

/ Descriptions

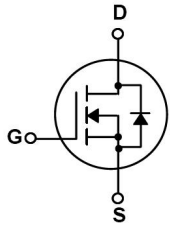
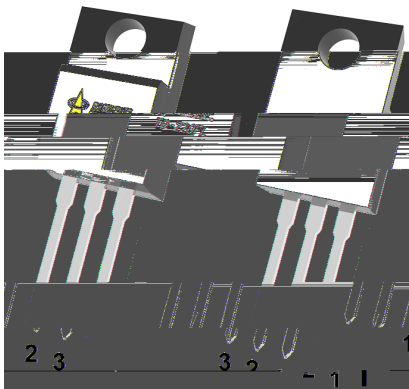
TO-220FL N MOS N-CHANNEL MOSFET in a TO-220FL Plastic Package.

/ Features

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

/ Applications

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

/ Equivalent Circuit**/ Pinning**

PIN1 G

PIN 2 D

PIN 3 S

/ Marking

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	500	V
Drain Current	$I_D(T_c=25^\circ\text{C})$	25	A
Drain Current - Pulsed	I_{DM}	100	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	1900	mJ
Avalanche Current	I_{AS}	19.5	A
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.5	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62.5	$^\circ\text{C}/\text{W}$
Power Dissipation	P_D	50	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^\circ\text{C}$

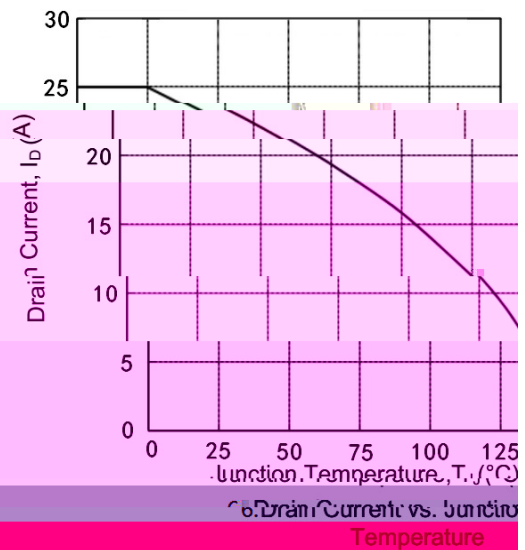
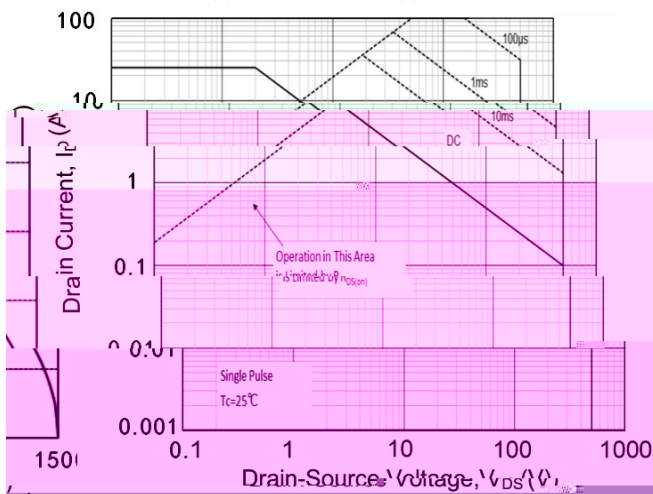
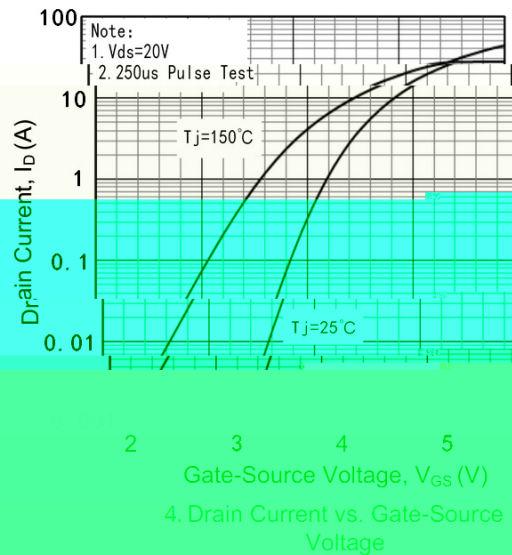
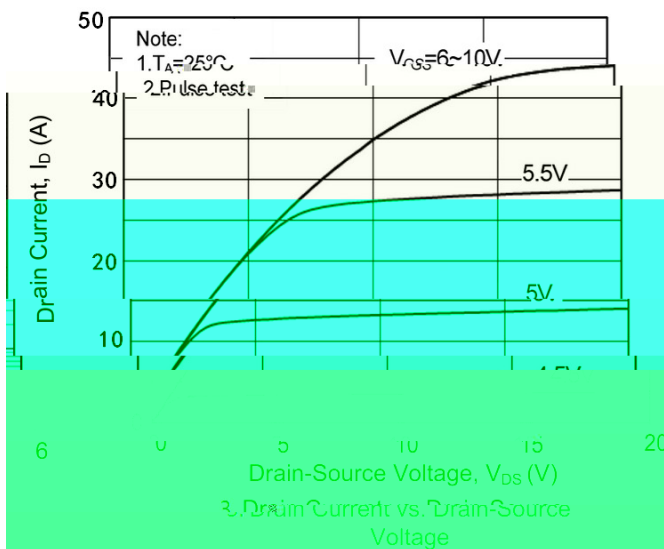
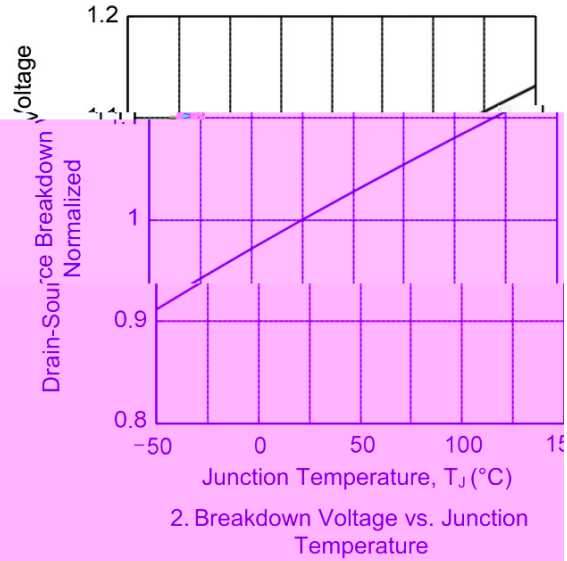
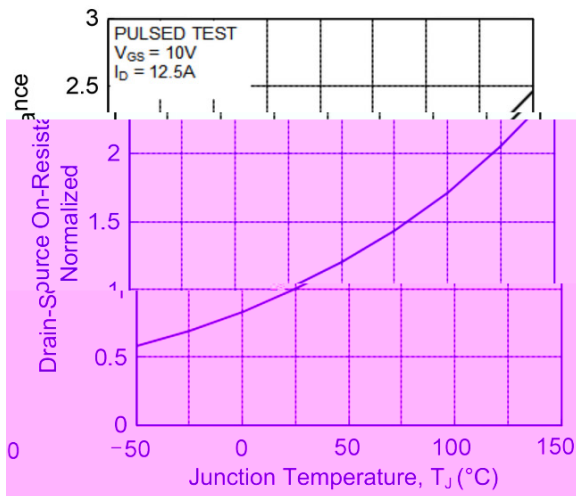
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$ $I_D=250\mu A$	500			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=500V$ $V_{GS}=0V$			1.0	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2.0	3.2	4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=12.5A$		0.18	0.27	Ω



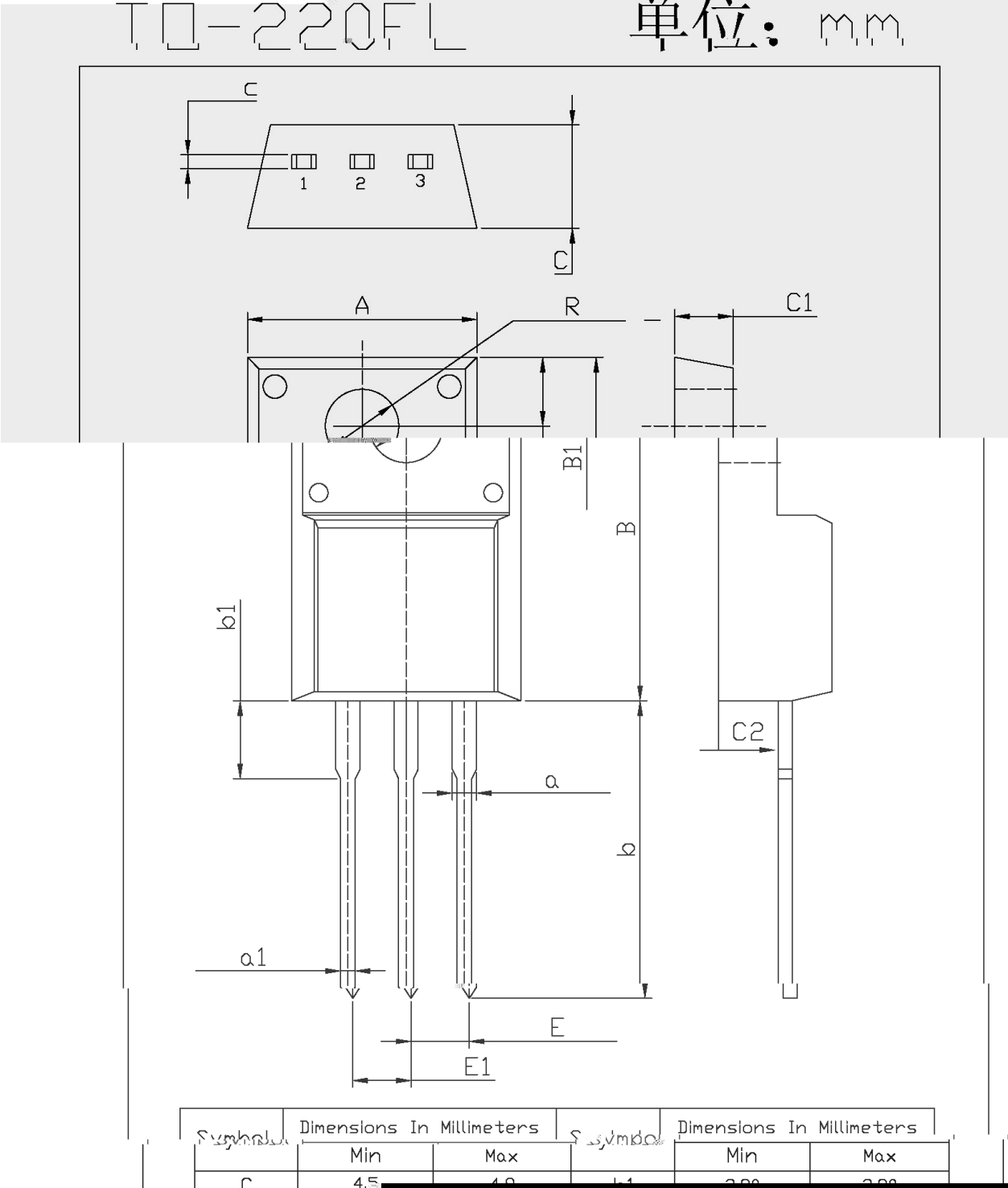
Param	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=250V$ $I_D=20A$ $R_{DS(on)}=18.6m\Omega$		37.2		ns
Turn-On Rise Time	t_r			84.4		
Turn-Off Fall Time	t_f			46		
Maximum Continuous Drain-Source Diode Forward Current	I_S				25	A



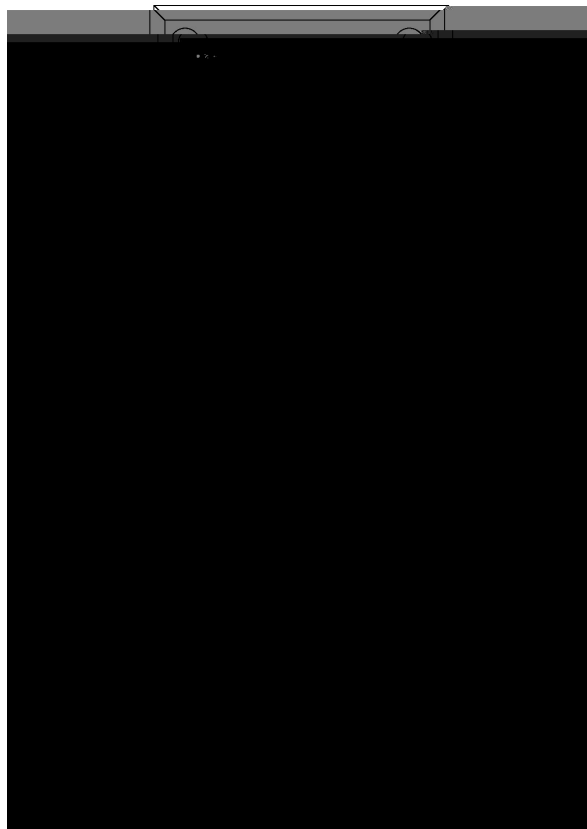
Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



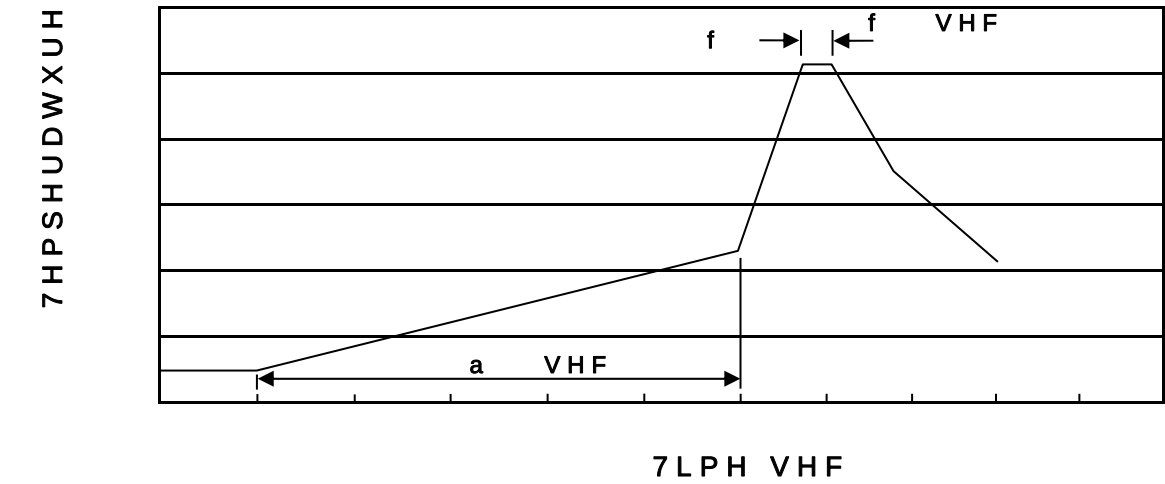
Note:

BR: Company Code

25N50: Product Type Code

****: Lot No. Code, code change with Lot No

() / Temperature Profile for Dip Soldering(Pb-Free)



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

/ Resistance to Soldering Heat Test Conditions

270 °C 5 min 10 min 1 sec. Temp.:270±5°C Time:10±1 sec

/ Packaging SPEC.

/ TUBE

Package Type 7HPSHUDWXUH	Units ;>û 'H					Dimension ;>û p . (unit :mm³)		
	Units/Tube /•1×	Tubes/Inner Box •1×/-	Units/Inner Box /-	Inner Boxes/Outer Box - /1ç	Units/Outer Box /1ç	Tube•1×	Inner Box	Outer Boxç
TO-220FL	50	20	1,000	5	5,000	532×33×7.0	555×164×50	575×290×180

/ Notices