TO-252 N MOS

N-CHANNEL MOSFET in a TO-252 Plastic Package.

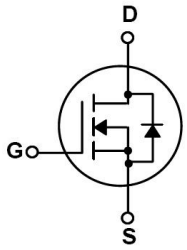
V_{DS}=500V I_D=7A

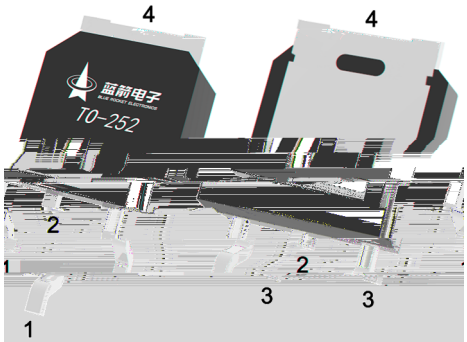
$R_{DS(ON)}$@10V ≤ 1.5Ω(Typ. 1.2Ω)

Fast Switching.

HF Product.

These devices are well suited for power switch circuit of adaptor and charger, intergrate fast recovery diode.





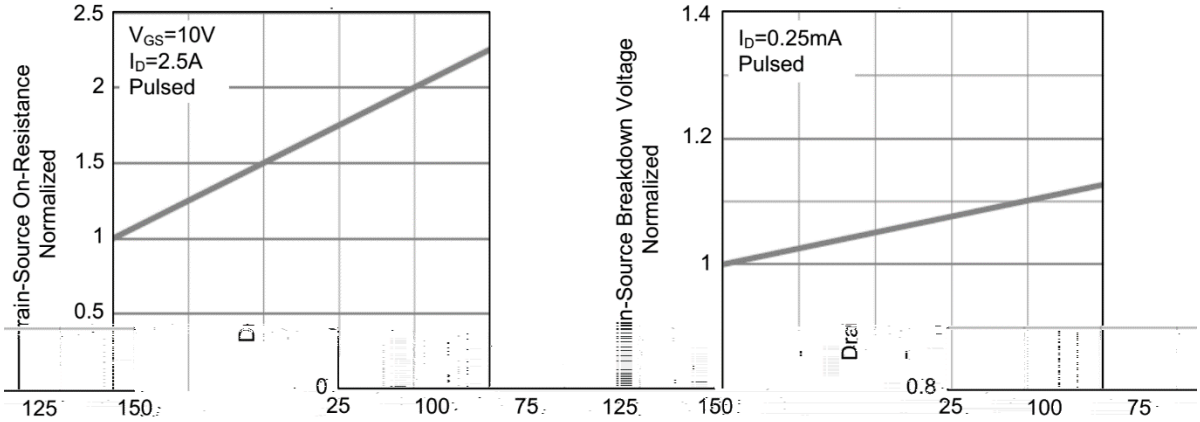
PIN1 G PIN 2 D PIN 3 S PIN 4 D

See Marking Instructions.

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 V_{GS}=0V f=1.0MHz		570		pF
Output Capacitance	C_{oss}			62		
Reverse Transfer Capacitance	C_{rss}			5.5		
Total Gate Charge	Q_G	V_{DS}= 400V I_D=7.0A V_{GS}= 10V		30		nC
Gate-Source Charge	Q_{GS}			12.5		
Gate-Drain Charge	Q_{GD}			5.4		

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

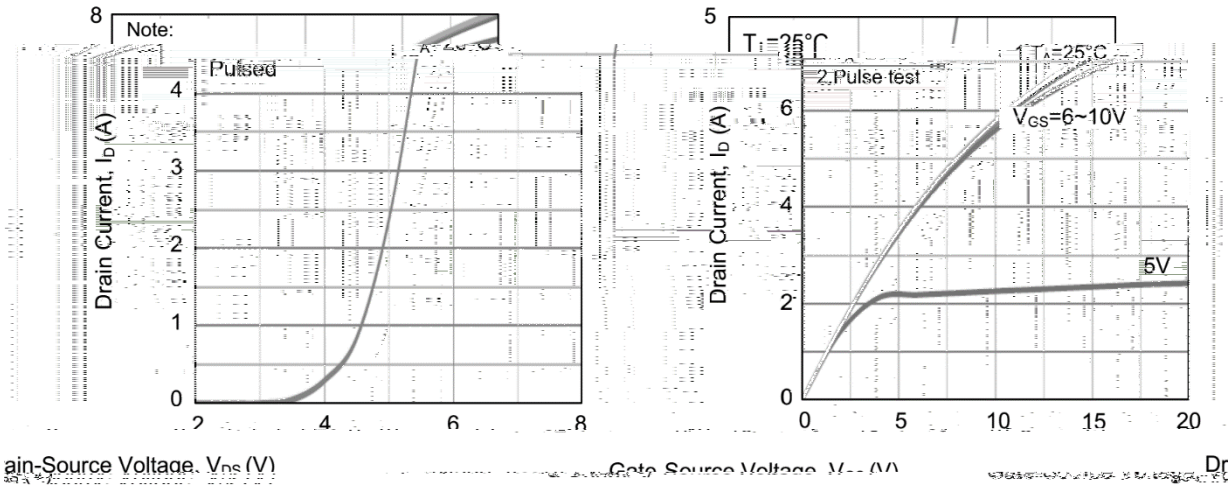


, T_J (°C)

s. Junction
e

1. Drain-Source On-Resistance vs. Junction Temperature

2. Breakdown Voltage v Temperatur

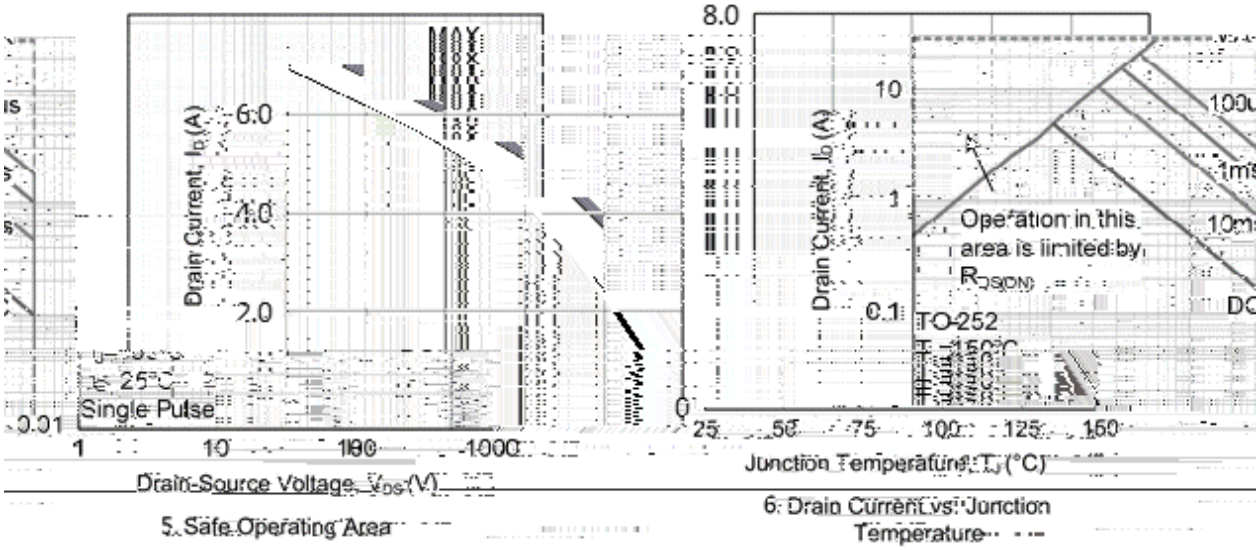


ain-Source Voltage, V_{DS} (V)

ource

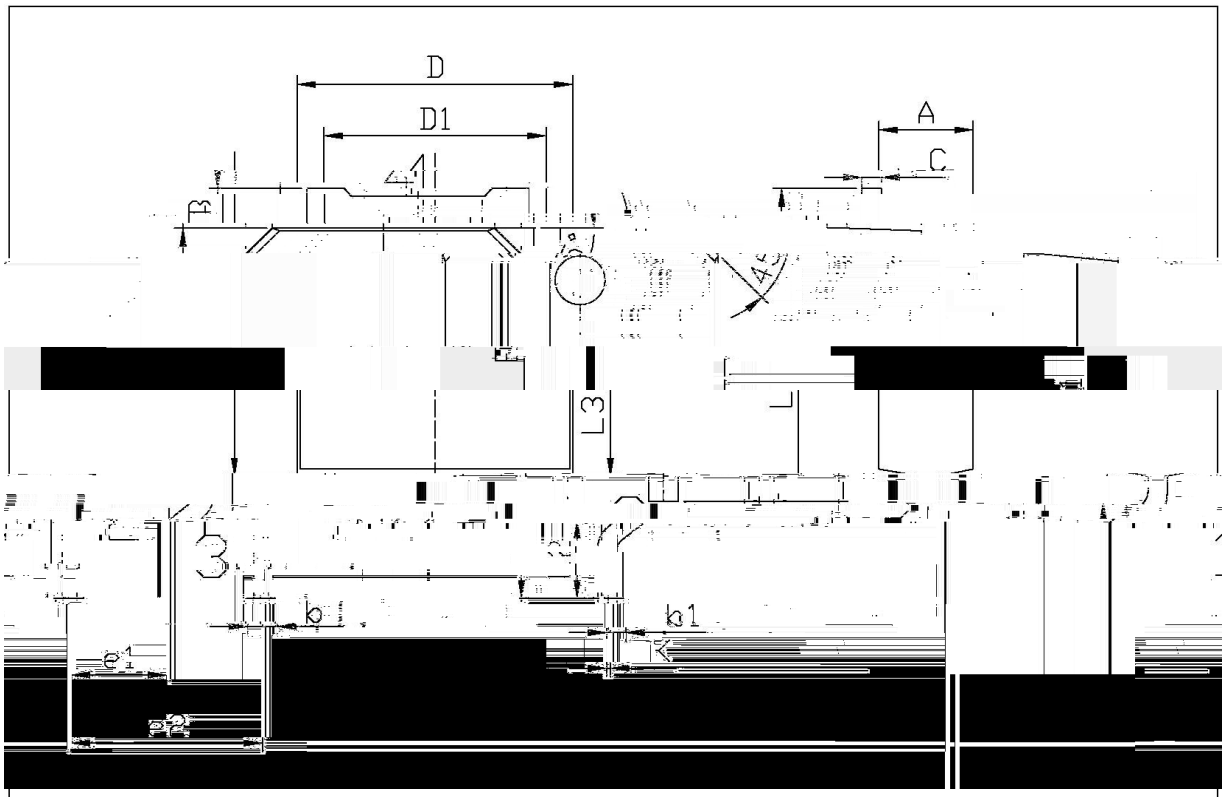
3. Drain Current vs. Drain-Source Voltage

4. Drain Current vs. Gate-S Voltage



5. Safe Operating Area

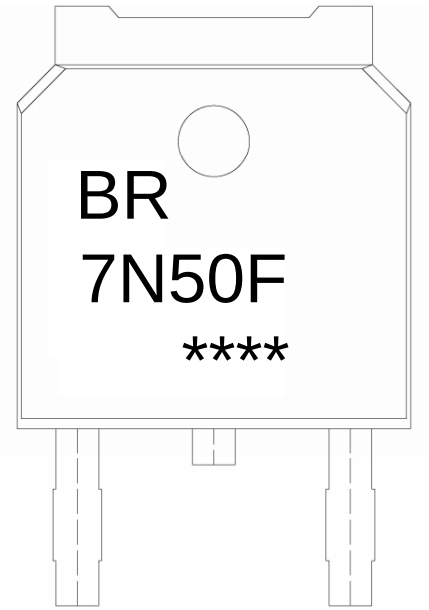
6. Drain Current vs. Junction Temperature



单位：mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
E	5.95	6.25	A	2.20	2.40
e1	2.24	2.34	B	0.95	1.25
e2	3.18	4.42	b	0.70	0.90
L1	9.85	10.35	b1	0.45	0.55
C	0.45	0.55	L2	1.70	2.00
L3	0.60	0.90	D	6.45	6.75
5.50	K	0.00	0.10	D1	5.10

TO-252



BR

Note:

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

Temperature Profile for IR Reflow Soldering(Pb-Free)

1	150	180		60	90sec;
2	245	5			5 0.5sec;
3			2	10	/sec.

Note:

1.Preheating:150~180 , Time:60~90sec.

2.Peak Temp.:245 5 , Duration:5 0.5sec.

3. Cooling Speed: 2~10 /sec.

260 5	10 1 sec.	Temp.:260±5℃	Time:10±1 sec

/ REEL

Package Type	Units					Dimension		(unit mm³)
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box