BRD5N50

10/0

/ Absolute Maximum Ratings(Ta=25)

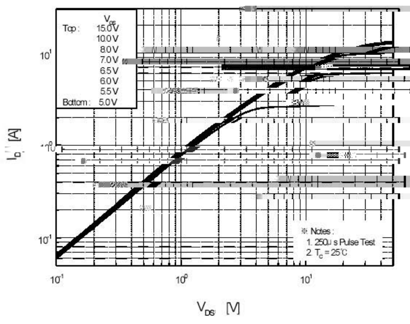
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	500	V
Drain Current	I_D(Tc=25)	5	A
Drain Current	I_D(Tc=100)	2.8	A
Drain Current - Pulsed	I_{DM}	16	A
Gate-Source Voltage	V_{GSS}	±30	V
Avalanche Current	I_{AR}	4	A
Single Pulsed Avalanche Energy	E_{AS}	300	mJ
Repetitive Avalanche Energy	E_{AR}	4.8	mJ
Power Dissipation (T_A=25)	P_D	2.5	W
Power Dissipation (T_C=25)	P_D	48	W
Operating and Storage Temperature Range	T_J,T_{STG}	-55to150	

/ Electrical Characteristics(Ta=25)

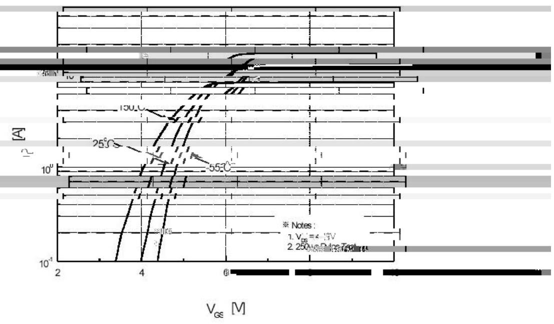
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	500			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=500V V_{GS}=0V			1	μA
		V_{DS}=400V T_C=125			10	μA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±30V V_{DS}=0V			±0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250μA	2		4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=2.5A		1.14	1.4	Ω
Forward Transconductance	g_{FS}	V_{DS}=40V I_D=2A		5.2		S
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=5A			1.4	V
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1MHz		480	625	pF
Output Capacitance	C_{oss}			80	105	pF
Reverse Transfer Capacitance	C_{rss}			15	20	pF
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=250V I_D=5A R_G=25Ω		12	35	ns
Turn-On Rise Time	t_r			46	100	ns
Turn-Off Delay Time	$t_{d(off)}$			50	110	ns
Turn-Off Fall Time	t_f			48	105	ns

/ Electrical Characteristic Curve

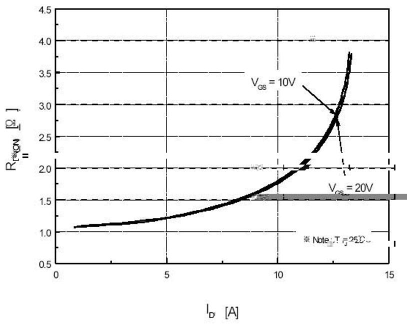
$I_D - V_{DS}$

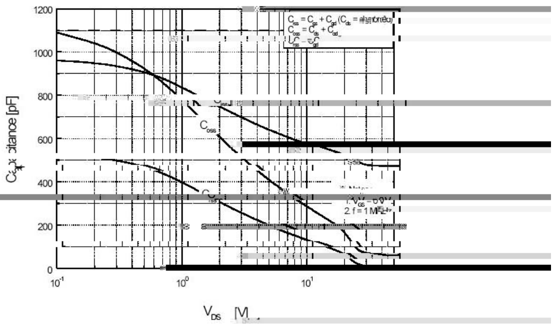


$I_D - V_{GS}$

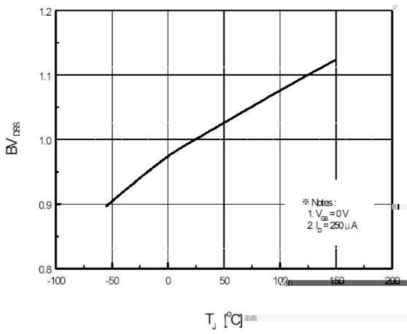


$R_{DS(ON)} - I_D$

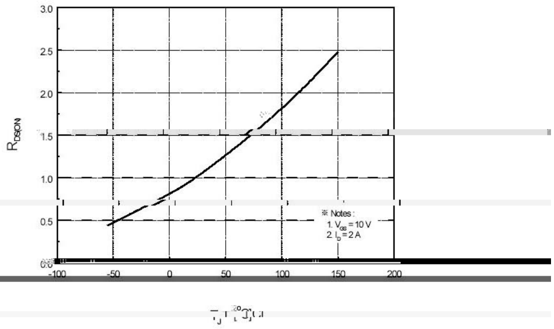




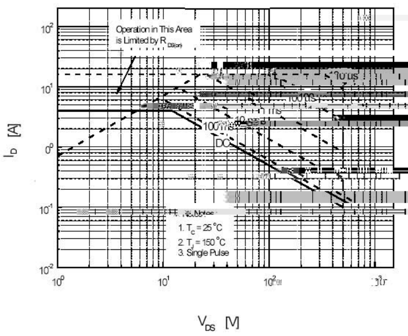
$BV_{DSS} - T_J$



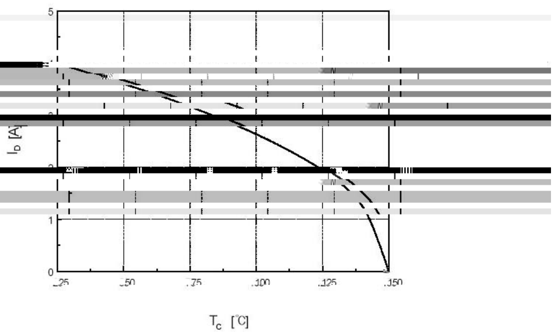
$R_{DS(ON)} - T_J$



$I_D - V_{DS}$



$I_D - T_C$



/ Package Dimensions

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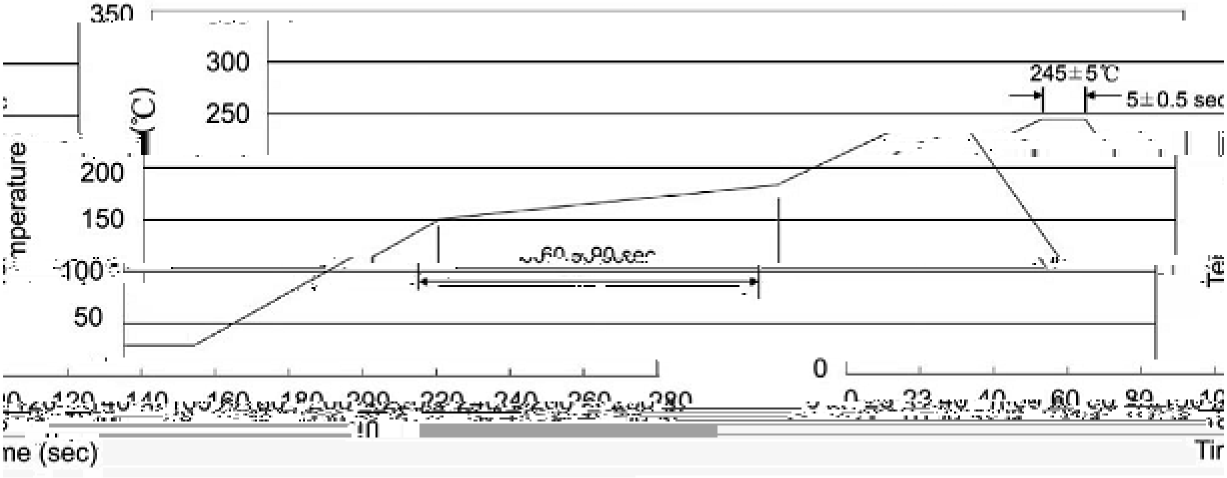
	0.10	D1	5.10	5.50	K	0.00

TO-252



Note:

1 25 150 60