

**Thermal resistance**

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R_{thJC}	-	-	2.9	° C/W
Thermal resistance, junction - ambient	R_{thJA}	-	-	53	° C/W
Soldering temperature, wavesoldering for 10s	T_{sold}	-	-	265	° C

N Channel Absolute Maximum Ratings $T_C = 25$

Parameter	Symbol	Rating	Unit
Drain Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	20	V
Continuous Drain Current	$I_D @ T_C = 25$	23	A
	$I_D @ T_C = 75$	17.5	A
	$I_D @ T_C = 100$	14.5	A

Pulsed Drain Current	I_{DM}	69	A
Total Power Dissipation	$P_D@T_C=25$	43	W
Total Power Dissipation	$P_D@T_A=25$	2.3	W
Operating Junction Temperature	T_J	-55 to 150	
Storage Temperature	T_{STG}	-55 to 150	
Single Pulse Avalanche Energy	E_{AS}	30	mJ

P Channel Absolute Maximum Ratings $T_C = 25$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	$I_D@T_C = 25$	-18	A
	$I_D@T_C = 75$	-13.6	A
	$I_D@T_C = 100$	-11.3	A
Pulsed Drain Current	I_{DM}	-54	A
Total Power Dissipation	$P_D@T_C=25$	43	W
Total Power Dissipation	$P_D@T_A=25$	2.3	W
Operating Junction Temperature	T_J	-55 to 150	
Storage Temperature	T_{STG}	-55 to 150	
Single Pulse Avalanche Energy	E_{AS}	67	mJ

N Channel Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{GS} = V_{DS}, I_D = 250\mu A$	1.2		2.5	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0V$			1.0	μA
Gate- Source Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			100	nA
Static Drain-source On Resistance		$V_{GS} = 10V, I_D = 12A$		10	13	
		$V_{GS} = 4.5V, I_D = 10A$		13	17	
Forward Trans conductance	g_{FS}	$V_{DS} = 25V, I_D = 5A$		9		
Source-drain voltage	V_{SD}	$I_S = 23A$				

Dynamic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
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Input capacitance	Ciss	f = 1MHz V _{DS} =25V	-	560	-	pF
Output capacitance	Coss		-	81	-	
Reverse transfer capacitance	Crss		-	49	-	
Total gate charge	Qg	V _{DD} = 25V I _D = 5A V _{GS} = 10V	-	10	-	nC
Gate - Source charge	Qgs		-	1.6	-	
Gate - Drain charge	Qgd		-	2.8	-	

P Channel Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D = -250uA	-30			V
Gate Threshold Voltage	V _{GS(TH)}	V _{GS} = V _{DS} , I _D = -250uA	-1.2		-2.5	V

Drain-Source Leakndition

P Channel characteristics curve

Fig.1 Power Dissipation Derating Curve

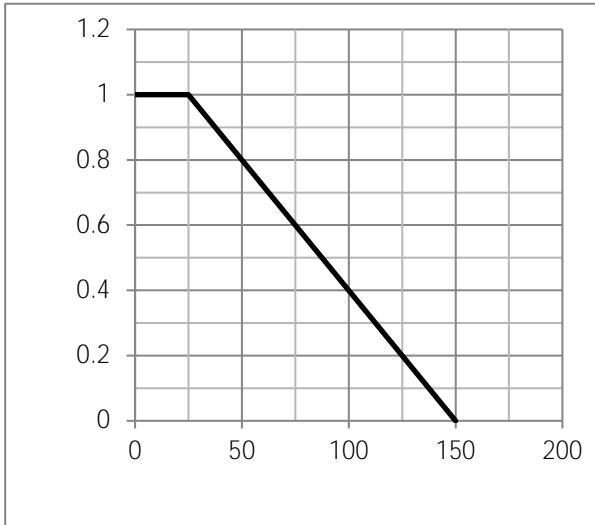


Fig.2 Typical output Characteristics

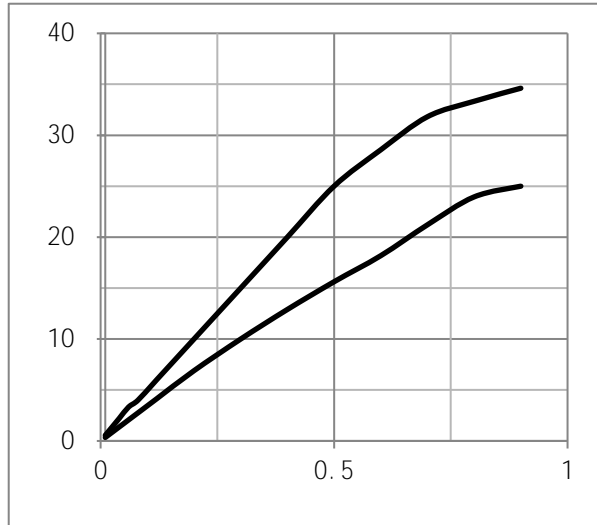


Fig.3 Threshold Voltage V.S Junction Temperature

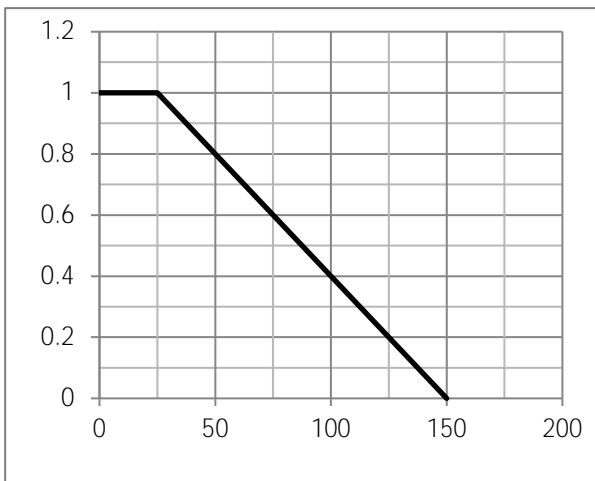


Fig.4 Resistance V.S Drain Current

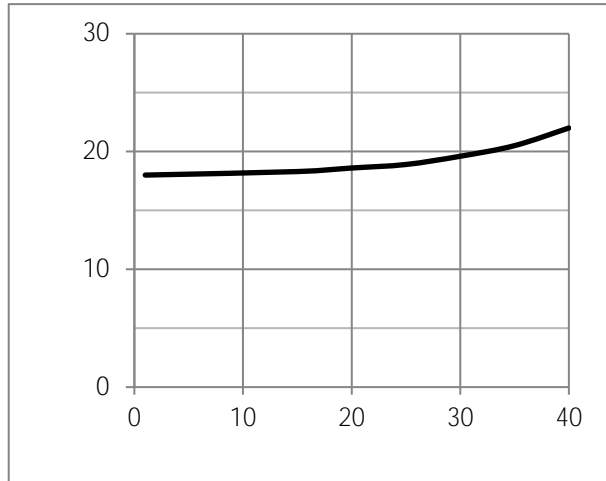


Fig.5

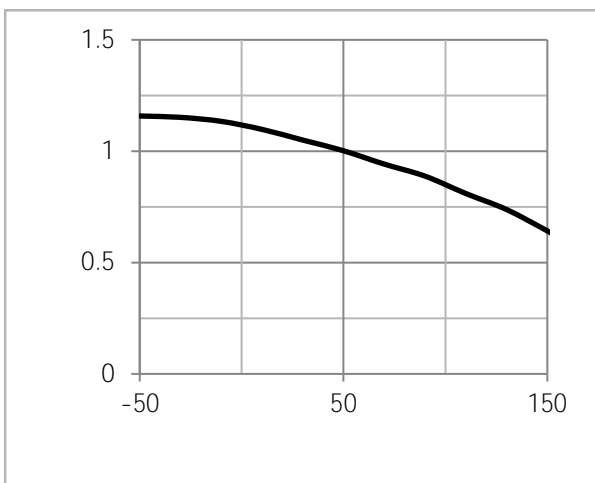


Fig.6

Test Circuit

Fig.1 Switching Time Measurement Circuit

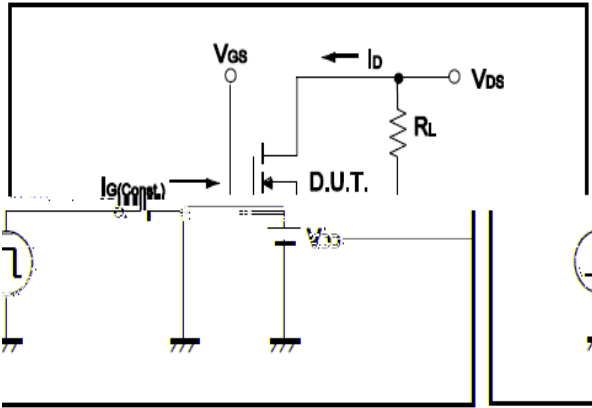


Fig.2 Gate Charge Waveform

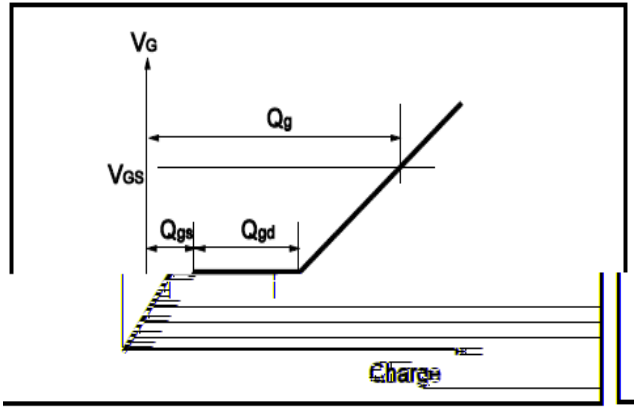


Fig.3 Switching Time Measurement Circuit

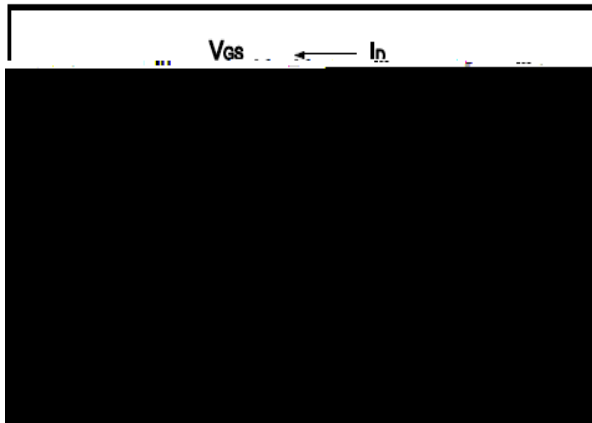


Fig.4 Gate Charge Waveform

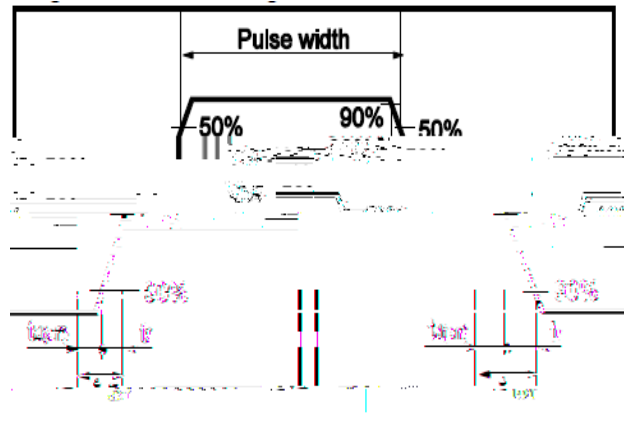


Fig.5 Avalanche Measurement Circuit

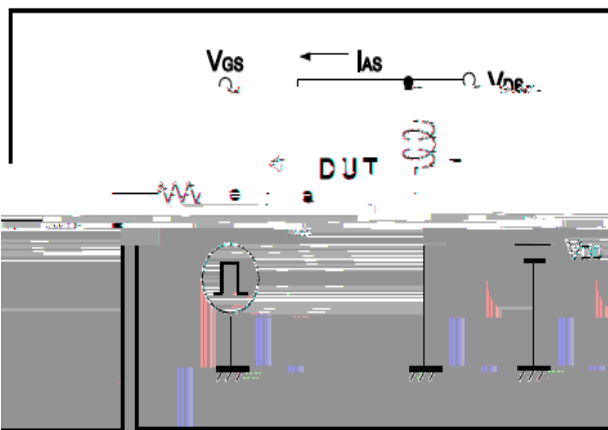


Fig.6 Avalanche Waveform

