

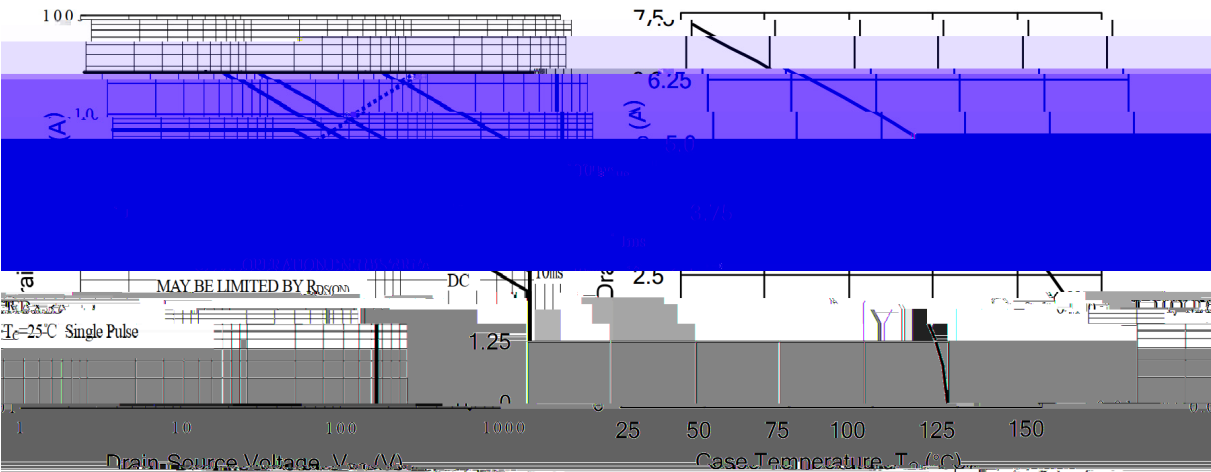
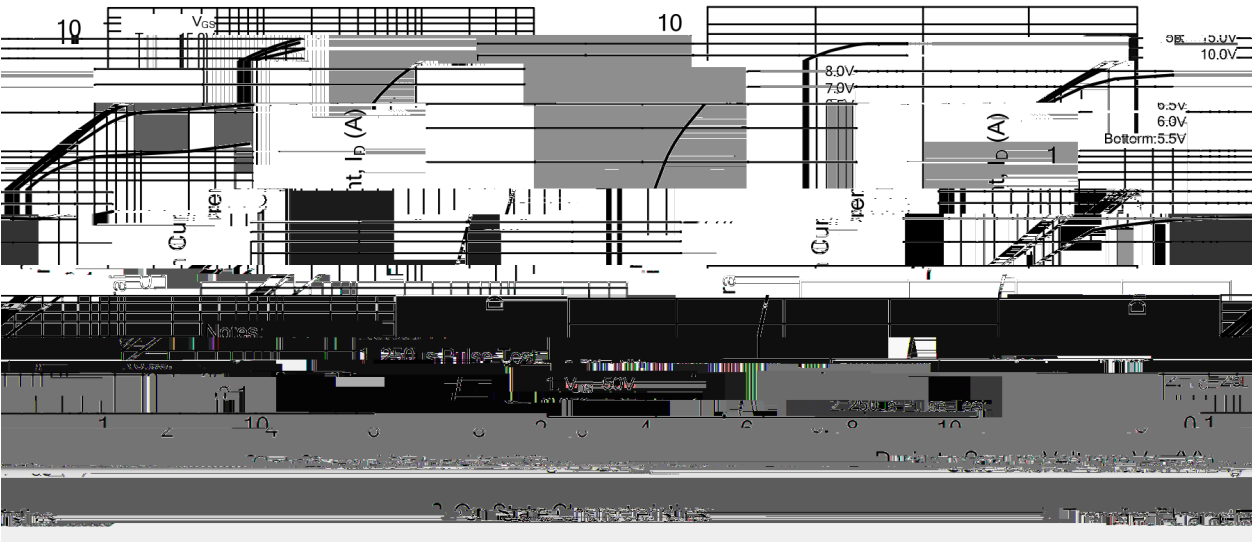
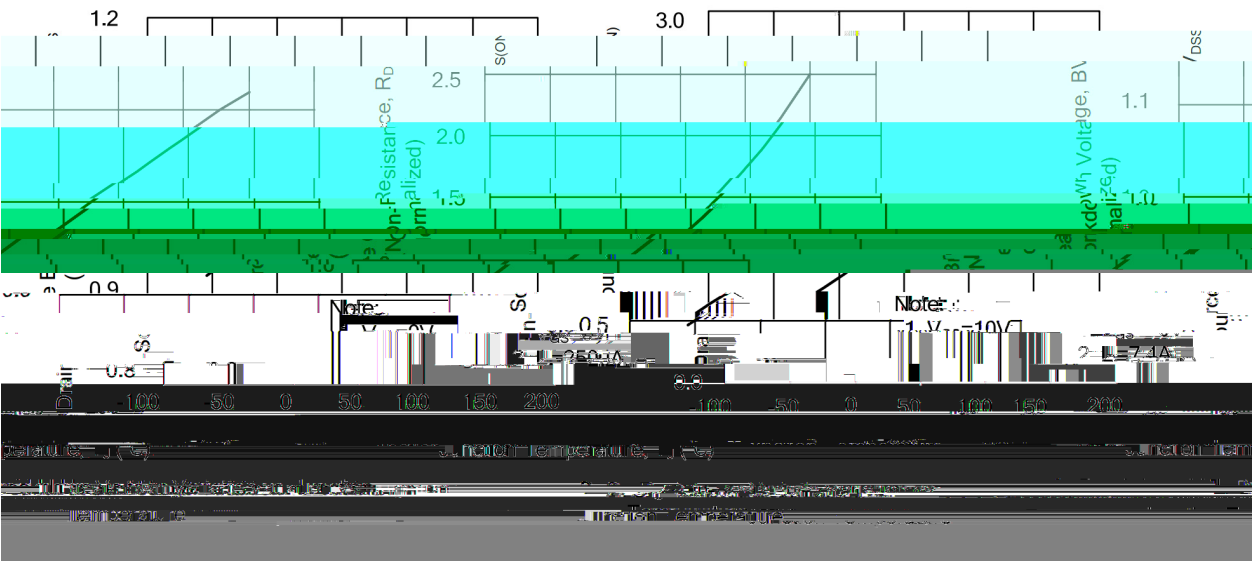
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	650	V
Drain Current	$I_D(T_c=25^\circ\text{C})$	7.0	A
Drain Current	$I_D(T_c=100^\circ\text{C})$	4.4	A
Drain Current - Pulsed	I_{DM}	28	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	425	mJ
Avalanche Current	I_{AR}	9.9	A
Power Dissipation	$P_D(T_c=25^\circ\text{C})$	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)

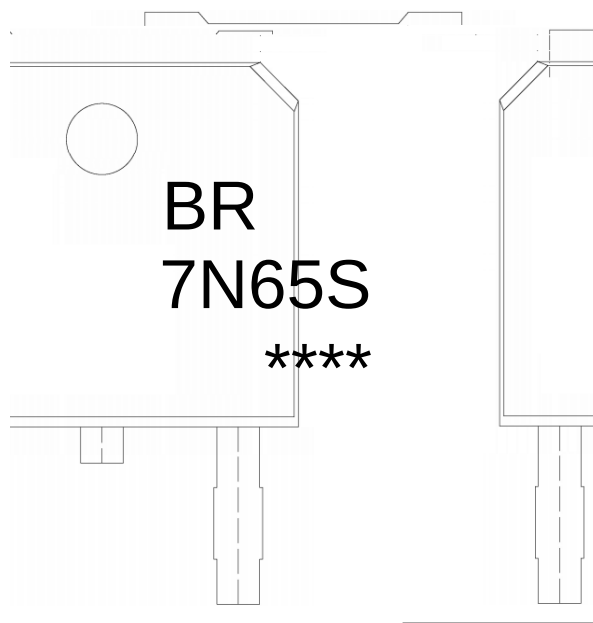
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$ $I_D=250\text{ A}$	650	690		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650V$ $V_{GS}=0V$			1.0	A
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\text{ A}$	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	
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	$t_{d(on)}$	$V_{DD}=325V$ $I_D=7.0A$ $R_G=25$ $V_{GS}=10V$		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}	$V_{GS}=0V$, $I_S=7.0A$			1.4	V

Electrical Characteristic Curve



BRD7N65S
Rev.A Dec.-2023

/ Marking Instructions



BR

7N65S

Note:

BR: Company Code

7N65S: 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.

/ Resistance to Soldering Heat Test Conditions

605 [±] 5%