



**Thermal resistance**

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	$R_{thJC}$	-	-	2.1	$^{\circ}C/W$
Thermal resistance, junction - ambient	$R_{thJA}$	-	-	50	$^{\circ}C/W$
Soldering temperature, wavesoldering for 10s	$T_{sold}$	-	-	265	$^{\circ}C$

**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	-1.9	-2.5	V
Drain-Source Leakage Current	$I_{DSS}$	$V_{DS}=-30V, V_{GS}=0V$			-1.0	$\mu A$
Gate- Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0V$			$\pm 100$	nA
Static Drain-source On Resistance		$V_{GS}=-10V, I_D=-20A$		7.1	8.5	$m\Omega$
		$V_{GS}=-4.5V, I_D=-10A$		11	14	$m\Omega$
Forward Transconductance	$g_{FS}$	$V_{DS}=-10V, I_D=-5A$		10		S
Source-drain voltage	$V_{SD}$	$I_S=-20A$			1.28	V

**Electronic Characteristics**

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	$C_{iss}$	$f = 1MHz$	-	2800	-	pF
Output capacitance	$C_{oss}$		-	420	-	
Reverse transfer capacitance	$C_{rss}$		-	280	-	

**Gate Charge characteristics( $T_a = 25^{\circ}C$ )**

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Total gate charge	$Q_g$	$V_{DD}=-15V$	-	27	-	nC
Gate - Source charge	$Q_{gs}$	$I_D=-8A$	-	8.6	-	
Gate - Drain charge	$Q_{gd}$	$V_{GS}=-10V$	-	13.8	-	

Note: ①

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Device mounted on FR-4 substrate PC board, 2oz copper, with thermal bias to bottom layer 1inch square copper plate

Fig.1 Power Dissipation Derating Curve

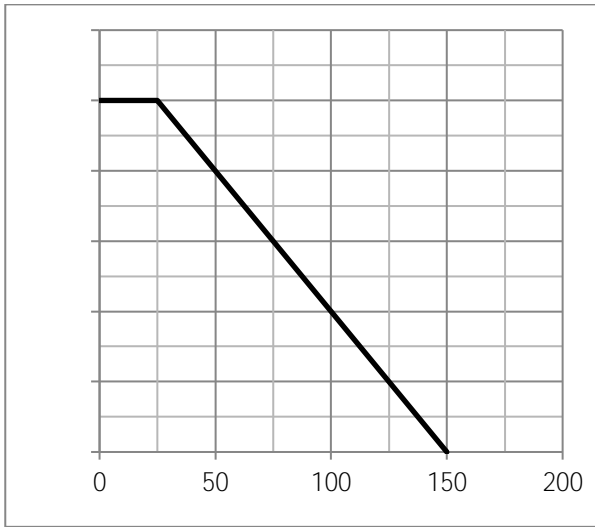


Fig.2 Typical output Characteristics



Fig.3 Threshold Voltage V.S Junction Temperature

Fig.4 Resistance V.S Drain Current

Fig.7 Safe Operating Area

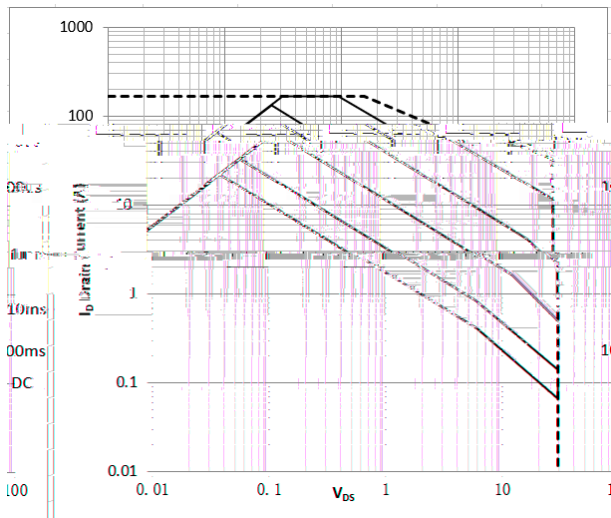


Fig.9 Drain Current

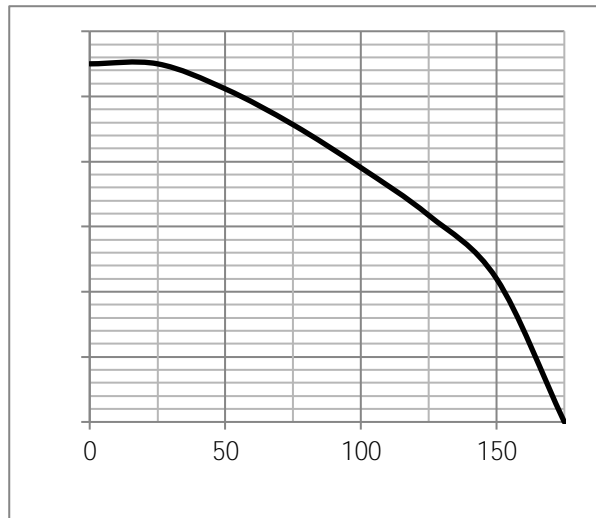


Fig.10 Switching Time Measurement Circuit

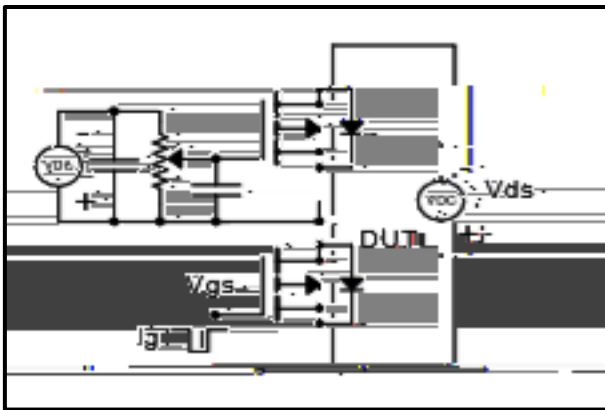


Fig.11 Gate Charge Waveform

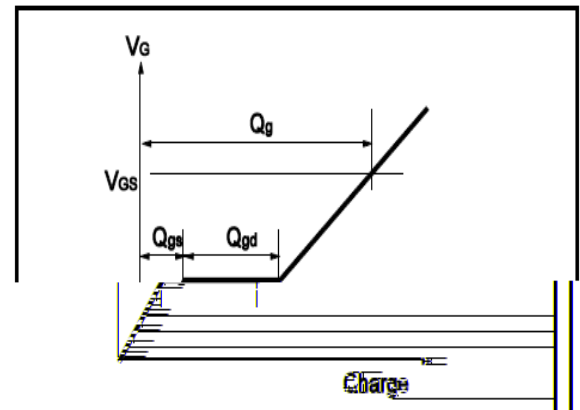


Fig.12 Switching Time Measurement Circuit

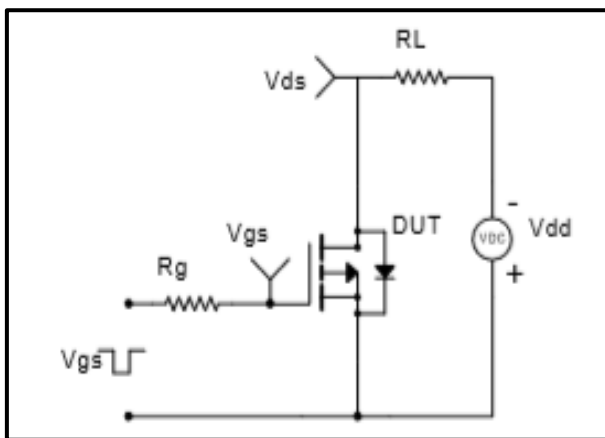


Fig.13 Gate Charge Waveform

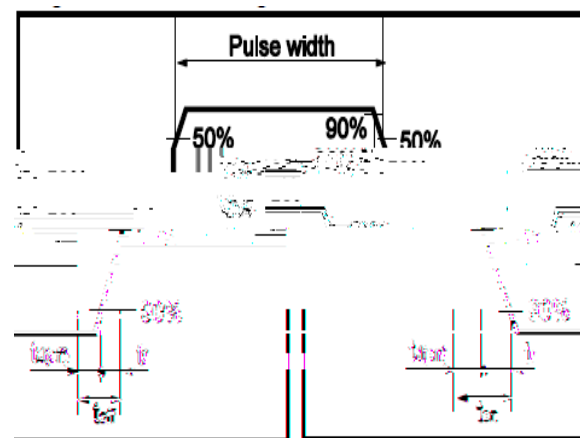


Fig.12 Avalanche Measurement Circuit

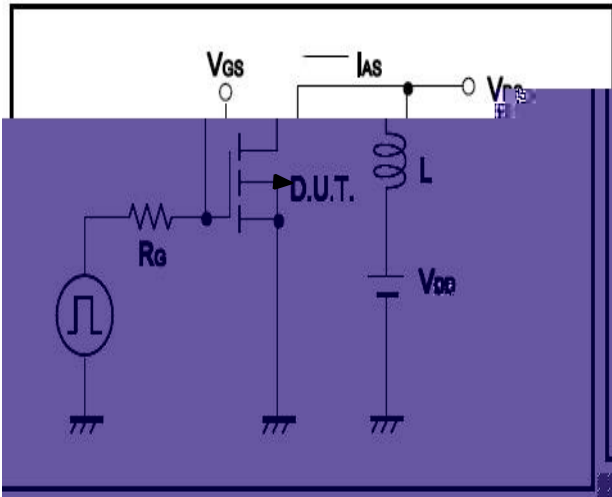
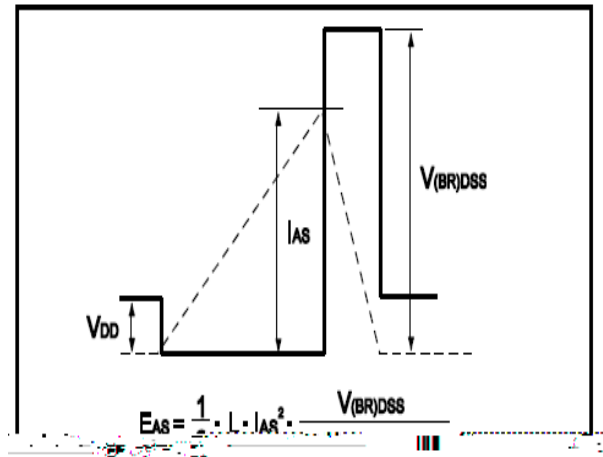


Fig.13 Avalanche Waveform





**Dimensions (TO-252)**

Unit mm

SYMBOL	min	max	SYMBOL	min	max
A	2.10	2.50	B	0.85	1.25
b	0.50	0.80	b1	0.50	0.90
b2	0.45	0.70	C	0.45	0.70
D	6.30	6.75	D1	5.10	5.50
E	5.30	6.30	e1	2.25	2.35
L1	9.20	10.60	e2	4.45	4.75