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

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Low gate charge, low crss, fast switching.

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DC/DC

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

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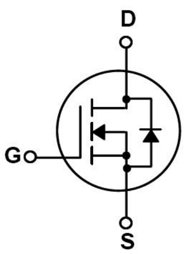

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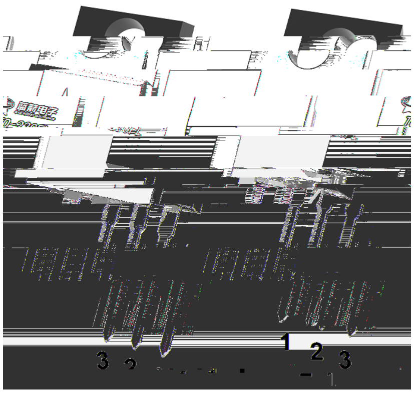

PIN1 G PIN 2 D PIN 3 S

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See Marking Instructions.

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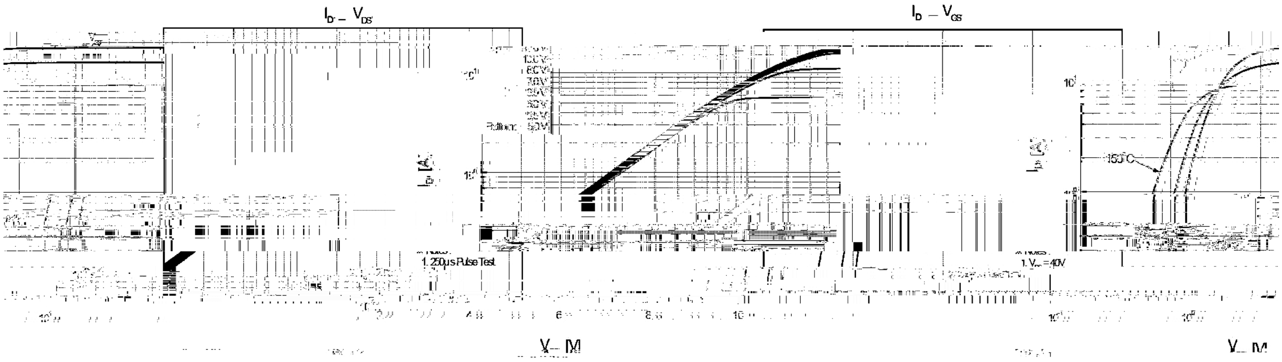
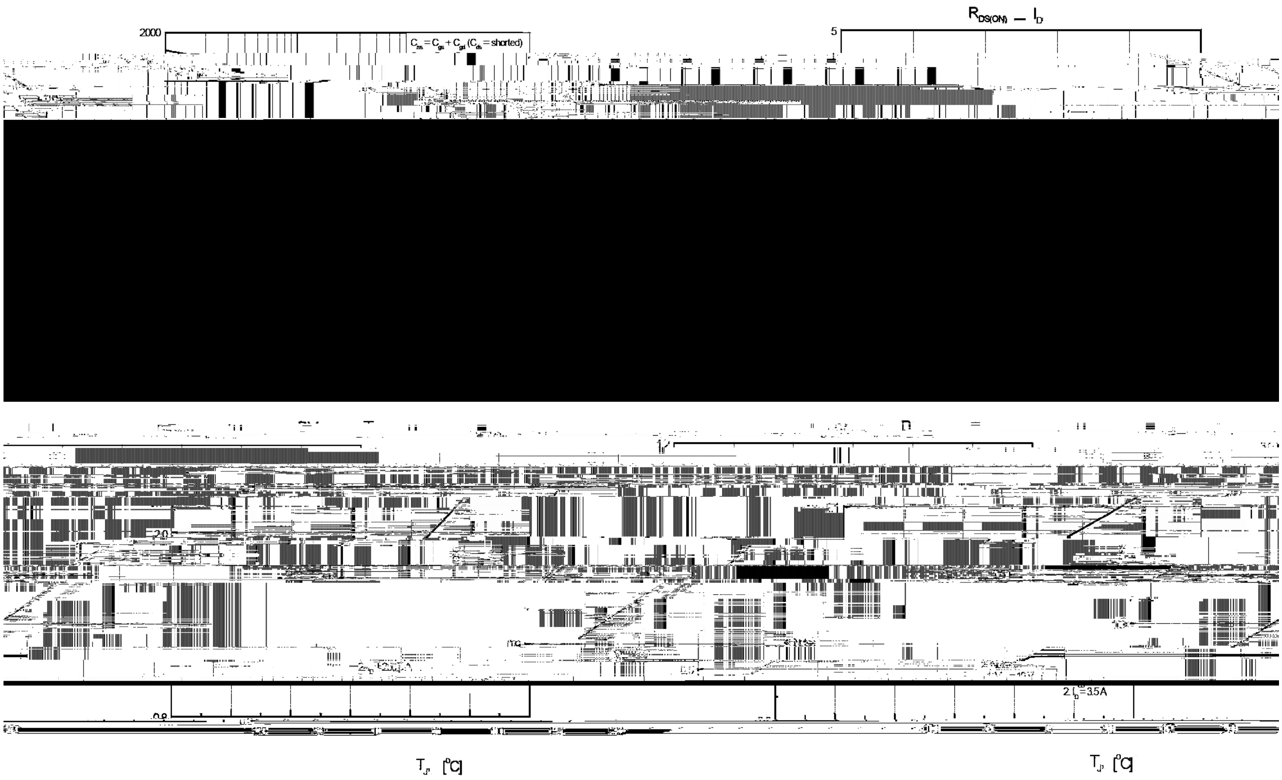
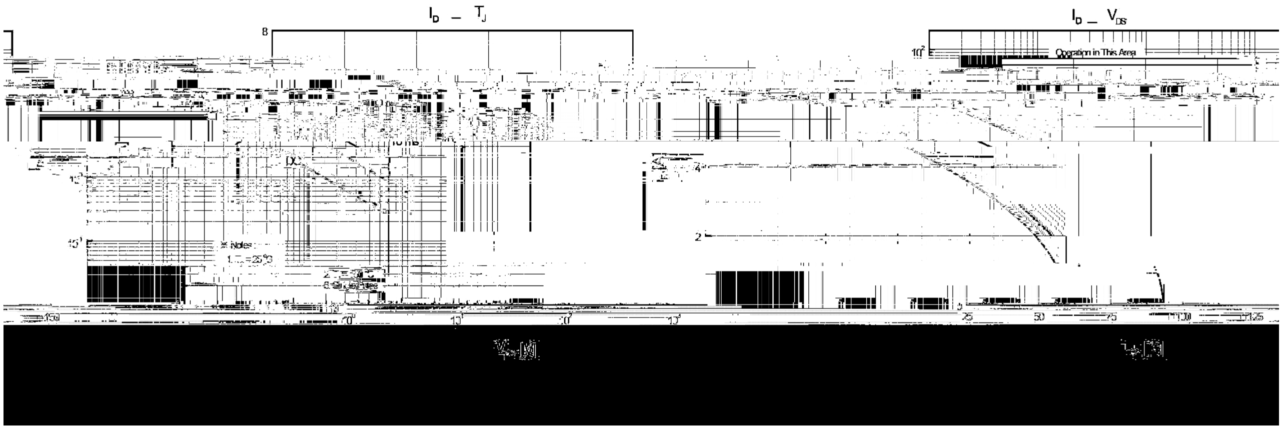
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	650	V
Drain Current	I_D(Tc=25)	7.0	A
Drain Current	I_D(Tc=100)	4.4	A
Drain Current - Pulsed	I_{DM}	28	A
Gate-Source Voltage	V_{GSS}	±30	V
Single Pulsed Avalanche Energy	E_{AS}	420	mJ
Repetitive Avalanche Energy	E_{AR}	14.7	mJ
Avalanche Current	I_{AR}	7.0	A
Power Dissipation	P_D(Tc=25)	48	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	650			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=650V	V_{GS}=0V			1.0	μA
		V_{DS}=520V	T_C=125			100	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		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V	I_D=3.5A		1.1	1.3	Ω
Forward Transconductance	g_{FS}	V_{DS}=40V	I_D=3.5A		8.2		S
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V	I_S=7.0A			1.4	V
Input Capacitance	C_{iss}	V_{DS}=25V f=1.0MHz	V_{GS}=0V		1100	1500	pF
Output Capacitance	C_{oss}				110	150	pF
Reverse Transfer Capacitance	C_{rss}				12	16	pF
Total Gate Charge	Qg	I_D =7.0A V_{GS} = 10V	V_{DS} = 520V		28		nC
Gate-to-Source Charge	Qgs				7		nC
Gate-to-Drain Charge	Qgd				12		nC
Turn-On Delay Time	$t_{d(on)}$						

V=7.78 0 0 10.5 291.12 422.0607 T .475215 Tc1.2671 Tw[=3ain-So)-


I_D – V_DS
I_D – V_GS
1. 250μs Pulse Test
1. V_DS = 40V
150°C
V_DS (V)
V_GS (V)


2000
C_iss = C_gs + C_gd (C_ds = shorted)
R_DS(ON) – I_D
5
2. I_D=3.5A
T_J (°C)
T_J (°C)


I_D – T_J
8
I_D – V_DS
Operation in This Area
DC
Notes:
1. T_C=25°C
25
50
75
100
125

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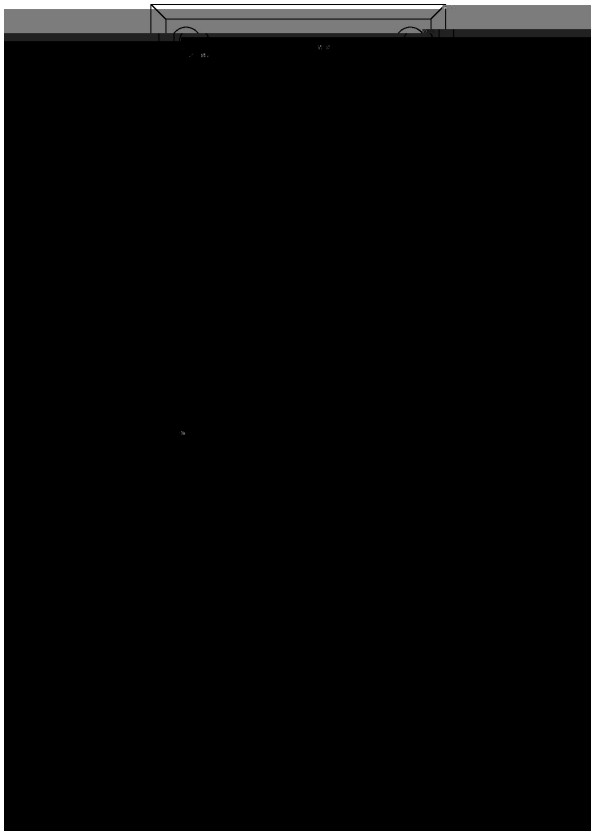

BR

7N65

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Note:

BR:	Company Code
7N65:	Product Type Code
****:	Lot No. Code, code change with Lot No