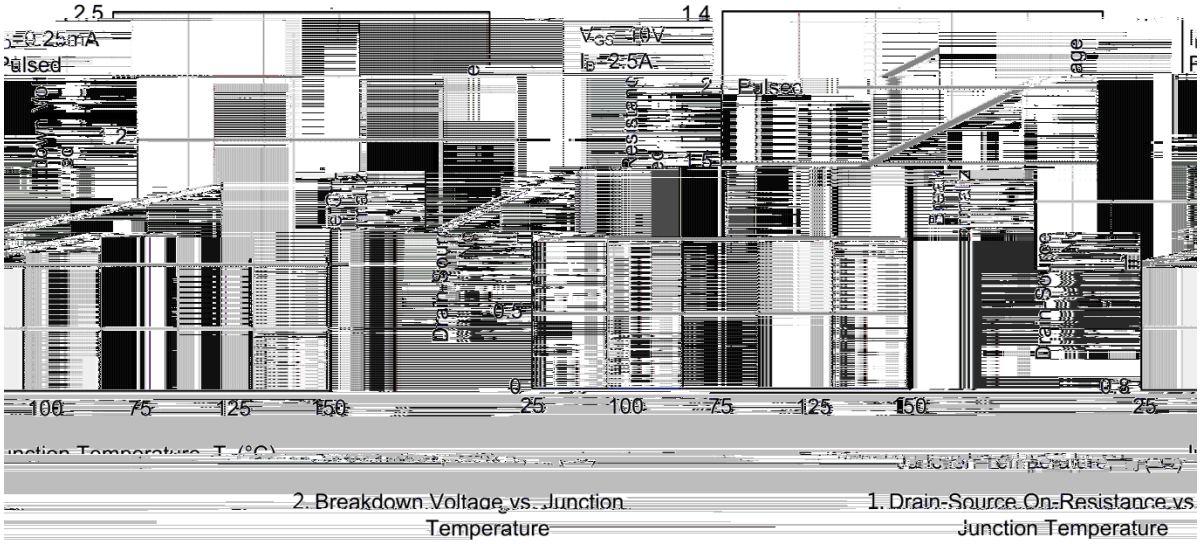
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	500	V
Drain Current	I_D(Tc=25)	7	A
Drain Current - Pulsed	I_{DM}	28	A
Gate-Source Voltage	V_{GS}	±30	V
Single Pulsed Avalanche Energy	E_{AS}	392	mJ
Avalanche Current	I_{AS}	8.4	A
Power Dissipation	P_D(Tc=25)	50	W
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to 150	
Junction to Ambient	$R_{\theta JA}$	110	/W
Junction to Case	$R_{\theta JC}$	2.5	/W

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V	I_D=250μA	500	554		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=500V	V_{GS}=0V			1	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	2.9	4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V	I_D=3.0A		1.2	1.5	Ω
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS} = 0 V	I_S = 1.0A			1.4	V
Input Capacitance	C_{iss}	V_{DS}=25V f=1.0MHz	V_{GS}=0V		570		

/ Electrical Characteristics(Ta=25)

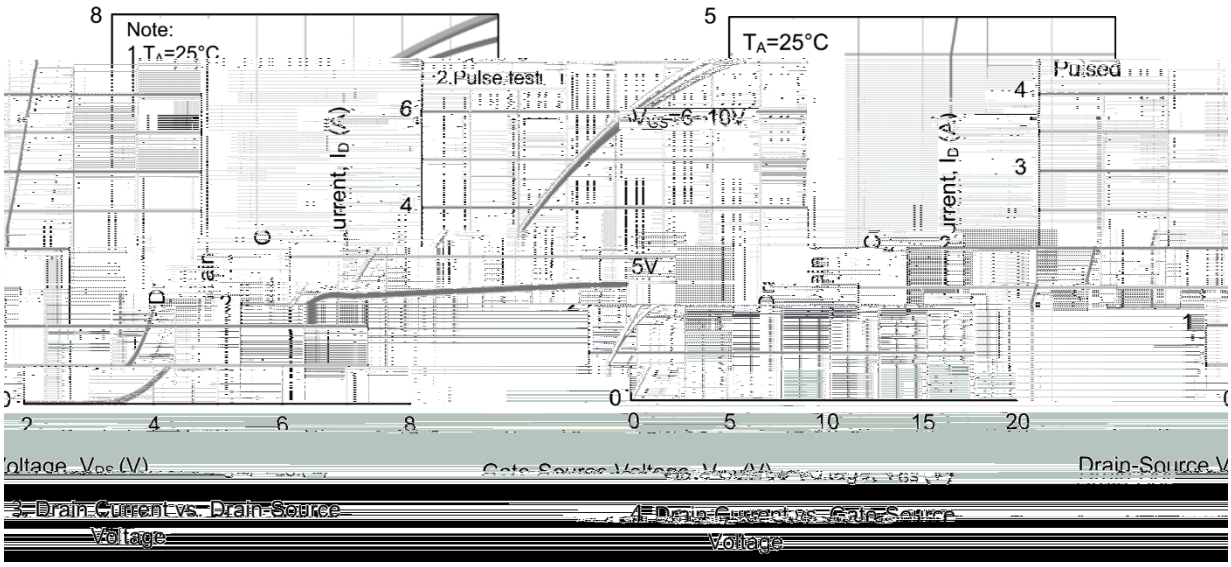
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=100V I_D=7.0A V_{GS}=10V R_G=25Ω		11		ns
Turn-On Rise Time	t_r			17.5		
Turn-Off Delay Time	$t_{d(off)}$			53		
Turn-Off Fall Time	t_f			32		
Maximum Continuous Drain-Source Diode Forward Current	I_S				7	A
Maximum Pulsed Drain-Source Diode Forward Current	I_{SM}				28	A
Reverse Recovery Time	trr	V_{GS}=0V I_S=7.0A dI_F/dt=100 A/μs		90		ns
Reverse Recovery Charge	Qrr			250		nC

/ Electrical Characteristic Curve



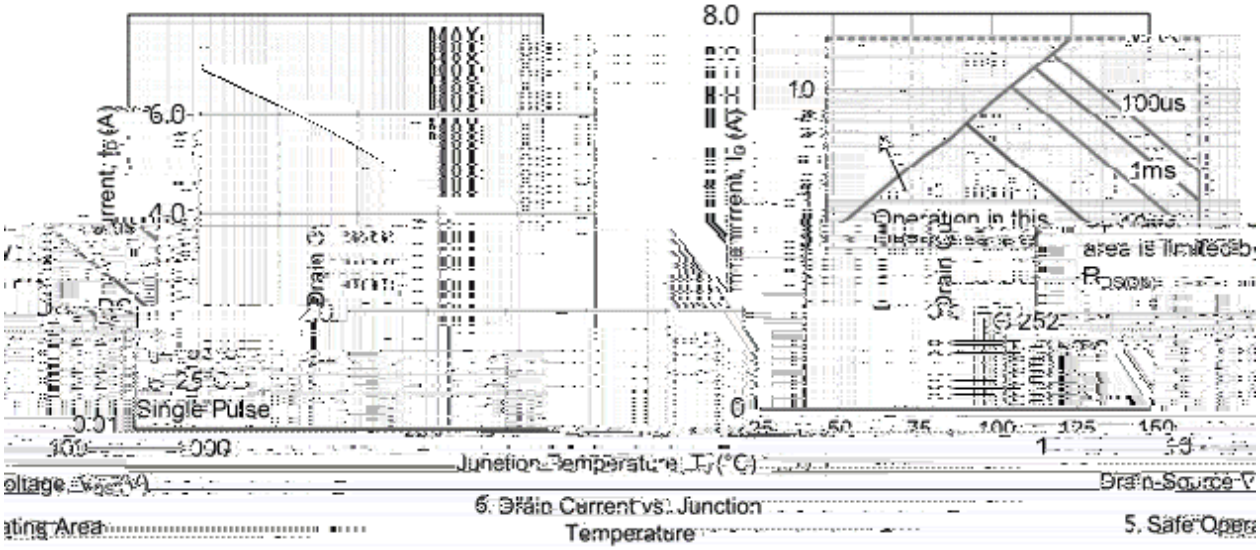
2. Breakdown Voltage vs. Junction Temperature

1. Drain-Source On-Resistance vs Junction Temperature



3. Drain Current vs. Drain-Source Voltage

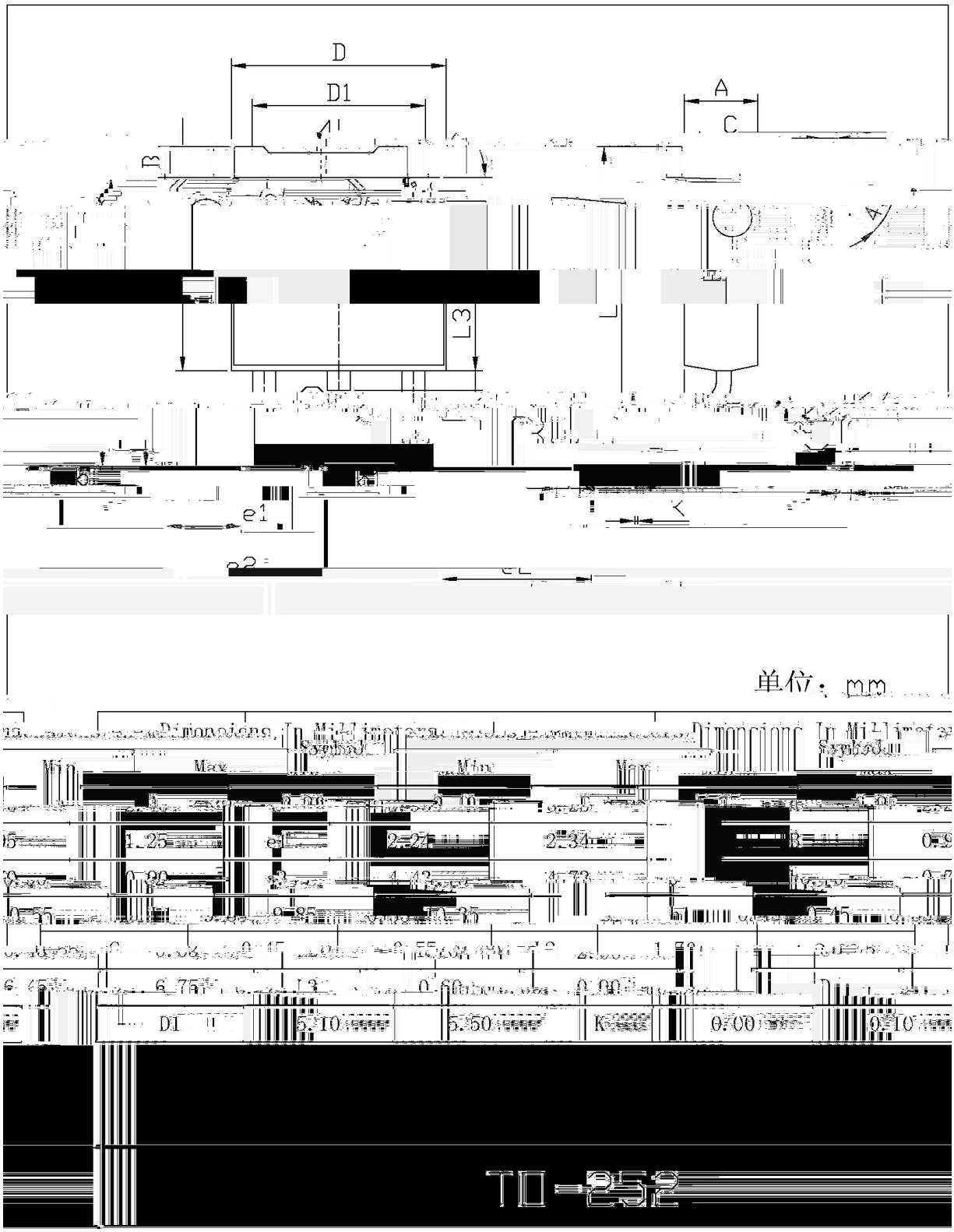
4. Drain Current vs. Gate-Source Voltage



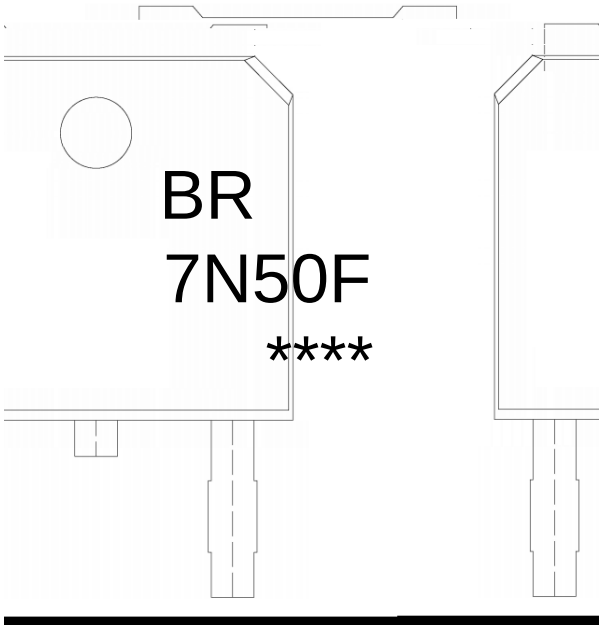
6. Drain Current vs. Junction Temperature

5. Safe Operating Area

/ Package Dimensions



/ Marking Instructions



BR

7N50F

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Note:

BR:	Company Code
7N50F:	Product Type Code
****:	Lot No. Code, code change with Lot No

BRD7N50F