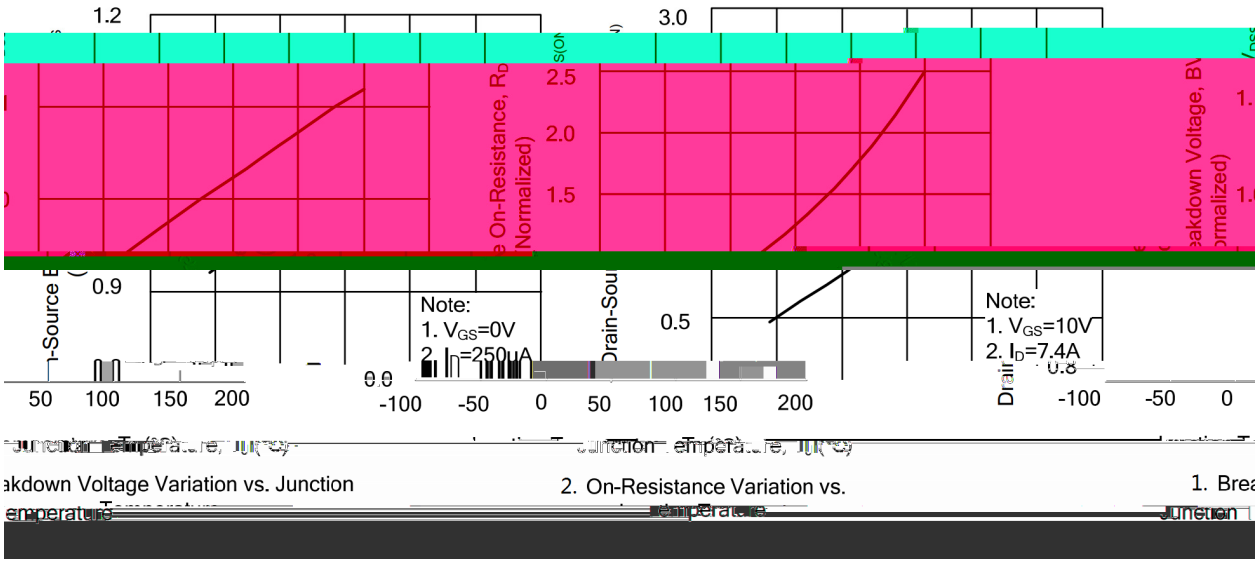
/ Absolute Maximum Ratings(Ta=25)

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}	425	mJ
Avalanche Current	I_{AR}	9.9	A
Power Dissipation	P_D(Tc=25)	100	W
Operating and Storage Temperature Range	T_j,T_{stg}	-55 to 150	
Junction to Ambient	$R_{\theta JA}$	110	/W
Junction to Case	$R_{\theta JC}$	1.25	/W

/ Electrical Characteristics(Ta=25)

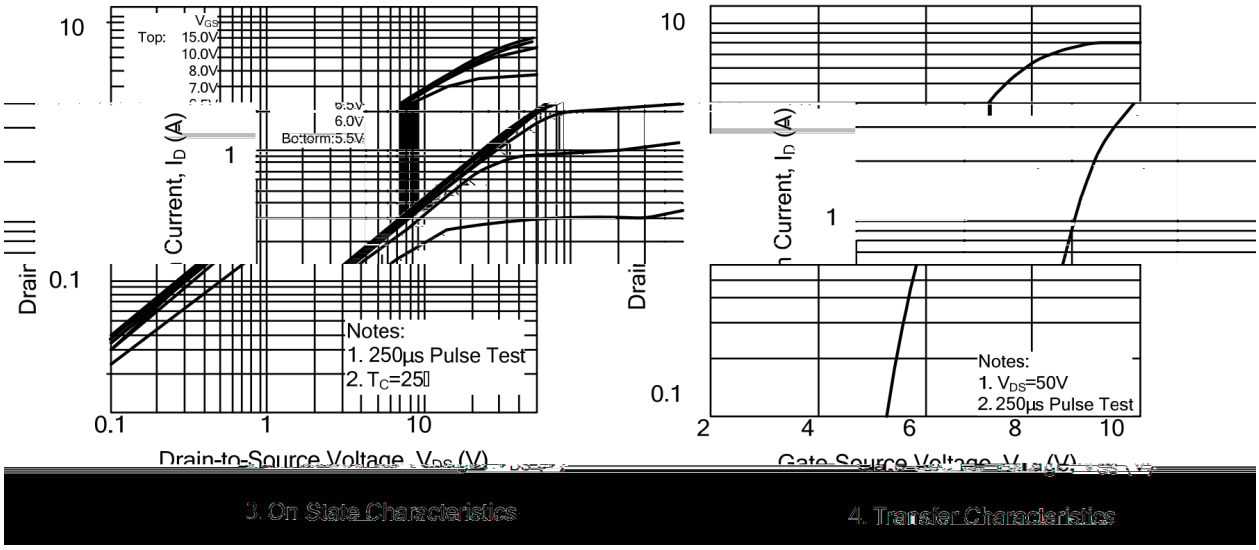
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	650	690		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=650V V_{GS}=0V			1.0	μA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±30V V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250μA	2.0	3.2	4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=3.5A		1.1	1.5	Ω
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		1000		pF
Output Capacitance	C_{oss}			180		
Reverse Transfer Capacitance	C_{rss}			4		
Total Gate Charge	Q_G	V_{DS}= 520V, I_D= 7.0A, V_{GS}= 10V		30		nC
Gate-Source Charge	Q_{GS}			10		
Gate-Drain Charge	Q_{GD}			21		
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=325V I_D=7.0A R_G=25Ω V_{GS}= 10V		52		ns
Turn-On Rise Time	t_r			160		
Turn-Off Delay Time	$t_{d(off)}$			400		
Turn-Off Fall Time	t_f			190		
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS} = 0 V, I_S = 7.0A			1.4	V

/ Electrical Characteristic Curve



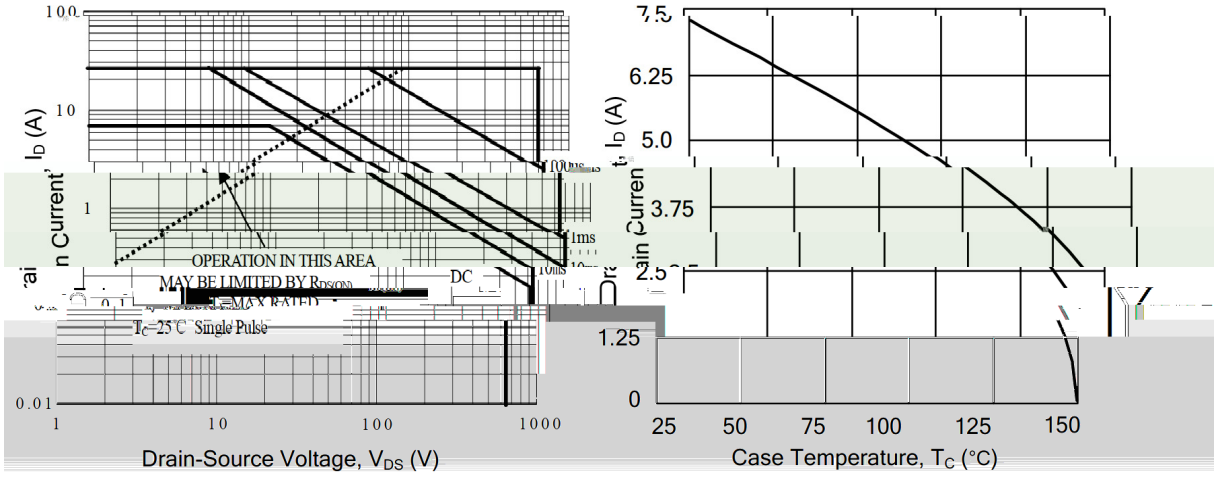
1. Breakdown Voltage Variation vs. Junction Temperature

2. On-Resistance Variation vs. Junction Temperature



3. On State Characteristics

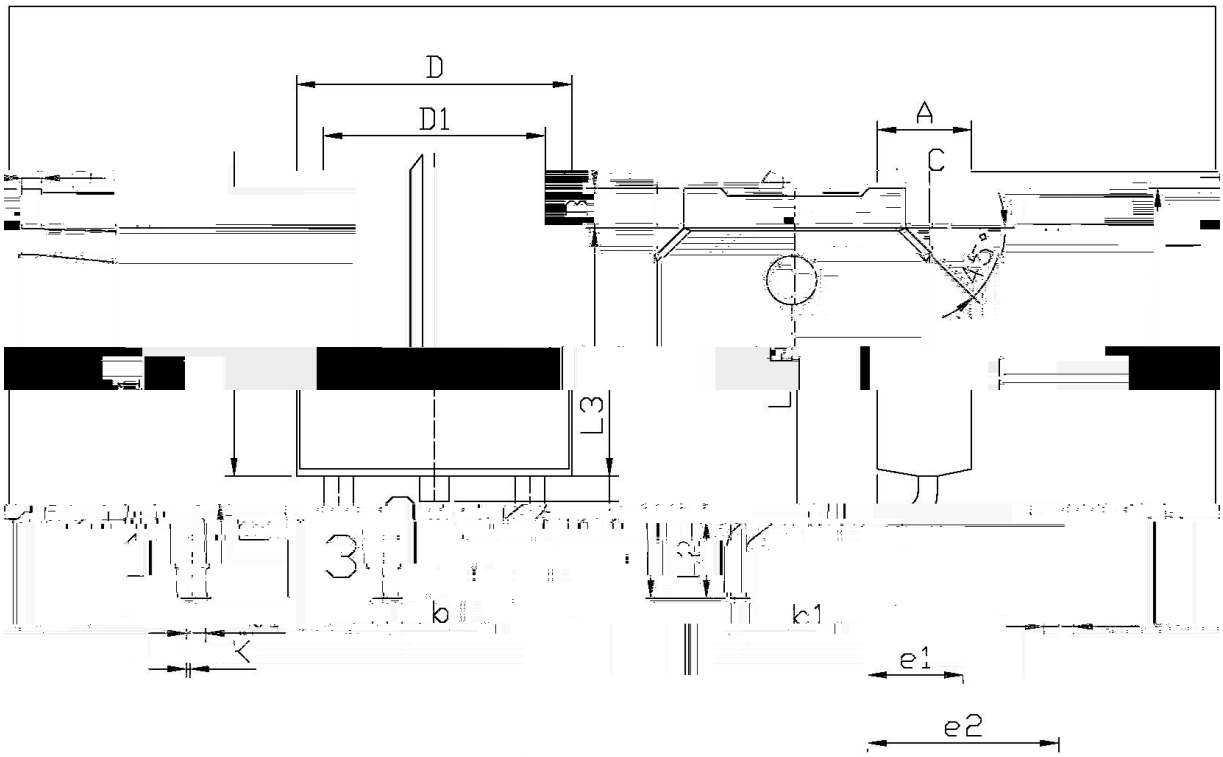
4. Transfer Characteristics



5. Safe Operating Area

6. Maximum Drain Current vs. Case Temperature

/ Package Dimensions

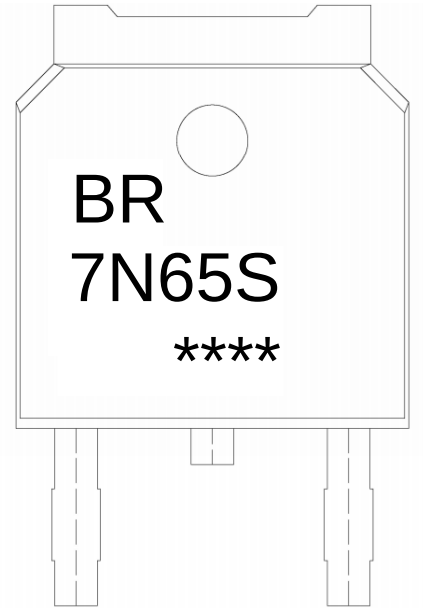


单位：mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max.		Min	Max
5.95	6.25		A	2.20	2.40
2.24	2.34		B	0.95	1.25
e2 4.42	4.58	4.73	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
0.60	0.60	0.90	D	6.45	6.75
5.50	K	0.00	0.10	D1	5.10

TO-252

/ Marking Instructions



BR

7N65S

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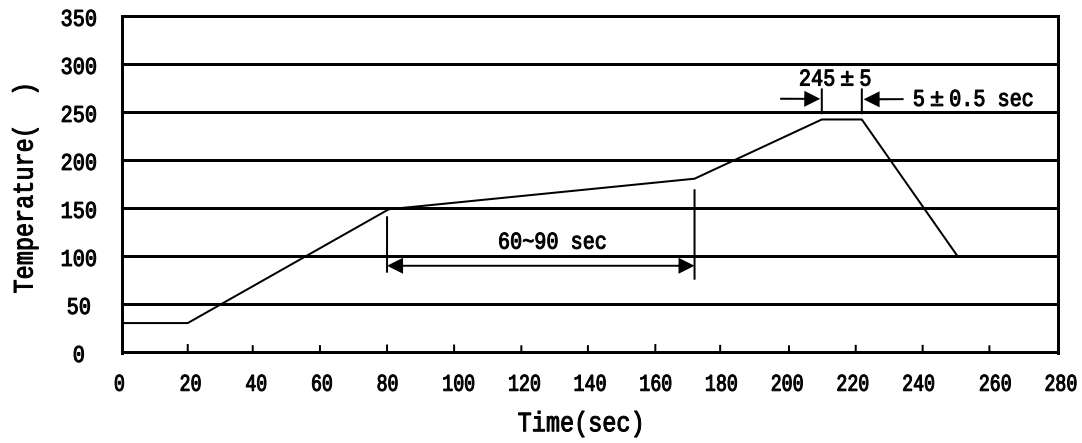
Note:

BR:	Company Code
7N65S:	Product Type Code
****:	Lot No. Code, code change with Lot No

( ) /



Note:

1 150 180 60 90sec;

2 245±5 5±0.5sec;

3 2 10 /sec.

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

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

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ 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
TO-252	2,500	2	5,000	6	30,000	13 ×16	360×360×50	380×335×366

/ TUBE

Package Type	Units					Dimension		(unit mm³)
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

/ Notices