

**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	$V_{GS}$	$\pm 20$	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	$\mu A$
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 <sub>DS</sub> =25V	-	560	-	pF
Output capacitance	Coss		-	81	-	
Reverse transfer capacitance	Crss		-	49	-	
Total gate charge	Qg	V <sub>DD</sub> = 25V I <sub>D</sub> = 5A V <sub>GS</sub> = 10V	-	10	-	nC
Gate - Source charge	Qgs		-	1.6	-	
Gate - Drain charge	Qgd		-	2.8	-	

**P Channel Electronic Characteristics**

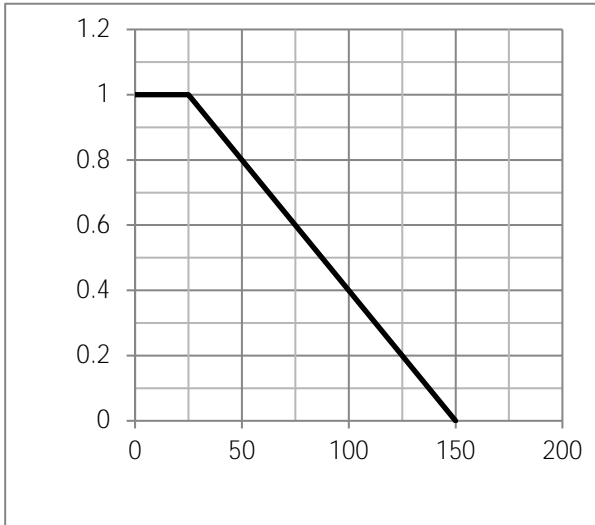
Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250uA	-30			V
Gate Threshold Voltage	V <sub>GS(TH)</sub>	V <sub>GS</sub> = V <sub>DS</sub> , I <sub>D</sub> = -250uA	-1.2		-2.5	V

Drain-Source Leakndition

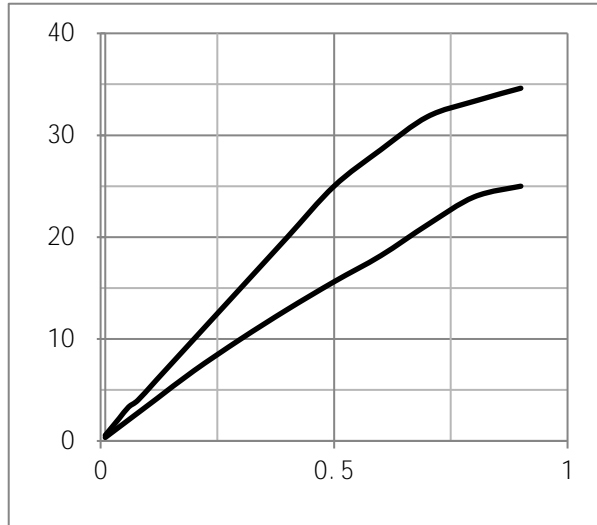


**P Channel characteristics curve**

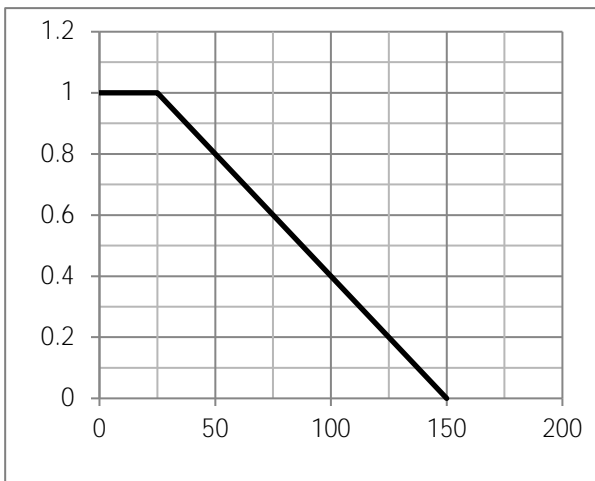
**Fig.1 Power Dissipation Derating Curve**



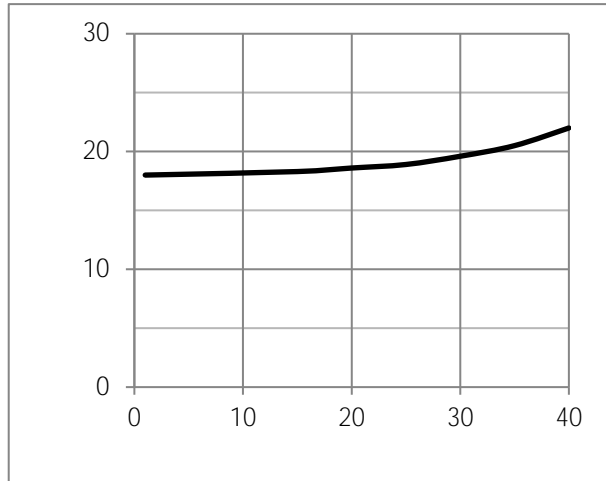
**Fig.2 Typical output Characteristics**



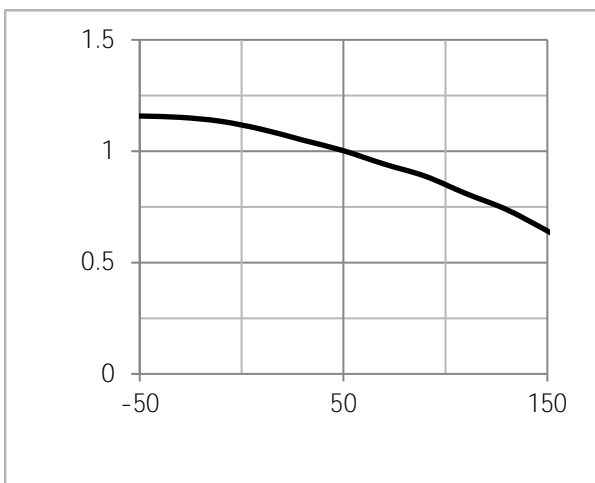
**Fig.3 Threshold Voltage V.S Junction Temperature**



**Fig.4 Resistance V.S Drain Current**



**Fig.5**



**Fig.6**

**Test Circuit**

Fig.1 Switching Time Measurement Circuit

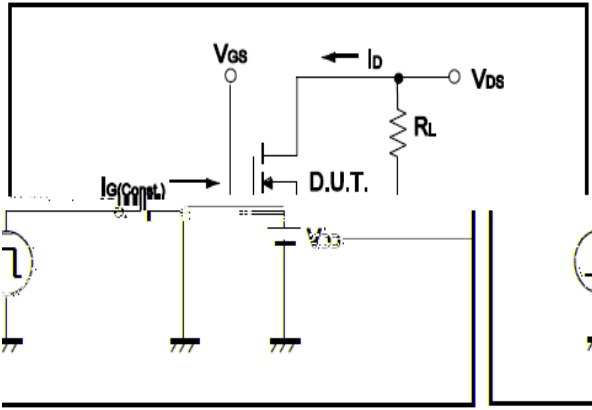


Fig.2 Gate Charge Waveform

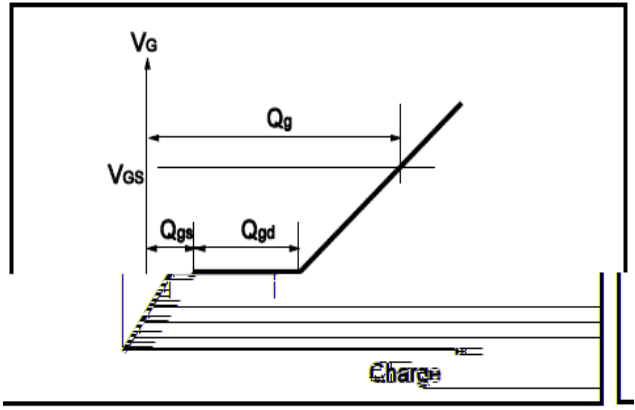


Fig.3 Switching Time Measurement Circuit

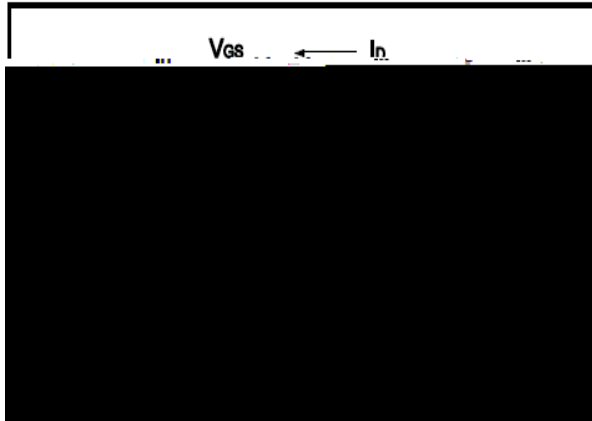


Fig.4 Gate Charge Waveform

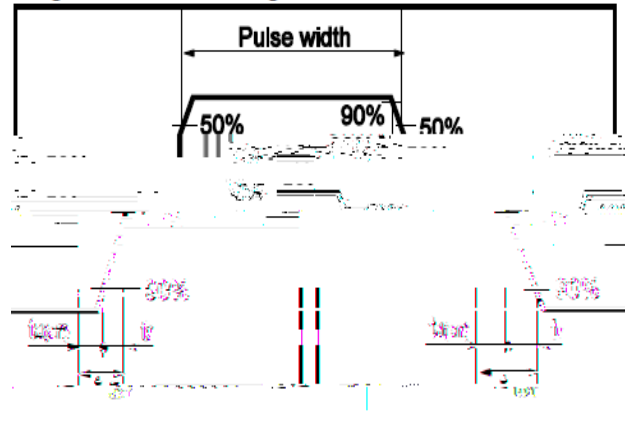


Fig.5 Avalanche Measurement Circuit

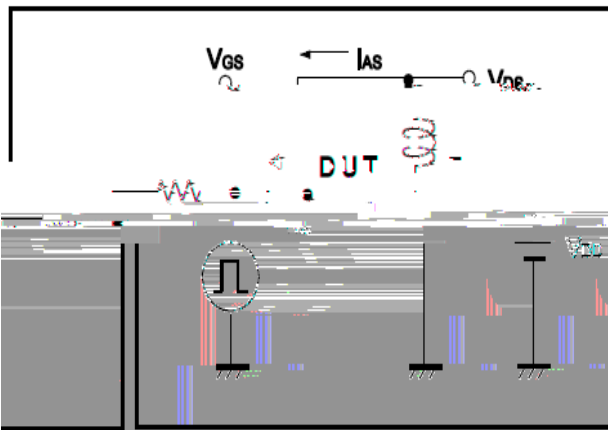


Fig.6 Avalanche Waveform

