

Rev.A Dec.-2023

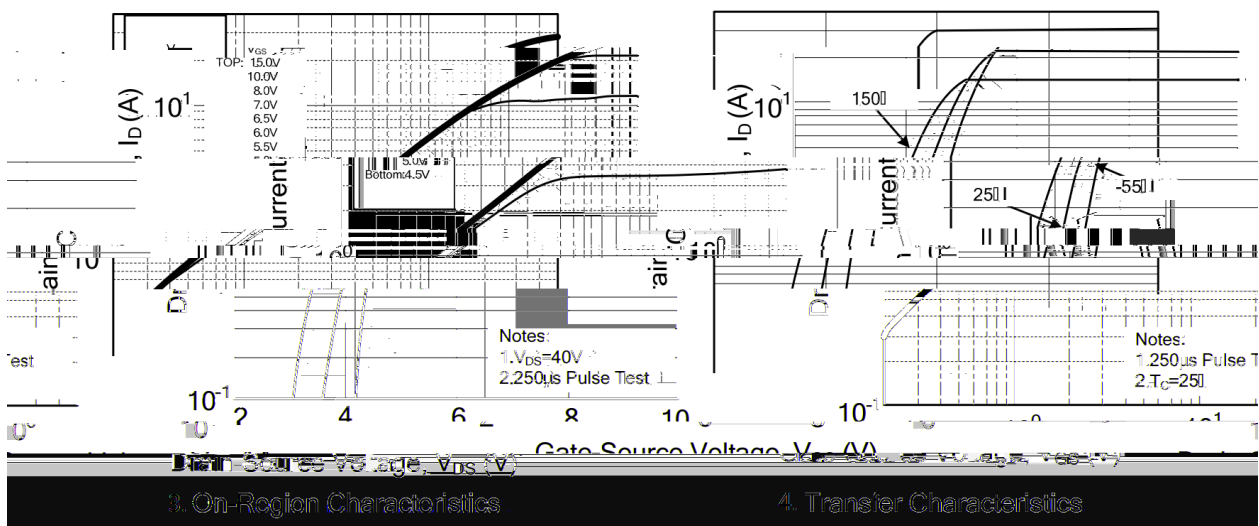
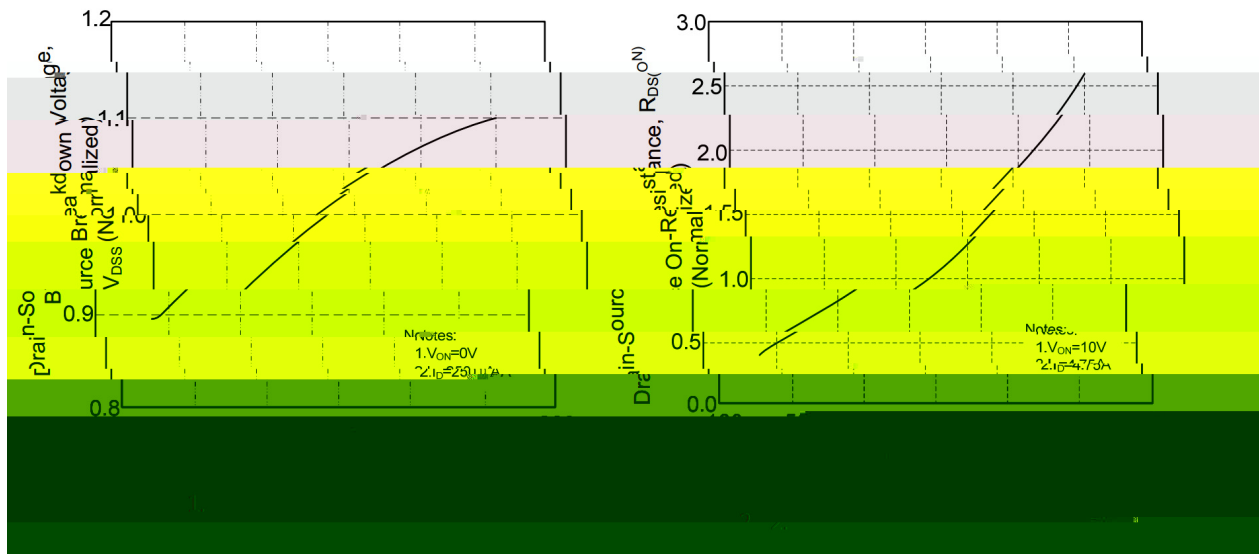
TO-220FL N MOS

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

Low gate charge, low crss, fast switching, Have good Electromagnetic Interference performance.

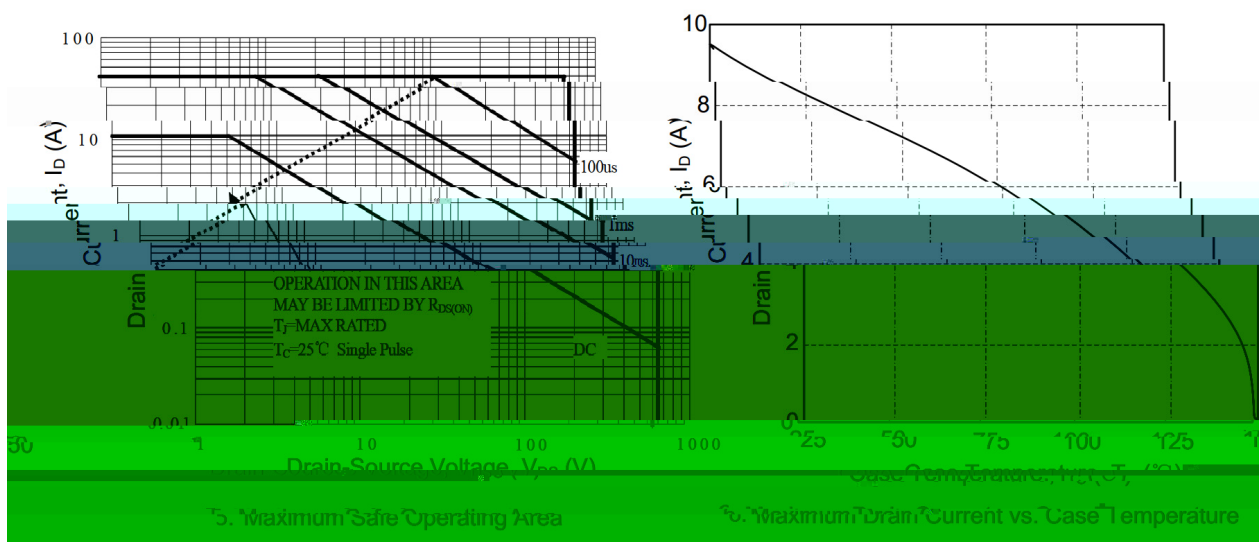
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	650	V
Drain Current	$I_D(T_c=25^{\circ}C)$	10	A
Drain Current - Pulsed	I_{DM}	40	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	280	mJ
Avalanche Current	I_{AR}	8	A
Power Dissipation	$P_D(T_c=25^{\circ}C)$	40	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62.5	/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	3.1	/W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$ $I_D=250\mu A$	650	680		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650V$ $V_{GS}=0V$			1.0	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			± 10	μA
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	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=4.75A$		0.73	0.85	Ω
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		1550		pF
Output Capacitance	C_{oss}			30		
Reverse Transfer Capacitance	C_{rss}			9		
Total Gate Charge	Q_G	$V_{DS}=520V$, $I_D=10.0A$, $V_{GS}=10V$		45		nC
Gate-Source Charge	Q_{GS}			6.8		
Gate-Drain Charge	Q_{GD}			19		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=325V$ $I_D=10A$ $R_G=25\Omega$ $V_{GS}=10V$		25		ns
Turn-On Rise Time	t_r			72		
Turn-Off Delay Time	$t_{d(off)}$			150		
Turn-Off Fall Time	t_f			80		
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$, $I_S=4.0A$			1.4	V



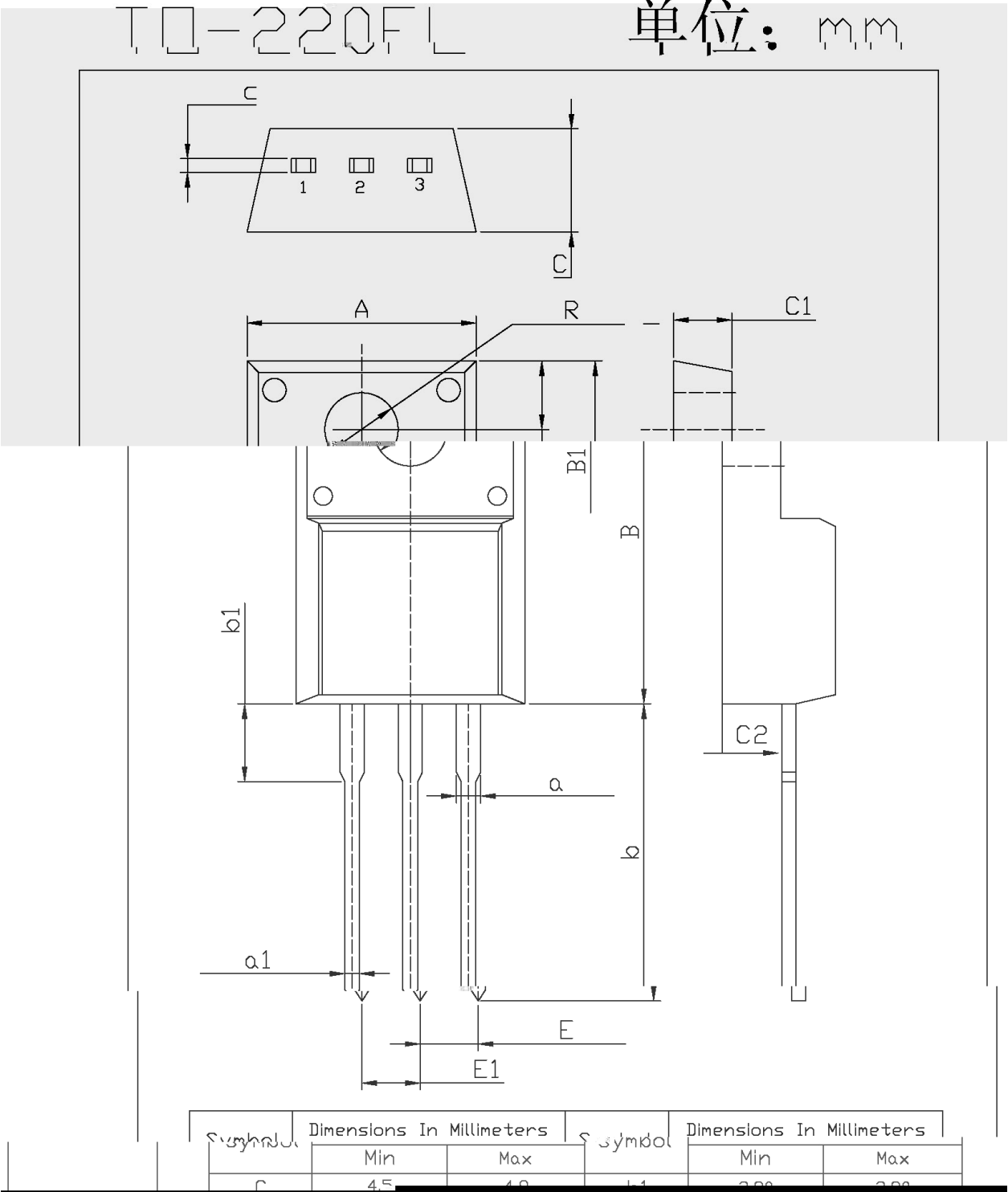
3. On-Region Characteristics

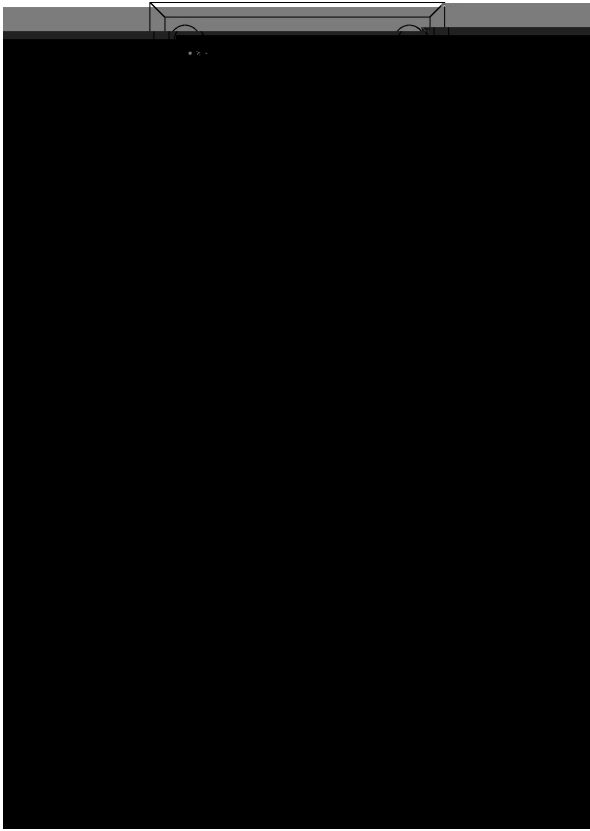
4. Transfer Characteristics



5. Maximum Safe Operating Area

6. Maximum Drain Current vs. Case Temperature





BR
10N65S

Note:
BR: Company Code
10N65S: Product Type Code
****: Lot No. Code, code change with Lot No



1

25 150

60 90sec;

2

255 5

5

Note:

1.Preheating:25~150 , Time:60~90sec.