

The ZM027N03P combines advanced trench MOSFET technology with a low resistance package

$T_C = 25$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_{D@TC=25}$	140	A
	$I_{D@TC=75}$	106	A
	$I_{D@TC=100}$	88	A
Pulsed Drain Current	$I_{DM}$	280	A
Total Power Dissipation	$P_D@TC=25$	120	W
Total Power Dissipation	$P_D@TA=25$	5	W
Operating Junction Temperature	$T_J$	-55 to 150	
Storage Temperature	$T_{STG}$	-55 to 150	
Single Pulse Avalanche Energy	$E_{AS}$	350	mJ
Avalanche Current	$I_{AS} I_{AR}$	60	A

**Thermal resistance**

Parameter□	Symbol□	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R <sub>thJC</sub>	-	-	1.1	° C/W
Thermal resistance, junction - ambient	R <sub>thJA</sub>	-	-	25	° C/W
Soldering temperature, wave soldering for 10s	T <sub>sold</sub>	-	-	265	° C

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 Leakage Current	I <sub>DSS</sub>	V <sub>DS</sub> =30V, V <sub>GS</sub> =0V			1.0	uA
Gate- Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V			100	nA
Static Drain-source On Resistance		V <sub>GS</sub> =10V, I <sub>D</sub> =24A				
		V <sub>GS</sub> =4.5V, I <sub>D</sub> =12A				
Forward Transconductance	g <sub>FS</sub>	V <sub>DS</sub> =25V, I <sub>D</sub> =10A				
Source-drain voltage	V <sub>SD</sub>	I <sub>S</sub> =24A				

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	C <sub>iss</sub>	f = 1MHz, V <sub>DS</sub> =25V	-	2800	-	pF
Output capacitance	C <sub>oss</sub>		-	420	-	
Reverse transfer capacitance	C <sub>MCID</sub>					



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Turn-Off Delay time		50	ns
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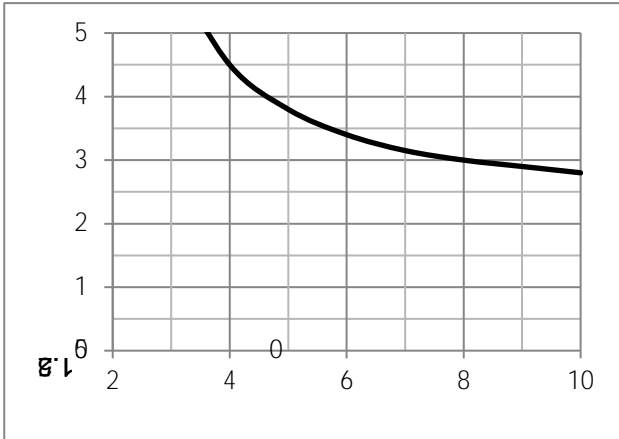


Fig.7 SOA Maximum Safe Operating Area

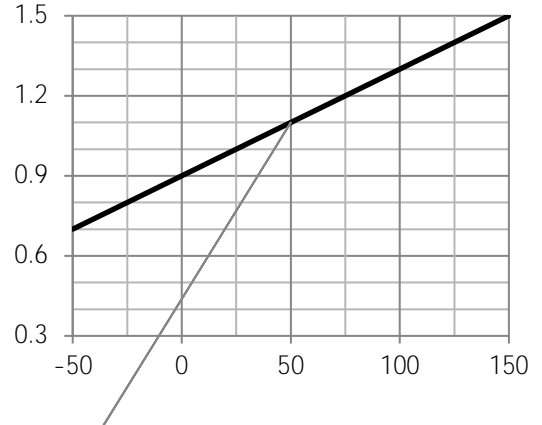


Fig.8 ID-Junction Temperature

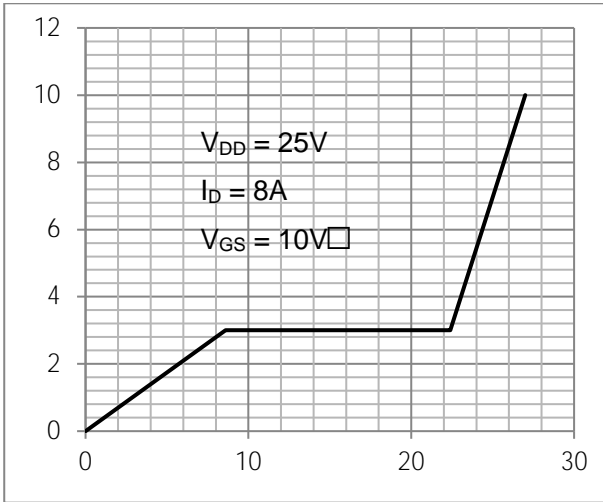


Fig.13 Switching Time Measurement Circuit

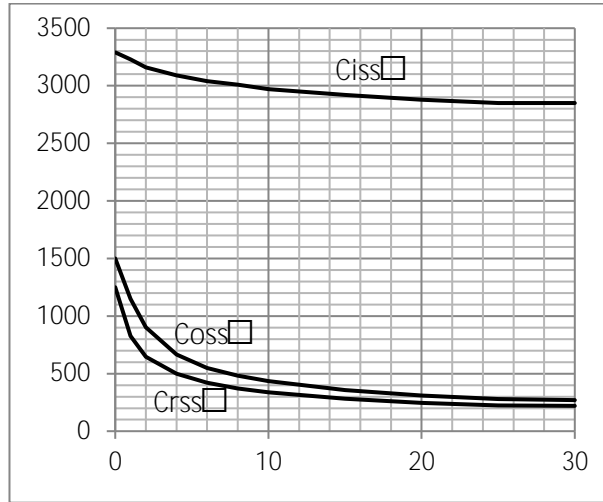


Fig.14 Gate Charge Waveform

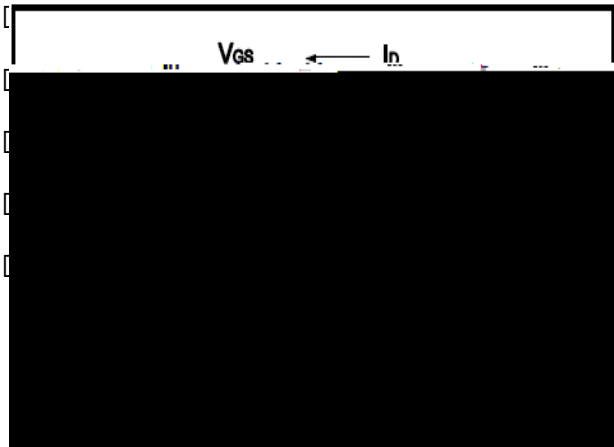


Fig.15 Avalanche Measurement Circuit

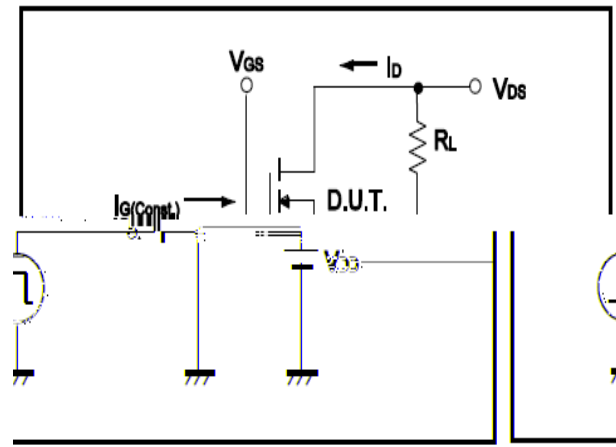


Fig.16 Avalanche Waveform

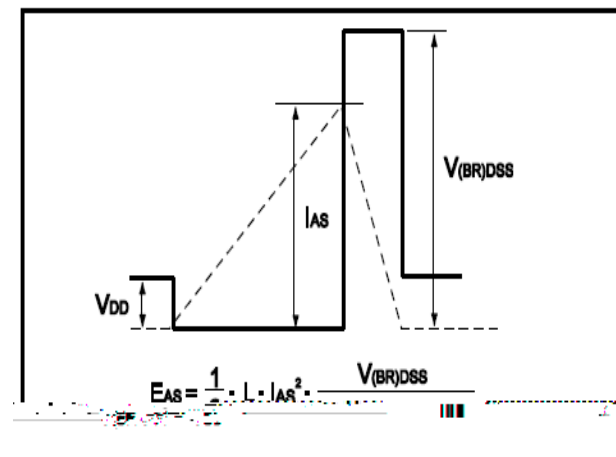
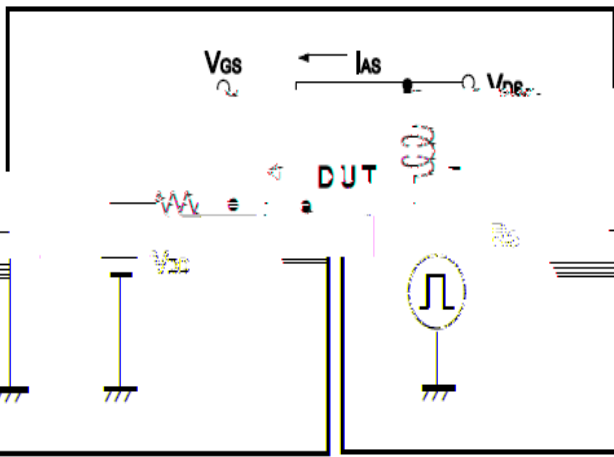
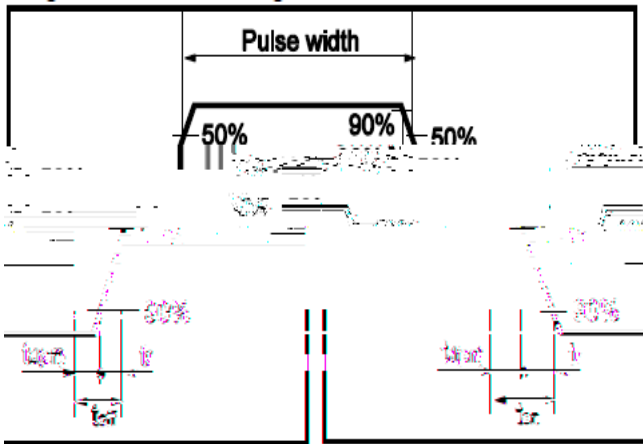


Fig.17 Gate Charge Waveform



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