

BRD7N50F

Rev.A Jul.-2024

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	500	V
Drain Current	$I_D(T_c=25^\circ\text{C})$	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	$P_D(T_c=25^\circ\text{C})$	50	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	
Junction to Ambient	$R_{\theta JA}$	110	$^\circ\text{C/W}$
Junction to Case	$R_{\theta JC}$	2.5	$^\circ\text{C/W}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$ $I_D=250\mu A$	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}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	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}	$V_{GS}=0V$ $I_S=1.0A$			1.4	V

Input Capacitance

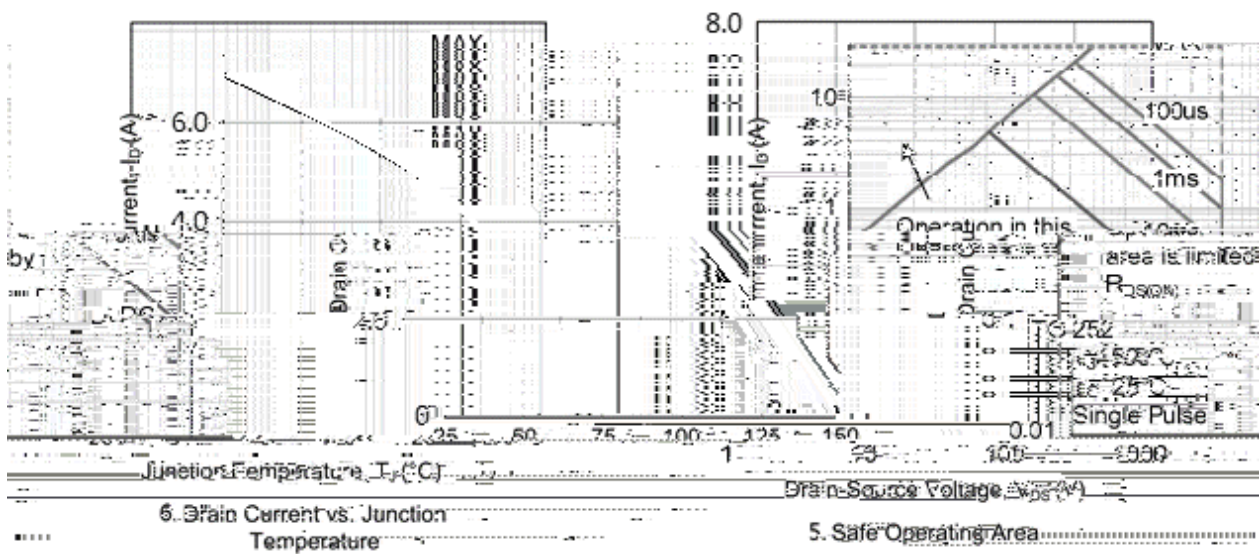
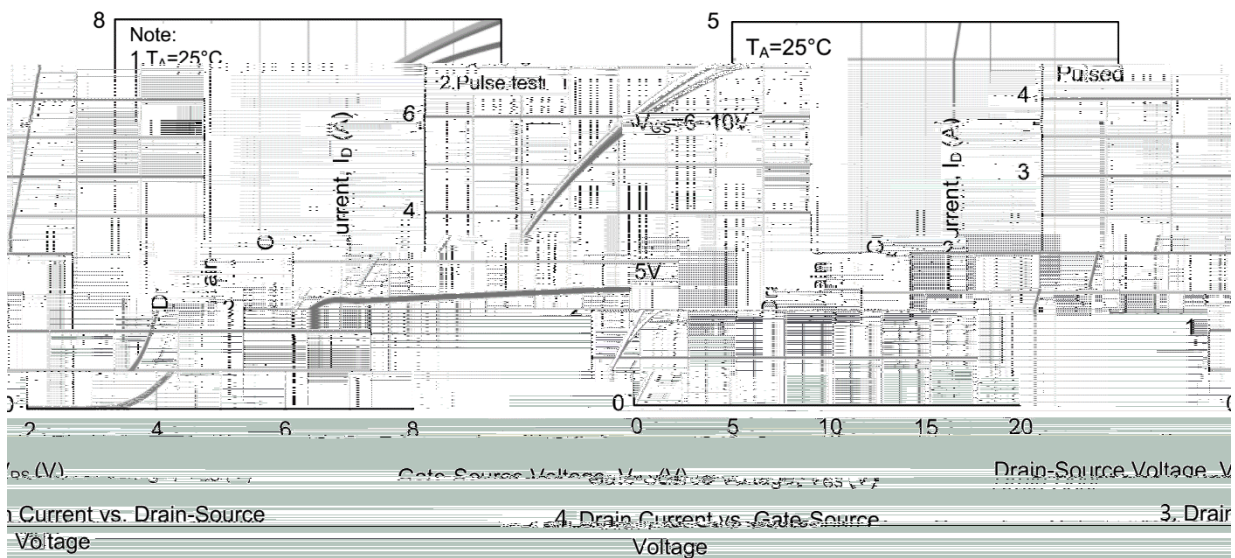
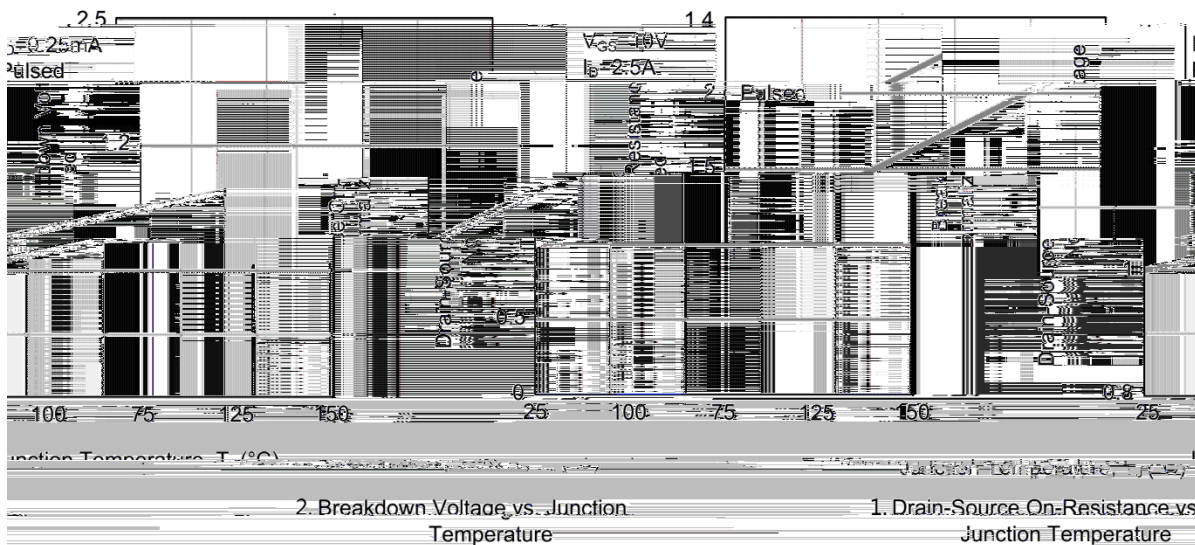
 C_{iss}
 $V_{DS}=25V$
 $f=1.0MHz$
 $V_{GS}=0V$

570

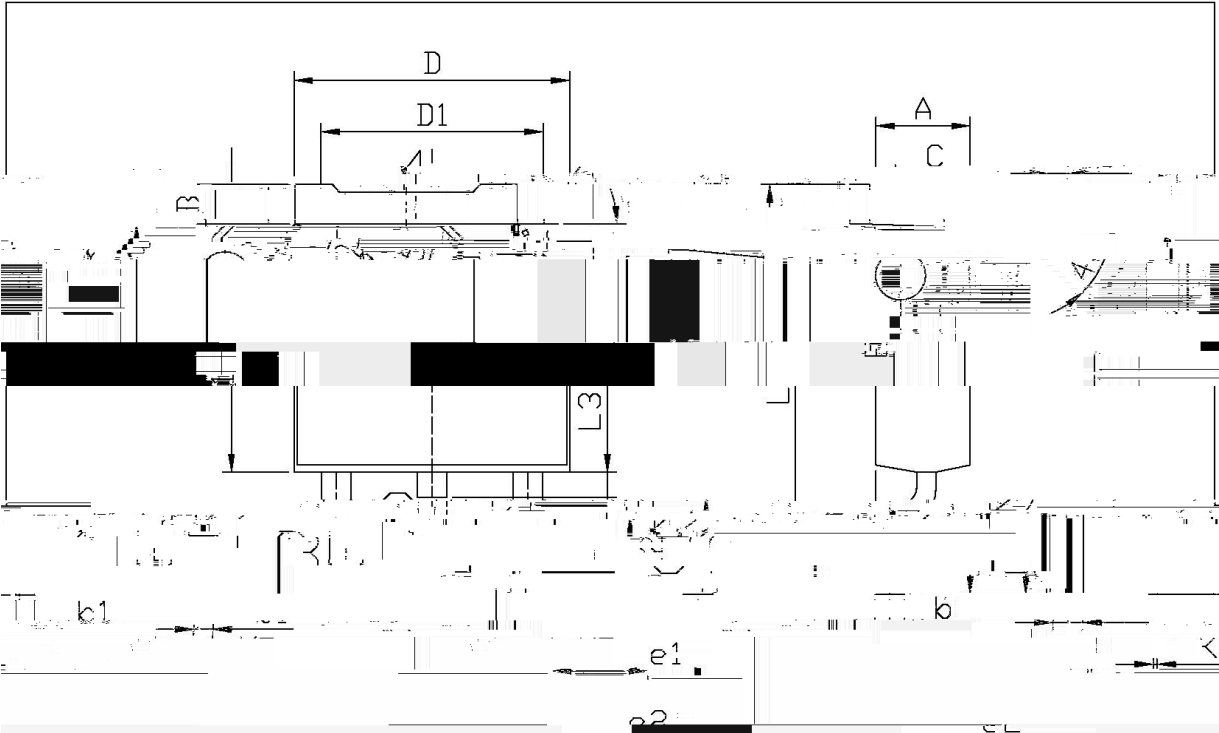
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=100V$ $I_D=7.0A$ $V_{GS}=10V$ $R_G=25\Omega$		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	t_{rr}	$V_{GS}=0V$ $I_S=7.0A$ $dI_F/dt=100 A/\mu s$		90		ns
Reverse Recovery Charge	Q_{rr}			250		nC

/ Electrical Characteristic Curve



/ Package Dimensions

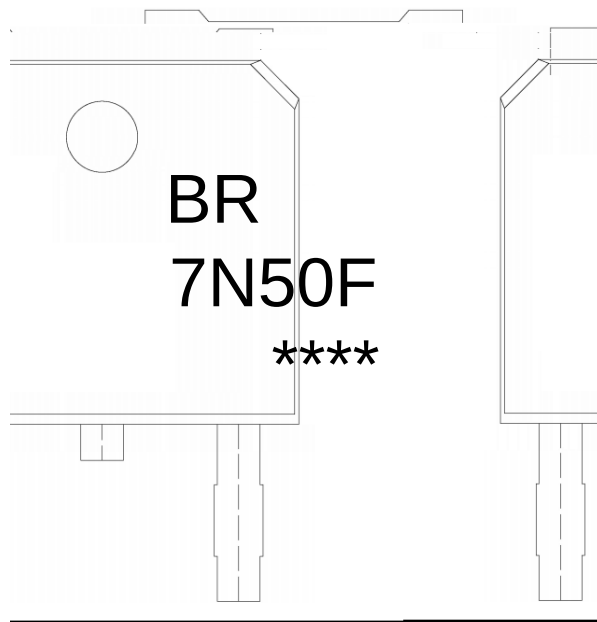


单位: mm

Dimensions, Millimeters		Dimensions, Inches			
Min	Max	Min	Max		
B	0.95	1.25	e1	2.24	2.34
b1	0.70	0.90	b2	4.63	4.72
b3	0.57	0.85	L3	1.25	1.27
b4	0.47	0.55	CL	1.50	1.52
D1	5.10	5.50	K1	0.00	0.10

T0-252

/ Marking Instructions



BR

7N50F

Note:

BR: Company Code

7N50F: Product Type Code

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

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