

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	650	V
Drain Current	$I_D(T_C=25^{\circ}C)$	12	A
Drain Current	$I_D(T_C=100^{\circ}C)$	7.6	A
Drain Current - Pulsed	I_{DM}	48	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	880	mJ
Repetitive Avalanche Energy	E_{AR}	25	mJ
Avalanche Current	I_{AR}	12	A
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.45	/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62.5	/W
Power Dissipation	P_D	51	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	

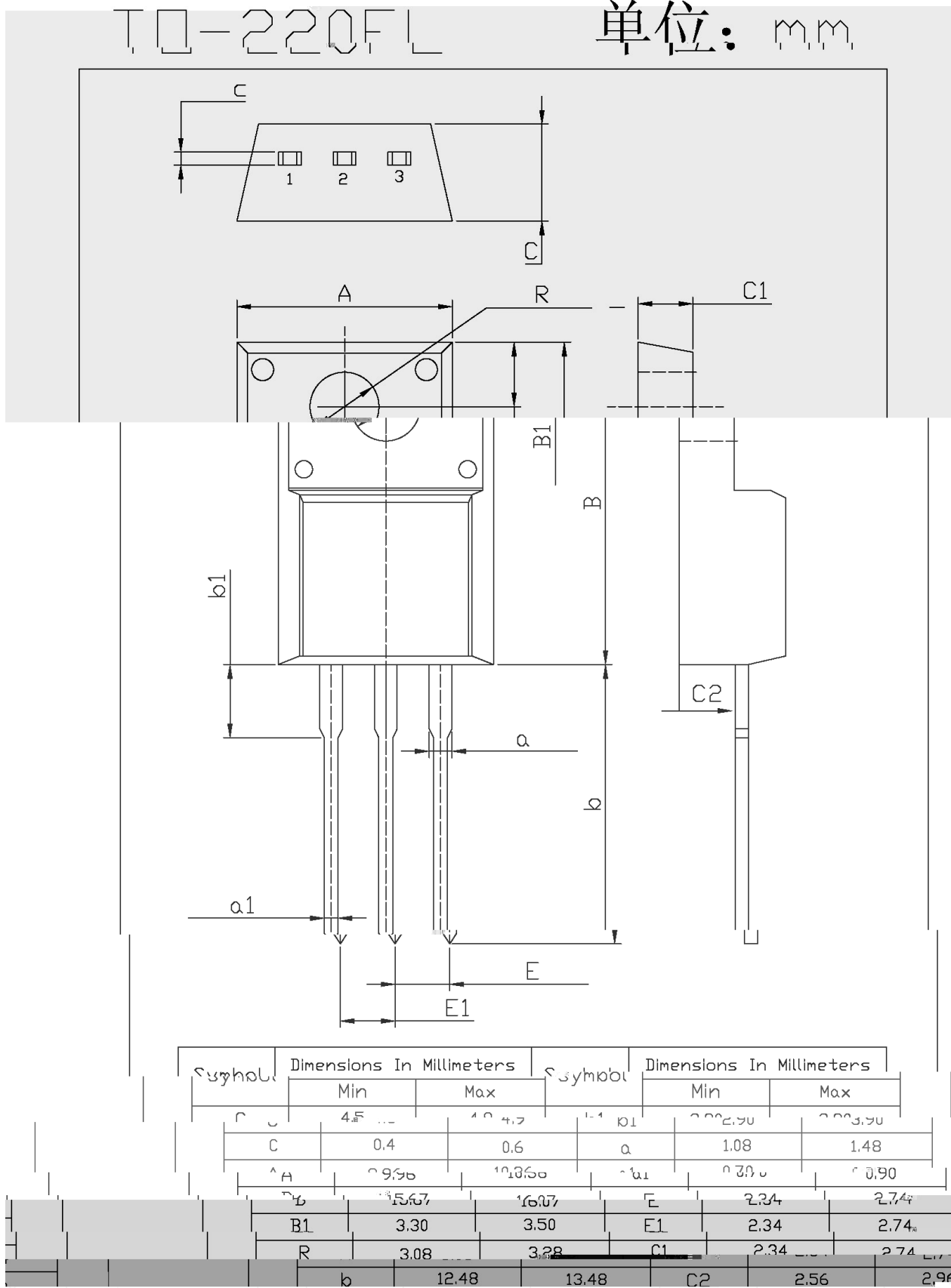
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$ $I_D=250\mu A$	650			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650V$ $V_{GS}=0V$			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		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=6A$		0.62	0.78	Ω
Forward Transconductance	g_{FS}	$V_{DS}=40V$ $I_D=6A$		13		S
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=12A$			1.39	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		1790	2410	pF
Output Capacitance	C_{oss}			175	229	pF
Reverse Transfer Capacitance	C_{rss}			23	31	pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=300V$ $I_D=12A$ $R_G=25\Omega$		78	102	ns
Turn-On Rise Time	t_r			133	175	ns
Turn-Off Delay Time	$t_{d(off)}$			233	305	ns
Turn-Off Fall Time	t_f			104	160	ns

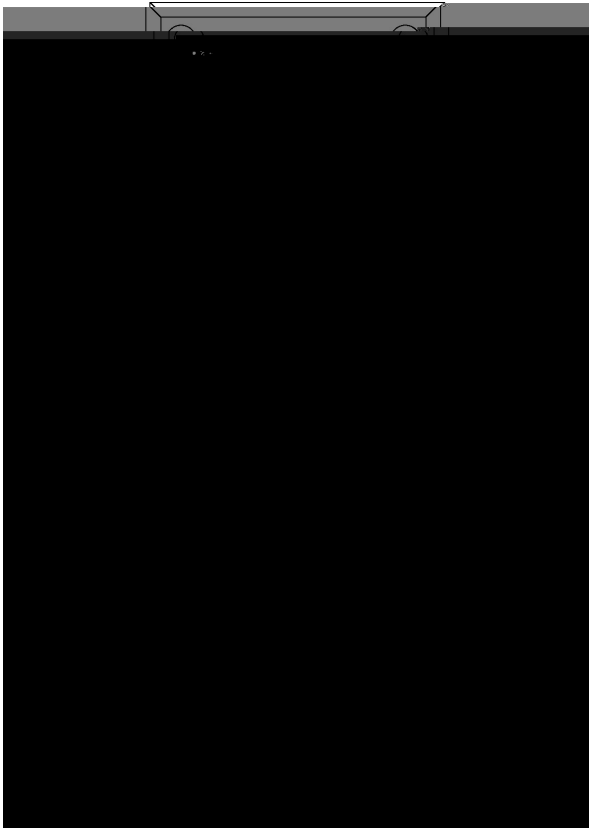
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



BR
12N65

Note:
BR: Company Code
12N65: Product Type
****: Lot No. Code, code change with Lot No

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



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.

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm³)		
	只 套管	套管 盒	只 盒	盒 箱	只 箱	套管	盒	箱
TO-220FL	50	20	1,000	5	5,000	532×33×7.0	555×164×50	575×290×180

/ Notices