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**Ordering Information:**

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**Absolute Maximum Ratings  $T_C = 25$**

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	40	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_{D@T_C=25^\circ C}$	15	A
	$I_{D@T_C=75^\circ C}$	11	A
	$I_{D@T_C=100^\circ C}$	9	A
Pulsed Drain Current	$I_{DM}$	45	A
Total Power Dissipation	$P_D@T_C=25^\circ C$	29	W
Total Power Dissipation	$P_D@T_A=25^\circ C$	1.7	W
Operating Junction Temperature	$T_J$	-55 to 175	$^\circ C$
Storage Temperature	$T_{STG}$	-55 to 175	$^\circ C$

Single Pulse Avalanche Energy ( $L=0.5\text{mH}, V_{GS}=10\text{V}, R_g=25$ - $J=25^\circ\text{C}$ )	$E_{AS}$	85	mJ
Single Pulse Avalanche Energy ( $L=0.1\text{mH}, V_{GS}=10\text{V}, R_g=25$ - $J=25^\circ\text{C}$ )	$E_{AS}$	34	mJ

### Thermal resistance

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	$R_{thJC}$	-	-	4.2	$^\circ\text{C/W}$
Thermal resistance, junction - ambient	$R_{thJA}$	-	-	70	$^\circ\text{C/W}$
Soldering temperature, wavesoldering for 10s	$T_{sold}$	-	-	265	$^\circ\text{C}$

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### Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0\text{V}, I_D=250\mu\text{A}$	40			V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{GS}=V_{DS}, I_D=250\mu\text{A}$	1.2		2.5	V
Drain-Source Leakage Current	$I_{DSS}$	$V_{DS}=40\text{V}, V_{GS}=0\text{V}$			1.0	$\mu\text{A}$
Gate- Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 20\text{V}, V_{DS}=0\text{V}$			$\pm 100$	nA
Static Drain-source On Resistance		$V_{GS}=10\text{V}, I_D=10\text{A}$		13	18	$\text{m}\Omega$
		$V_{GS}=4.5\text{V}, I_D=8\text{A}$		18	23	$\text{m}\Omega$
Forward Transconductance	$g_{FS}$	$V_{DS}=25\text{V}, I_D=4\text{A}$		6		s

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### Dynamic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	$C_{iss}$	$f = 1\text{MHz}$ $V_{DS}=25\text{V}$	-	1490	-	pF
Output capacitance	$C_{oss}$		-	110	-	
Reverse transfer capacitance	$C_{rss}$		-	80	-	
Total gate charge	$Q_g$	$V_{DD}=25\text{V}$ $I_D=20\text{A}$ $V_{GS}=10\text{V}$	-	21	-	nC
Gate - Source charge	$Q_{gs}$		-	3.8	-	
Gate - Drain charge	$Q_{gd}$		-	4.2	-	
Turn-ON Delay time	$t_{D(on)}$			6		ns





Fig.12

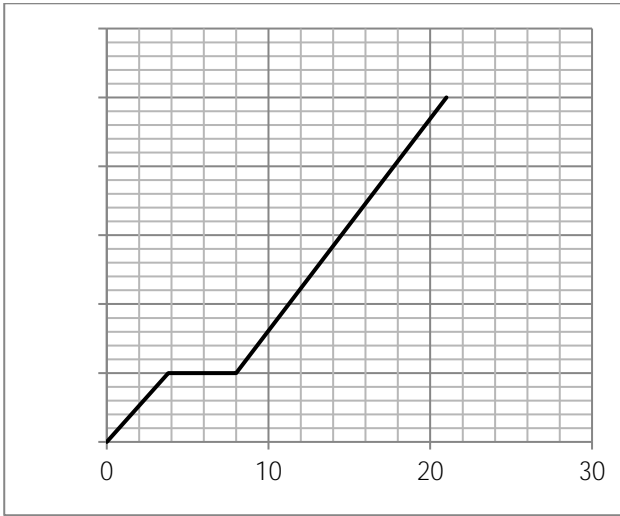


Fig.13 Switching Time Measurement Circuit

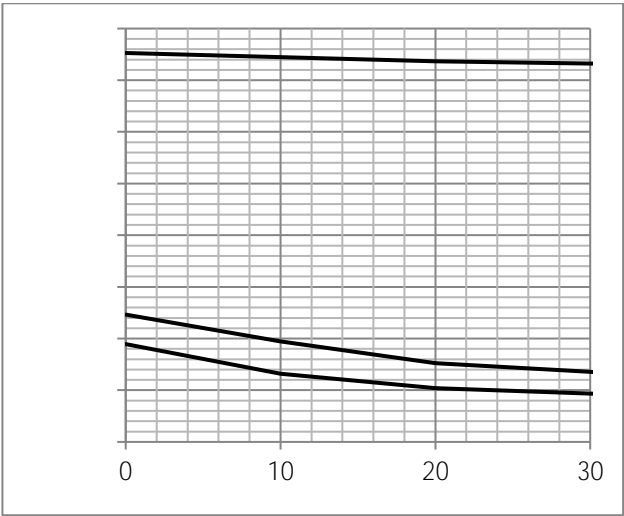
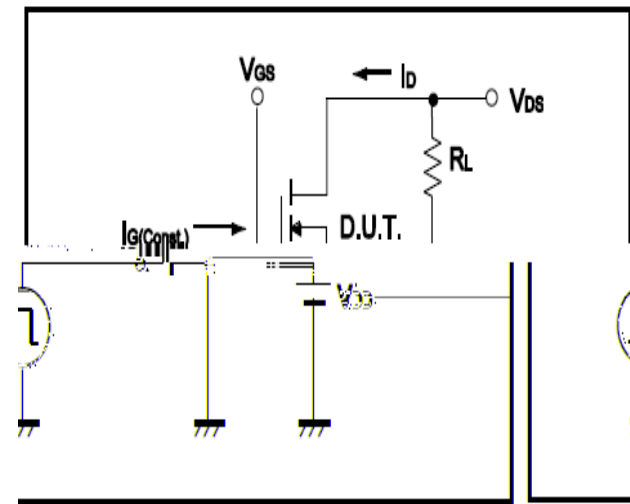


Fig.14 Gate Charge Waveform

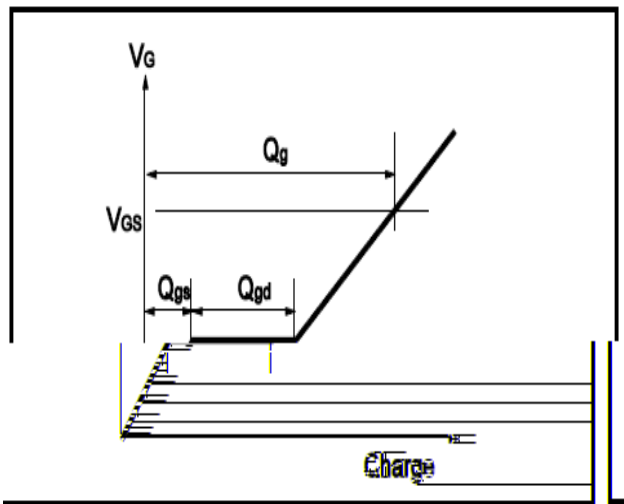


Fig.15 Switching Time Measurement Circuit

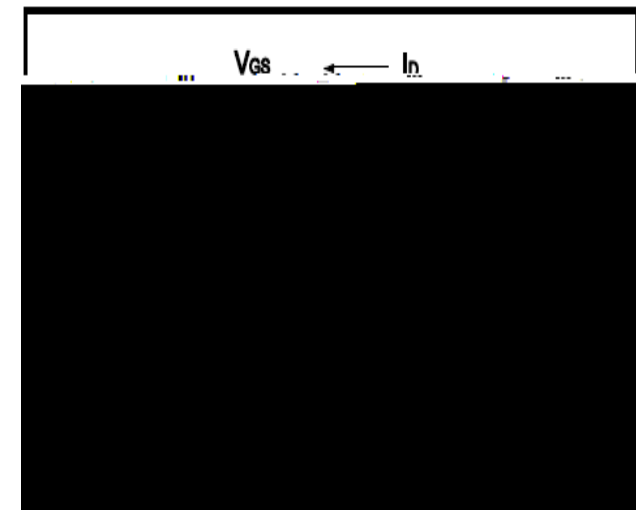


Fig.16 Gate Charge Waveform

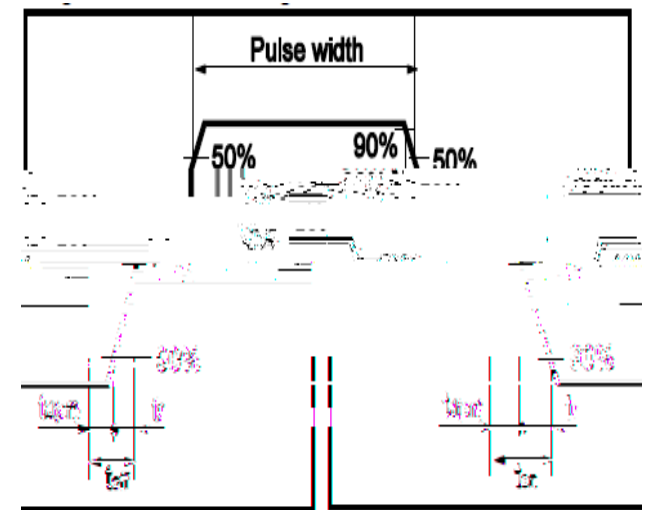


Fig.17 Avalanche Measurement Circuit

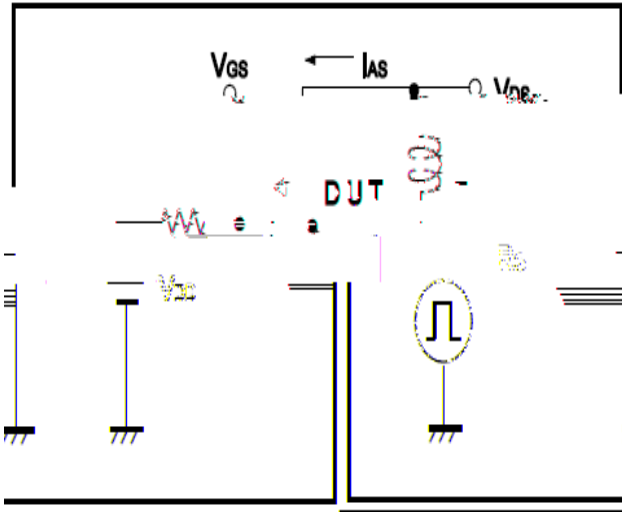
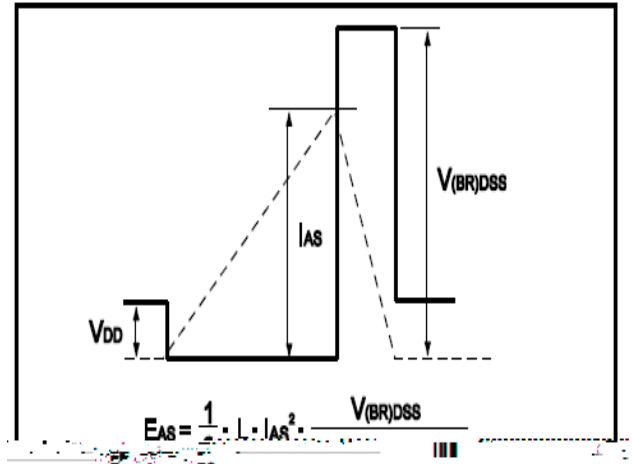


Fig.18 Avalanche Waveform





Dimensions DFN3x3

Unit mm

