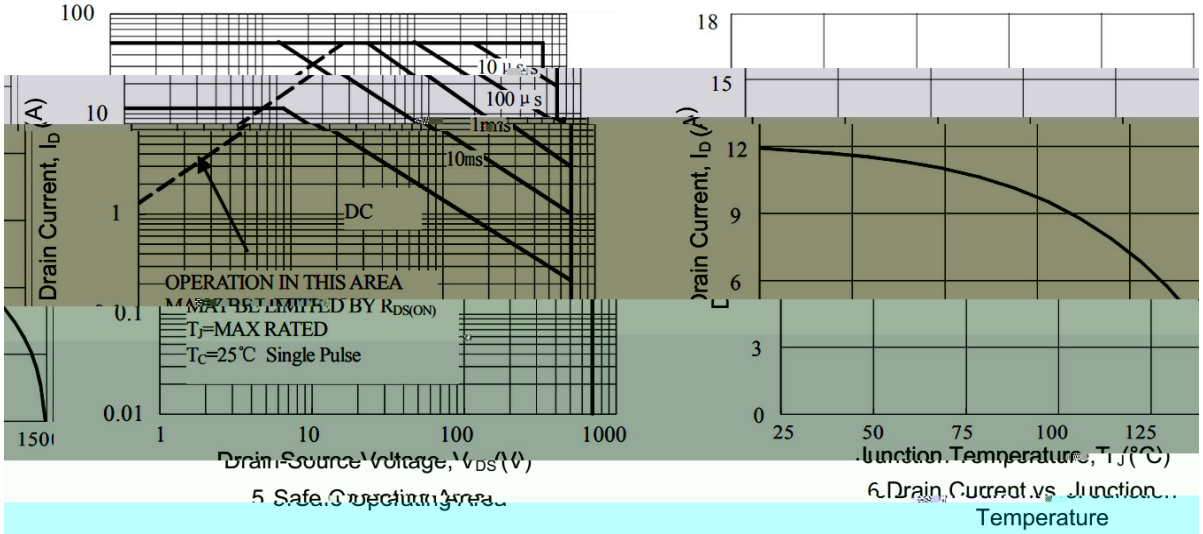


1. Drain-Source On-Resistance vs. Junction Temperature



2. Breakdown Voltage vs. Junction Temperature

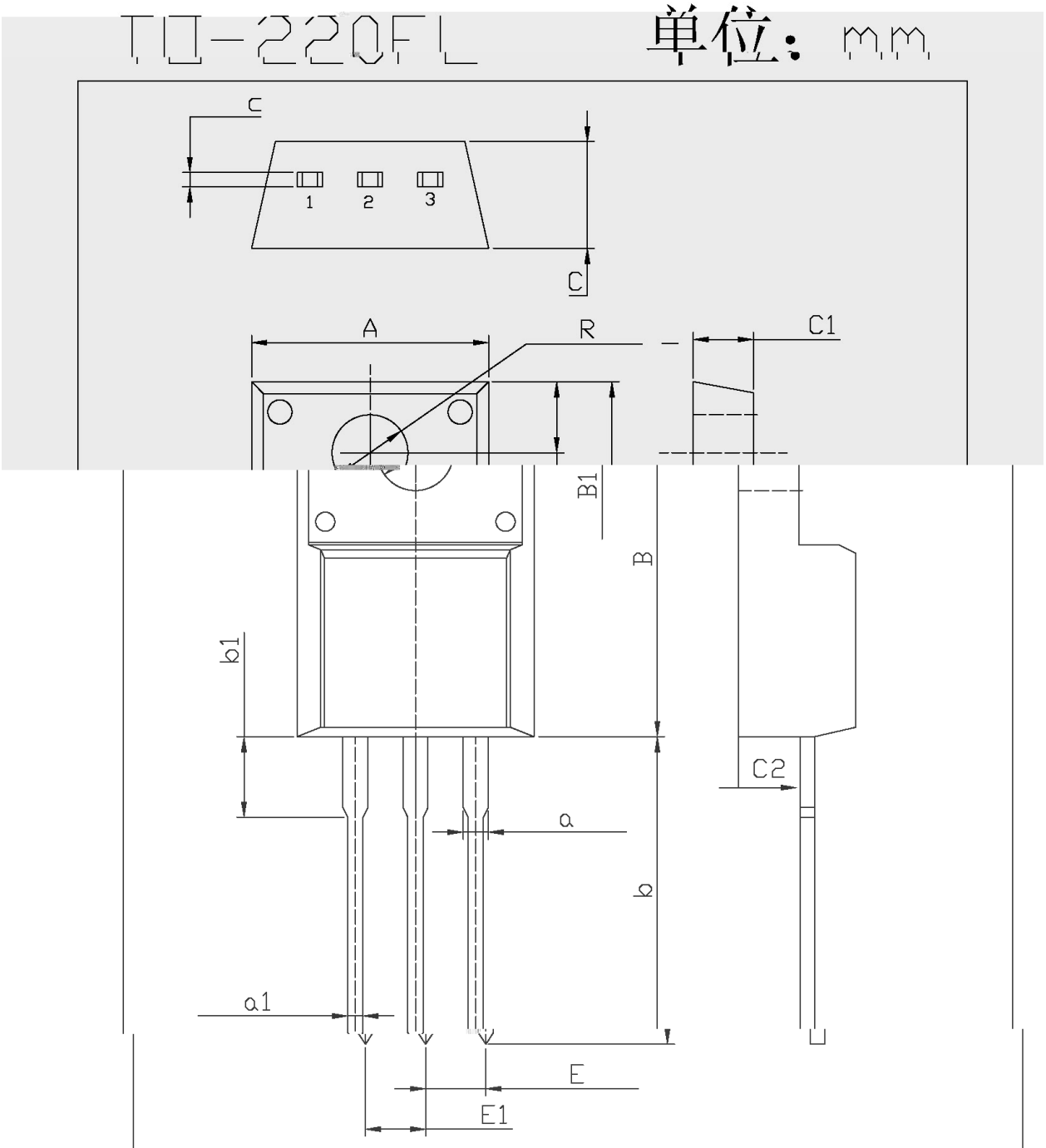




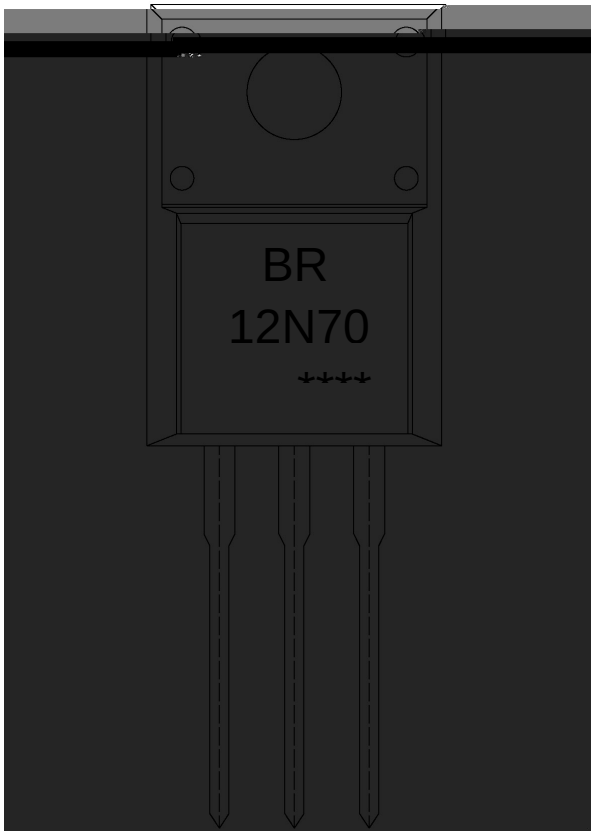
5. Safe Operating Area

6.Drain Current vs. Junction Temperature

TO-220FL 单位：mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
C	0.4	0.6	a	1.08	1.48
B	15.67	16.07	a1	0.70	0.90
B1	3.30	3.50	E	2.34	2.74
R	3.08	3.28	E1	2.34	2.74
			C1	2.34	2.74



BR

12N70

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Note:

BR:	Company Code
12N70:	Product Type Code
****:	Lot No. Code, code change with Lot No

		Note:	
1	25 150 60 90sec;	1.Preheating:25~150	, Time:60~90sec.
2	255±5 5±0.5sec;	2.Peak Temp.:255±5	, Duration:5±0.5sec.
3	2 10 /sec.	3. Cooling Speed: 2~10	/sec.

270±5	10±1 sec.	Temp.:270±5	Time:10±1 sec

/ TUBE

Package Type	Units	Dimension	(unit mm^3)