

Thermal resistance

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R_{thJC}	-	-	34	° C/W
Thermal resistance, junction - ambient	R_{thJA}	-	-	180	° C/W
Soldering temperature, wavesoldering for 10s	T_{sold}	-	-	41.76	

Pulsed Drain Current	I_{DM}	45	A
Total Power Dissipation	$P_D@T_C=25$	3.6	W
Total Power Dissipation	$P_D@T_A=25$	0.69	W
Operating Junction Temperature	T_J	-55 to 150	
Storage Temperature	T_{STG}	-55 to 150	
Single Pulse Avalanche Energy	E_{AS}	75	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	$I_D@T_C = 25$	-8	A
	$I_D@T_C = 75$	-6.1	A
	$I_D@T_C = 100$	-5	A
Pulsed Drain Current	I_{DM}	-24	A
Total Power Dissipation	$P_D@T_C=25$	3.6	W
Total Power Dissipation	$P_D@T_A=25$	0.69	W
Operating Junction Temperature	T_J	-55 to 150	
Storage Temperature	T_{STG}	-55 to 150	
Single Pulse Avalanche Energy	E_{AS}	75	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	1.6	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		$V_{GS} = 10V, I_D = 20A$				
		$V_{GS} = 4.5V, I_D = 10A$				
Forward Transconductance	g_{FS}	$V_{DS} = 25V, I_D = 10A$				
Source-drain voltage	V_{SD}	$I_S = 20A$				

Note:

;



Channel characteristics curve

Power Dissipation Derating Curve

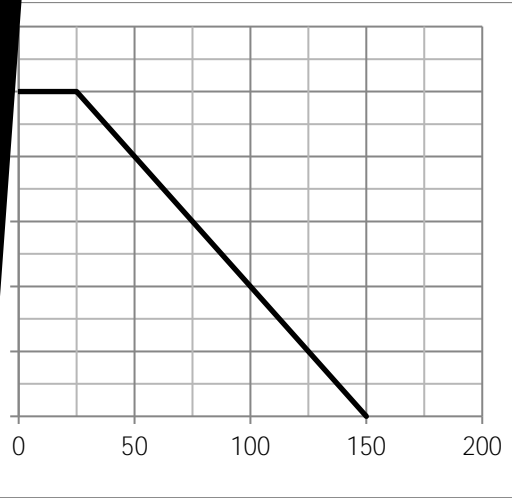
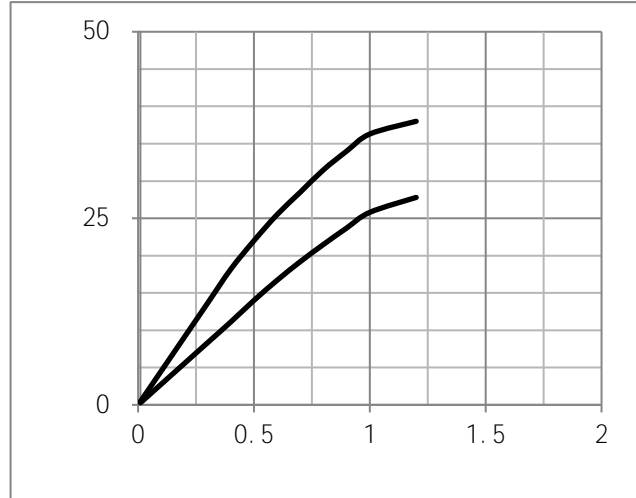
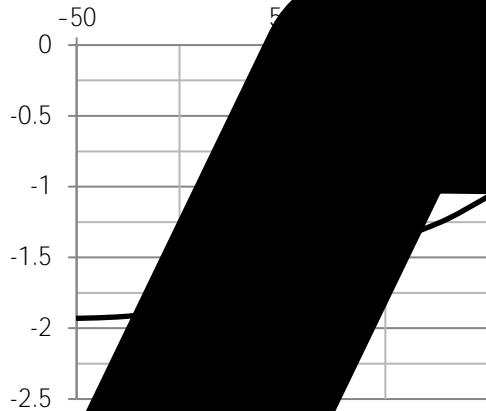


Fig.2 Typical output Characteristics



Threshold Voltage V.S Junction Temperature

Fig.4 Resistance V.S Drain Current



Test Circuit CHANNEL-N

Fig.1 Switching Time Measurement Circuit

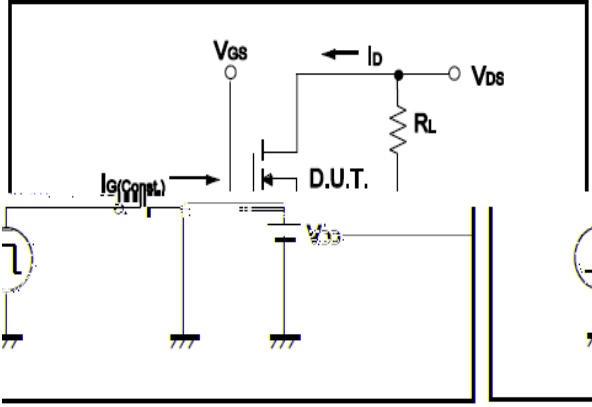


Fig.2 Gate Charge Waveform

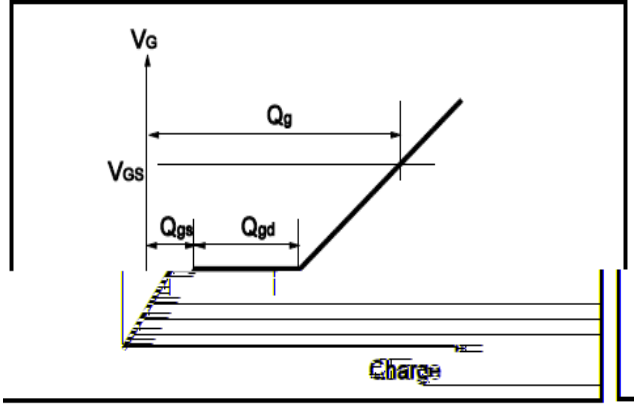


Fig.3 Switching Time Measurement Circuit

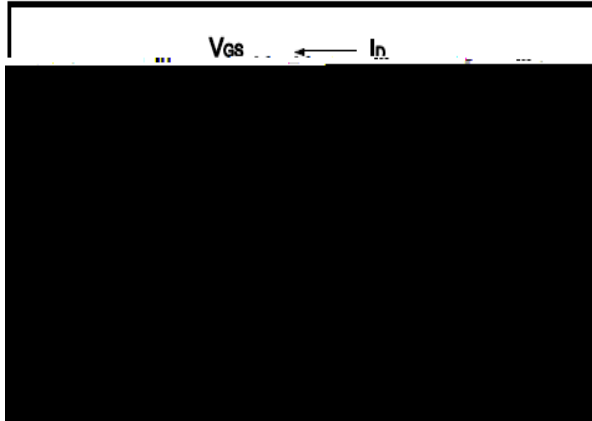


Fig.4 Gate Charge Waveform

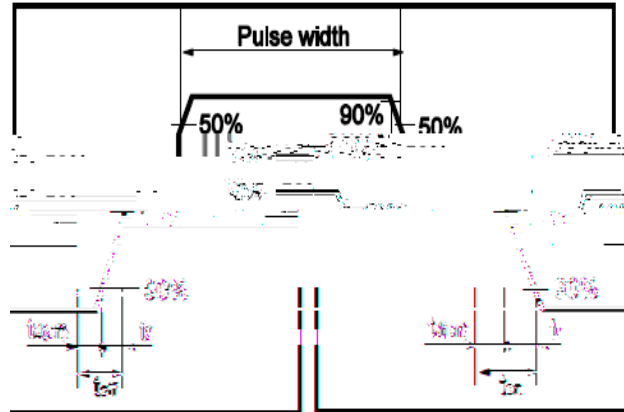


Fig.5 Avalanche Measurement Circuit

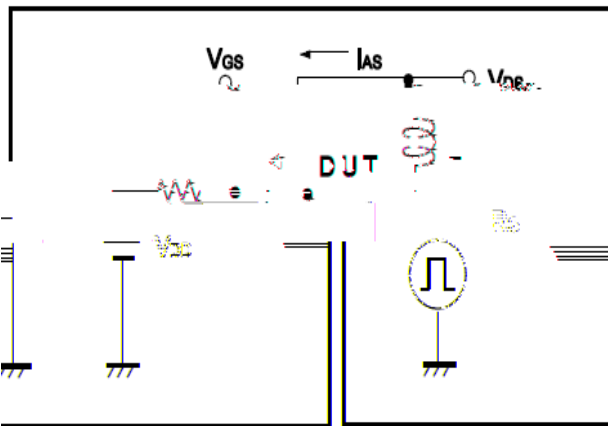
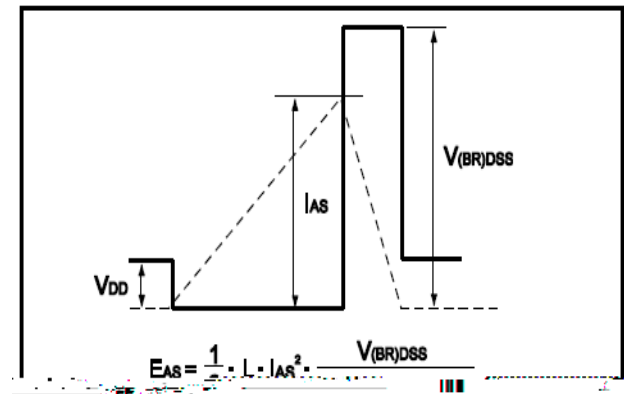


Fig.6 Avalanche Waveform



Test Circuit CHANNEL-P

Fig.7 Switching Time Measurement Circuit

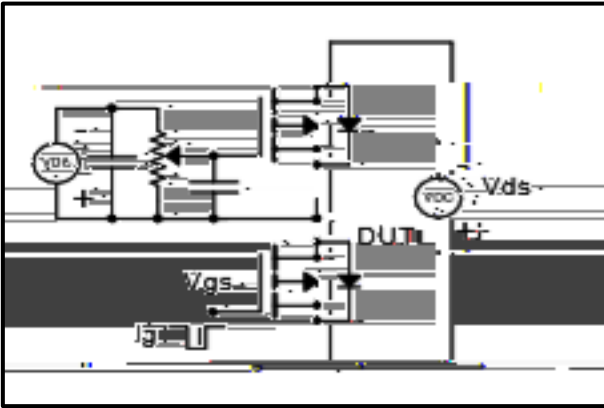


Fig.8 Gate Charge Waveform

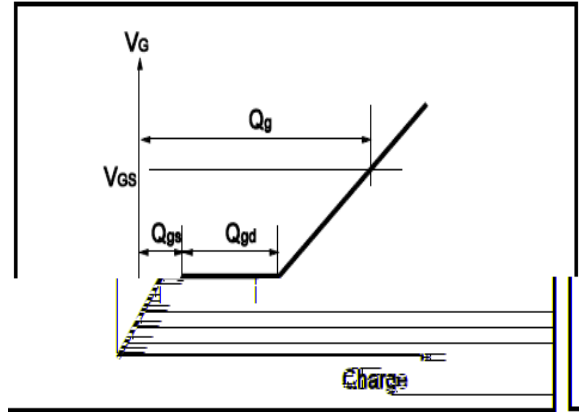


Fig.9 Switching Time Measurement Circuit

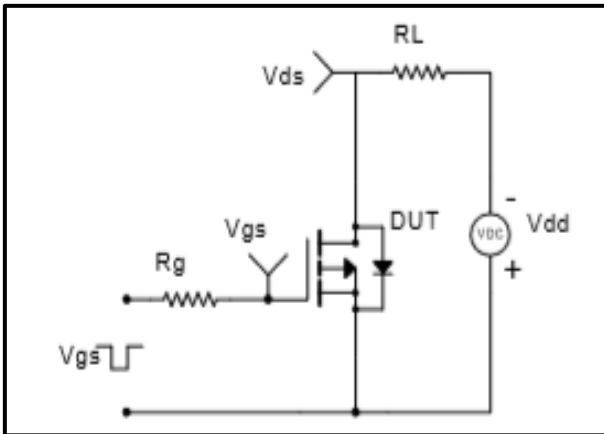


Fig.10 Gate Charge Waveform

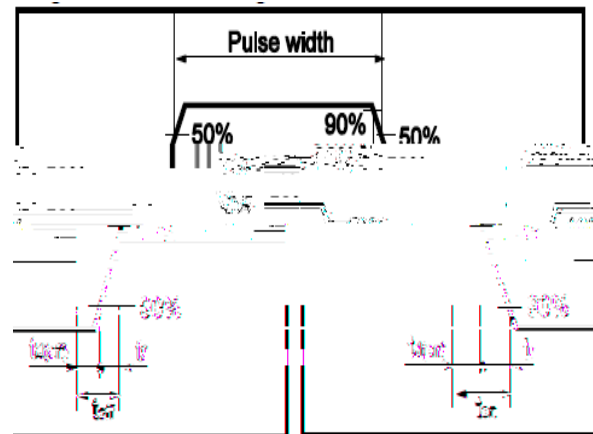


Fig.11 Avalanche Measurement Circuit

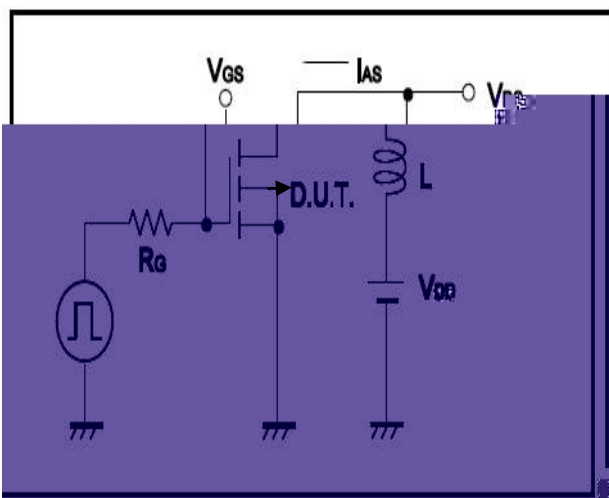
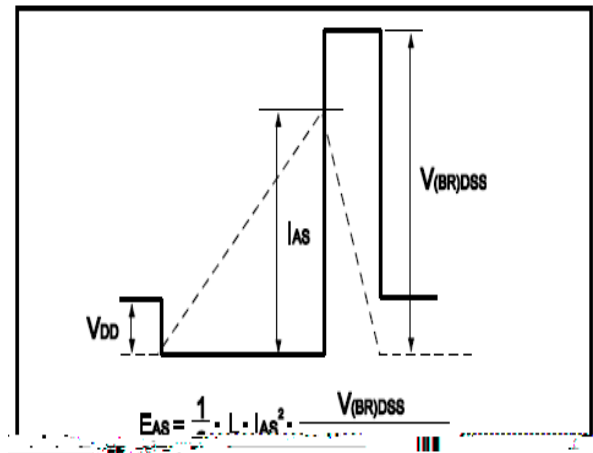


Fig.12 Avalanche Waveform



(SOP8)

Unit: mm

SYMBOL	min	TYP	max	SYMBOL	min		max
A	4.80		5.25	C	1.30		1.75
A1	0.37		0.49	C1	0.55		0.75