● General Description

The ZMD68403S combines advanced trench MOSFET technology with a low resistance package to provide extremely low $R_{DS(ON)}$. This device is ideal for load switch and battery protection applications.

● Features

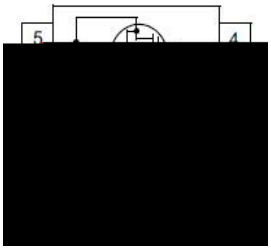
Advance high cell density Trench technology

g $B_{DS(ON)}$ to minimize conductive loss

g 7 QdU 3 XQbWU V bVQcdcg YbSXYW

Dual DIE in one package

● Product Summary



●Application

Power Management in Notebook Computer, Portable Equipment and Battery Powered Systems

4

●Ordering Information:

	ZMD68403S
	ZMD68403
	REEL TAPE
	4000

4

●Absolute Maximum Ratings T_C =25

Parameter	**Symbol**	Rating	Unit
Drain-Source Voltage	V_{DS}	40	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	$I_{D@}T_C$=25	10	A
	$I_{D@}T_C$=75	7.6	A
	$I_{D@}T_C$=100	6.3	A
Pulsed Drain Current	I_{DM}	30	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 175	
Storage Temperature	T_{STG}	-55 to 175	
Single Pulse Avalanche Energy (L=0.5mH,V_{GS}=10V,R_g=25 D_J=25)	E_{AS}	85	mJ

Single Pulse Avalanche Energy (L=0.1mH,V_{GS}=10V,R_g=25 D_J=25)	E_{AS}	34	mJ

●Thermal resistance

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R_{thJC}	-	-	2.5	° C/W
Thermal resistance, junction - ambient	R_{thJA}	-	-	70	° C/W
Soldering temperature, wavesoldering for 10s	T_{sold}	-	-	265	° C

4

●Electronic Characteristics

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

4

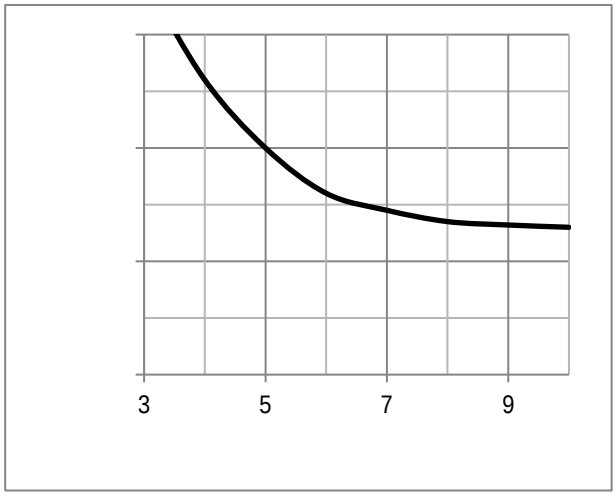
●Dynamic Characteristics

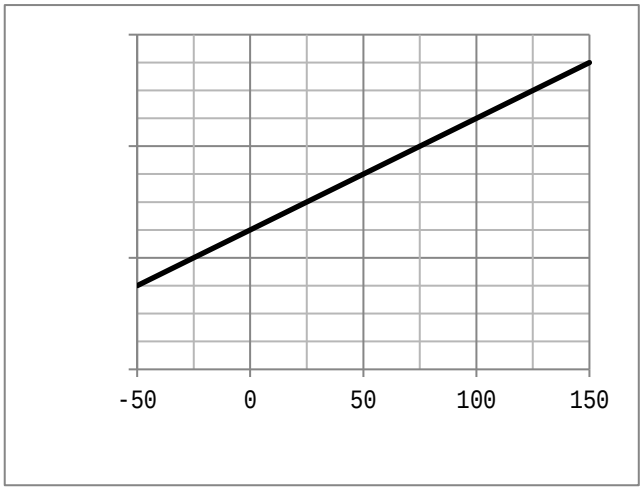
Parameter	Symbol	Condition	Min.	Typ	Max.	Unit

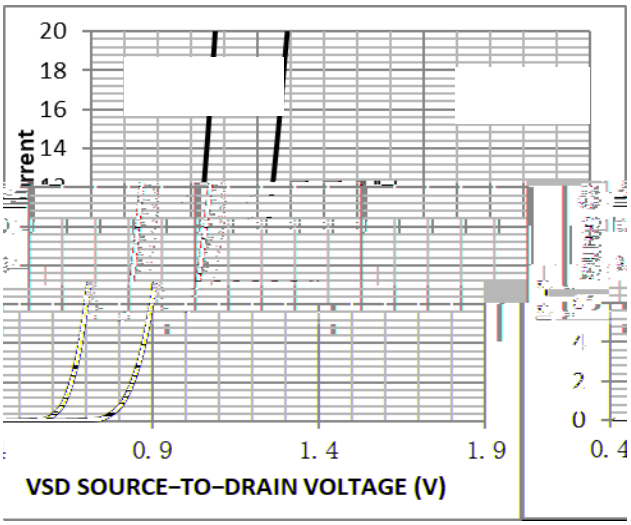
Input capaciG(I) -0.0148 reW*r

Diode Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
				8		ns







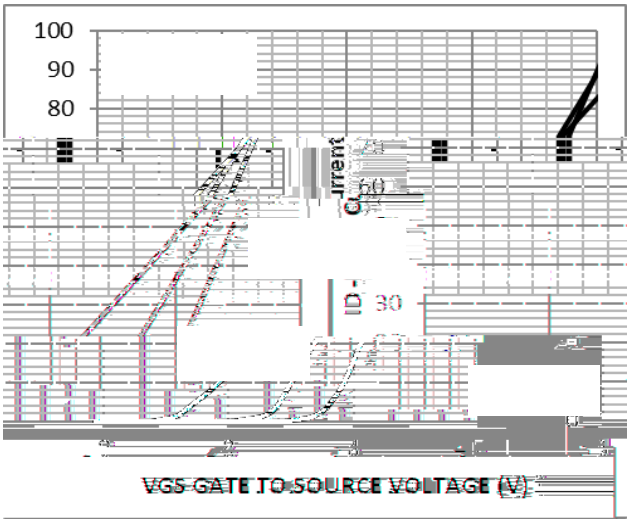
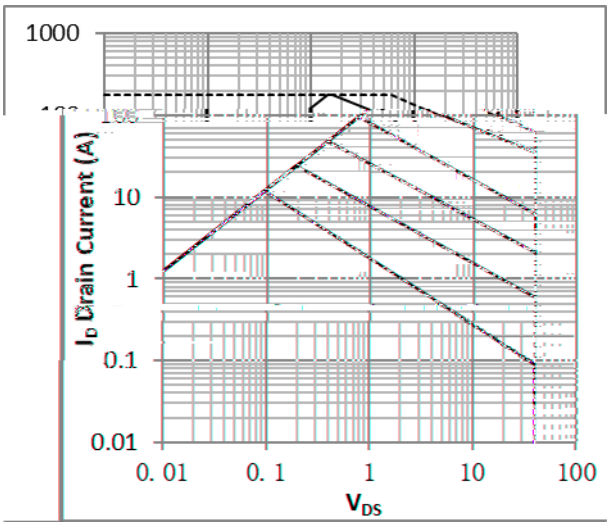


Fig.9 SOA Maximum Safe Operating Area

Fig.10 ID-Junction Temperature



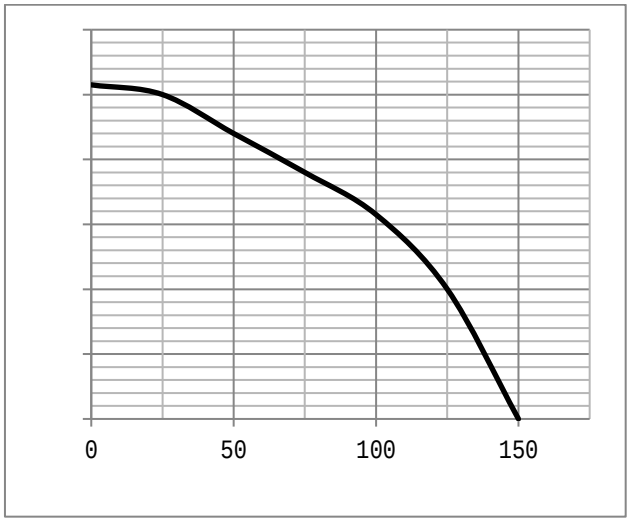
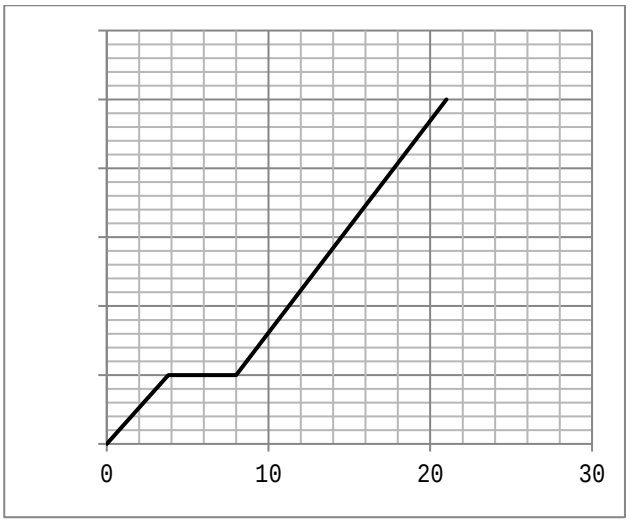


Fig.12



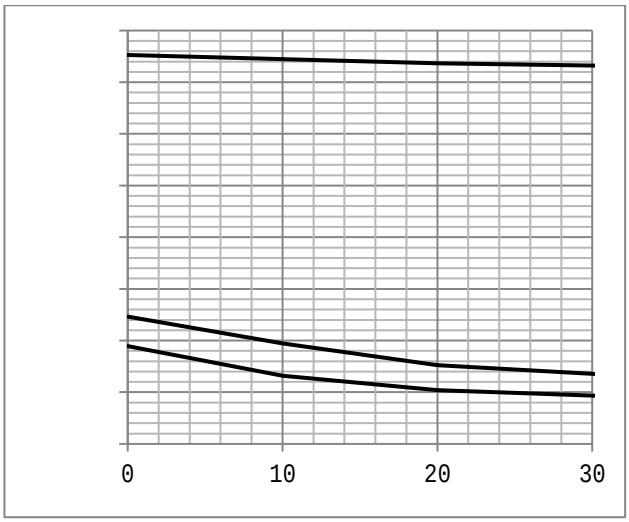
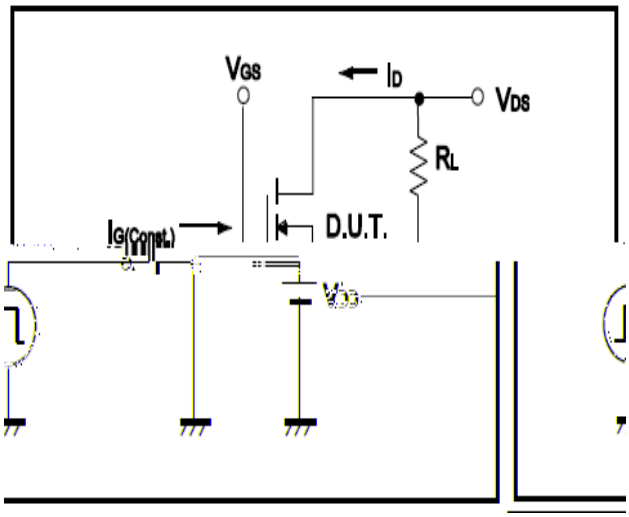


Fig.13 Switching Time Measurement Circuit

Fig.14 Gate Charge Waveform



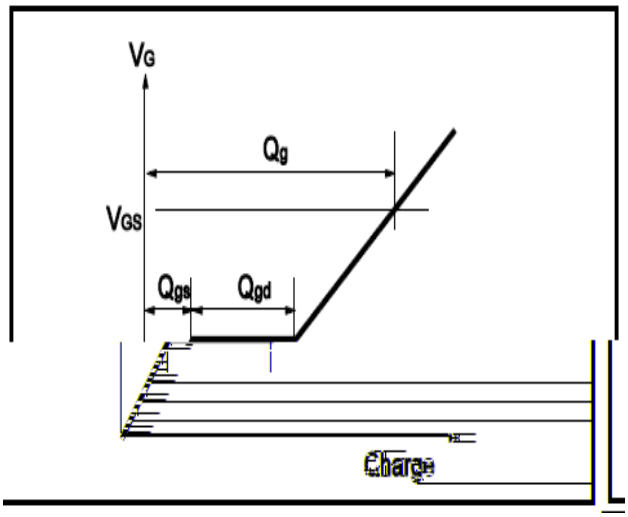
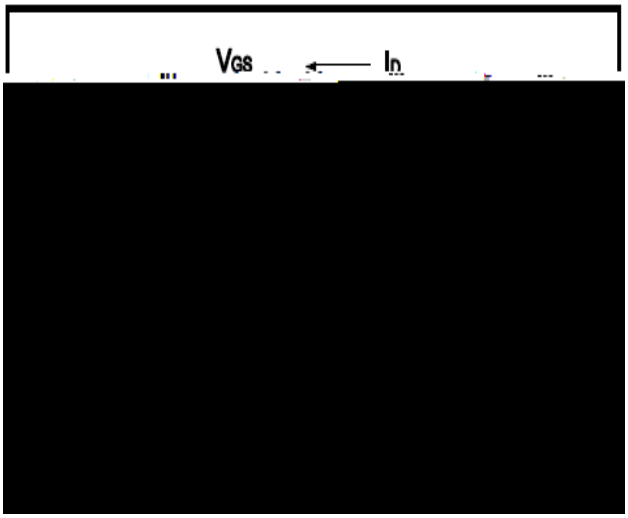


Fig.15 Switching Time Measurement Circuit

Fig.16 Gate Charge Waveform



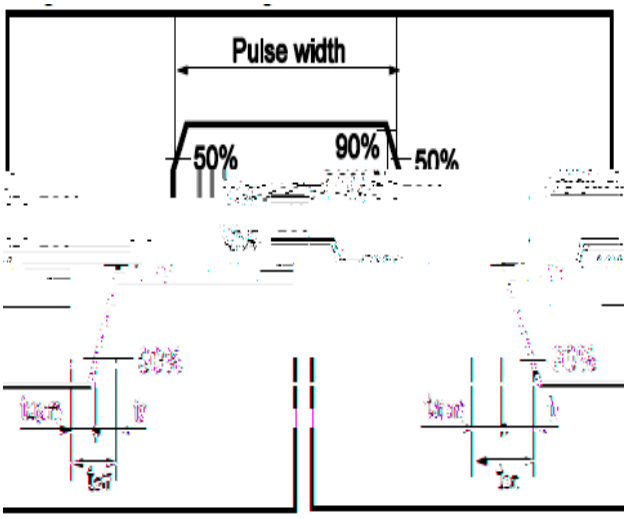


Fig.17 Avalanche Measurement Circuit

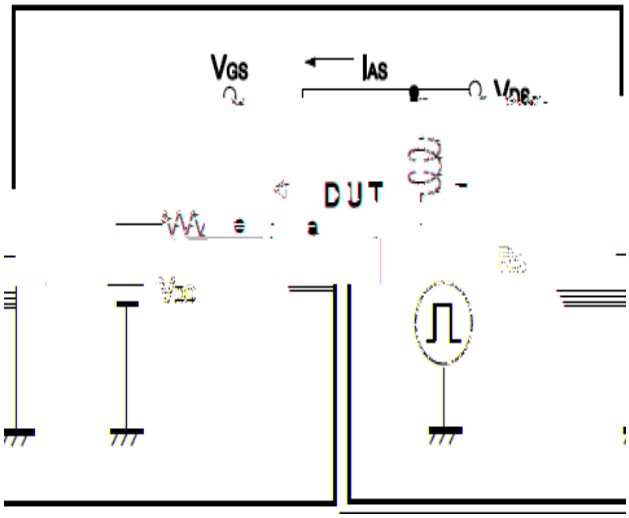
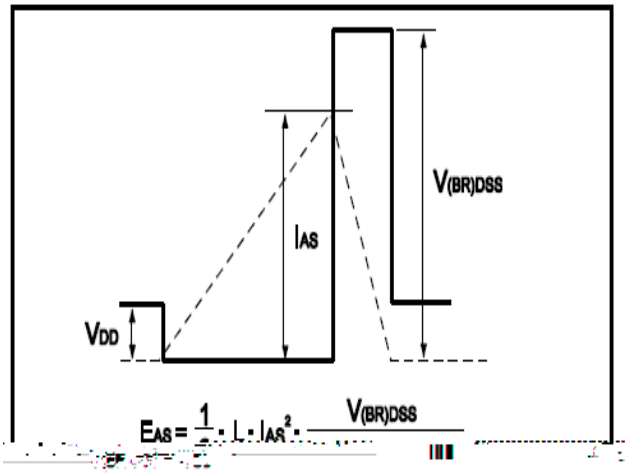


Fig.18 Avalanche Waveform



•Dimensions(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
A2		1.27		C2	0.55		0.65
A3		0.41		C3	0.05		0.20
B	5.80		6.20	C4	0.10	0.20	0.23
B1	3.80		4.10	D		1.05	
B2		5.00		D1	0.40		0.62