● General Description

It combines advanced trench MOSFET technology with a low resistance package to provide extremely low $R_{DS(ON)}$. It combines one N Channel MOSFET and one P channel MOSFET.

● Product Summary

● Features

Trench technology

$_{DS(ON)}$ to minimize conductive loss

Dual DIE in one package

●Application

Power Management in Notebook Computer

BLDC Motor driver

●Ordering Information:

ZMC88102S

●N Channel Absolute Maximum Ratings T_C =25

mbol	Rating	Unit
V_{DS}	100	V
V_{GS}	±20	V
I_D	4.0	A
I_{DM}	12	A
$_D$@TC=25℃	3.4	W
$_D$@TA=25℃	0.69	W
T_J	-55 to 150	℃
T_{STG}	-55 to 150	℃

Reverse transfer capacitance	Crss		-	51	-	

●Gate Charge characteristics(T_a = 25)

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Total gate charge	Qg	V_{DD} =25V	-	22.4	-	nC
Gate - Source charge	Qgs	I_D =4A	-	4.5	-	
Gate - Drain charge	Qgd	V_{GS} = 10V	-	3.4	-	

●P Channel Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} =0V,I_D =-250uA	-100			V
Gate Threshold Voltage	$V_{GS(TH)}$	V_{GS} =V_{DS}, I_D =-250uA	-1.0		-2.5	V
Drain-Source Leakage Current	I_{DSS}	V_{DS}=-100V, 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=-2A		170	221	mΩ
		V_{GS}=-4.5V, I_D=-2A		185	240	mΩ
Forward Transconductance	g_{FS}	V_{DS} =-10V, I_D=-2A		16		s
Source-drain voltage	V_{SD}	Is=-2A			1.28	V

●Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit

●N Channel characteristics curve

Fig.1 Power Dissipation Derating Curve

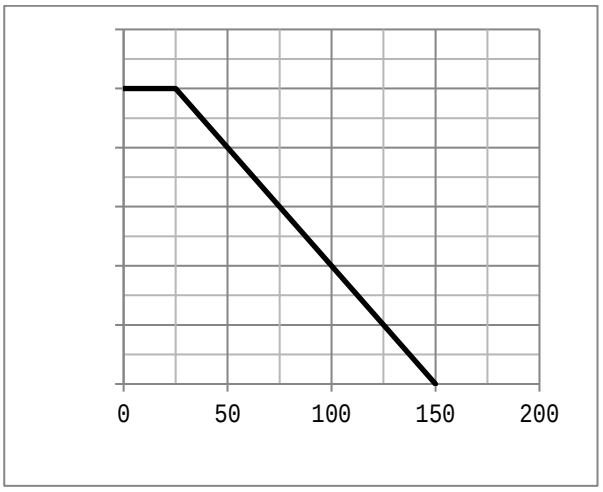


Fig.2 Typical output Characteristics

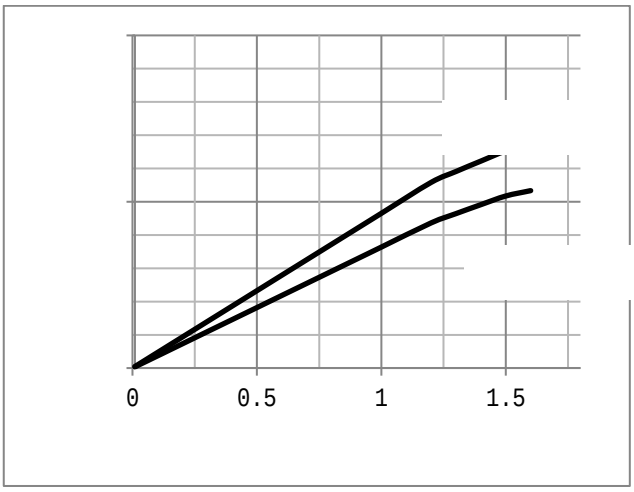


Fig.3 Threshold Voltage V.S Junction Temperature

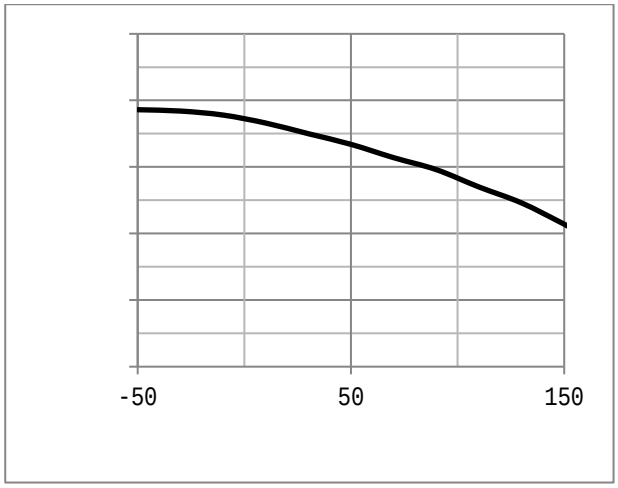
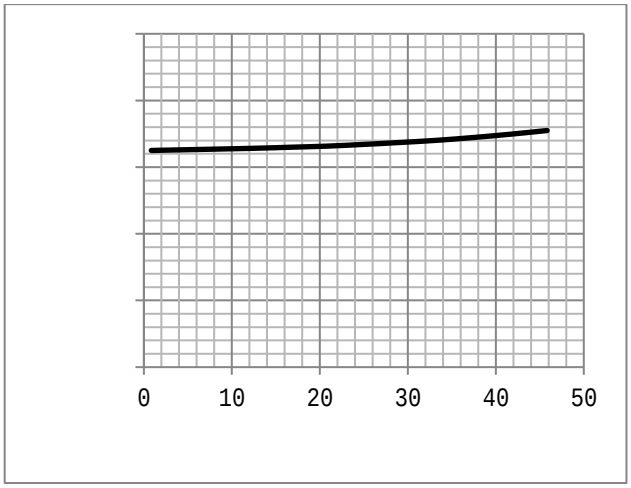
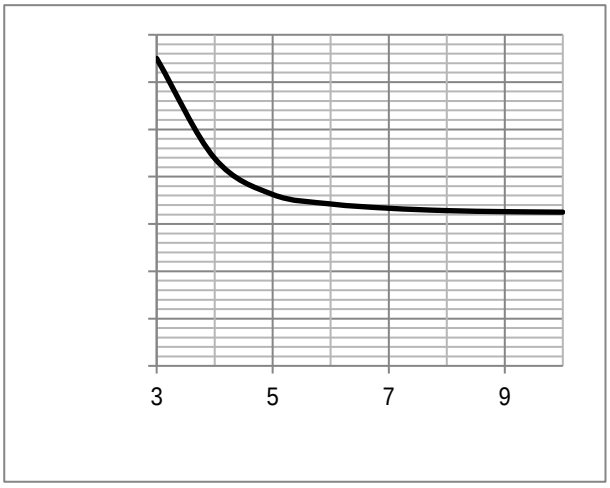
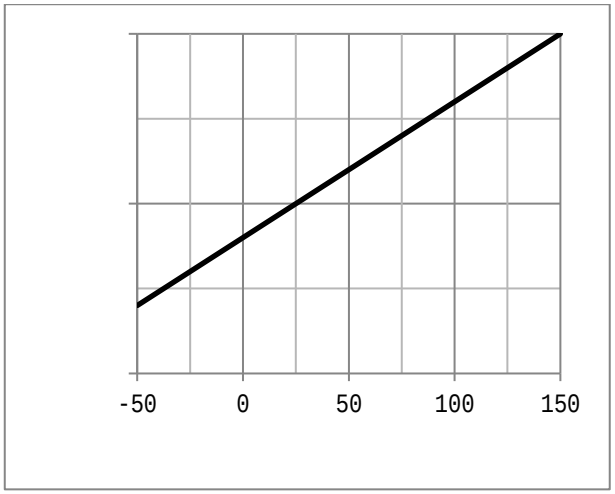


Fig.4 Resistance V.S Drain Current







●Test Circuit

Fig.1 Switching Time Measurement Circuit

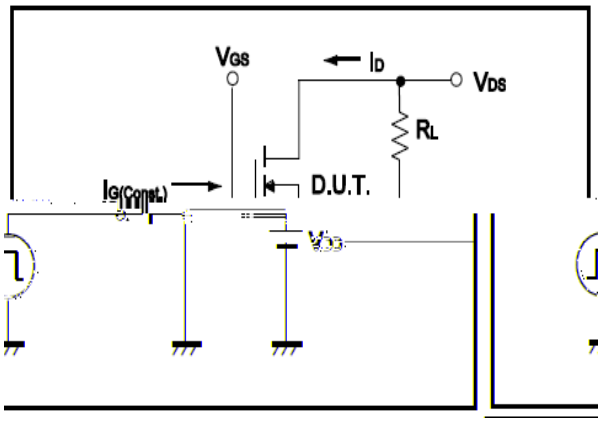


Fig.2 Gate Charge Waveform

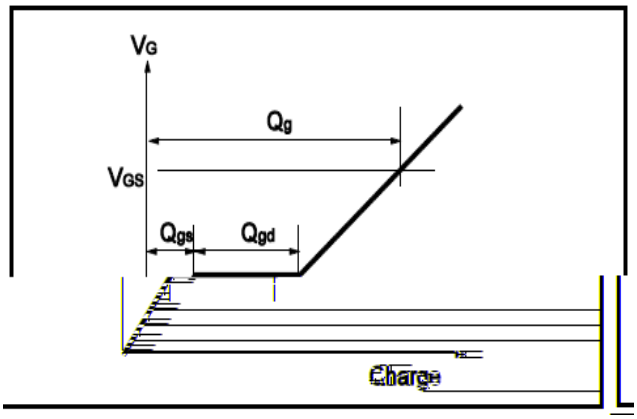


Fig.3 Switching Time Measurement Circuit

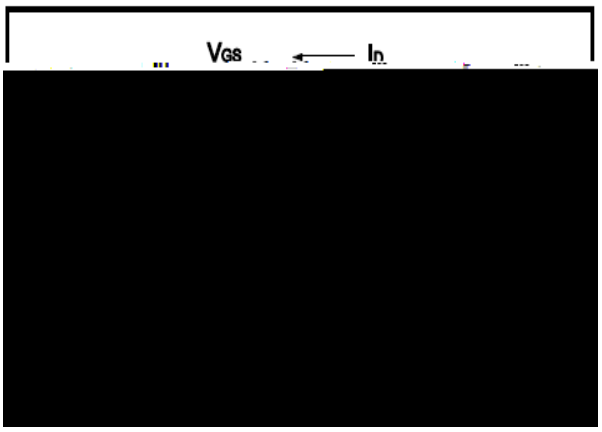


Fig.4 Gate Charge Waveform

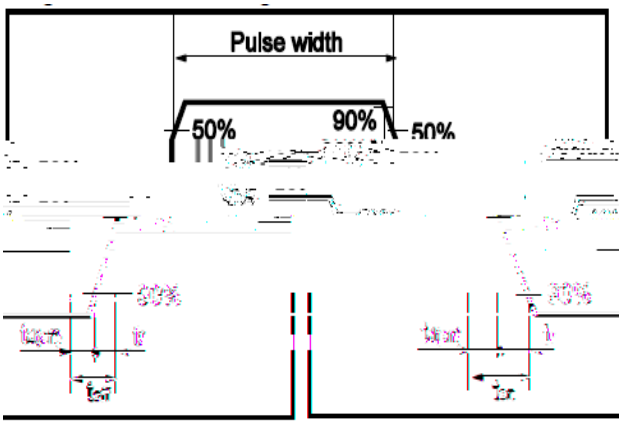


Fig.5 Avalanche Measurement Circuit

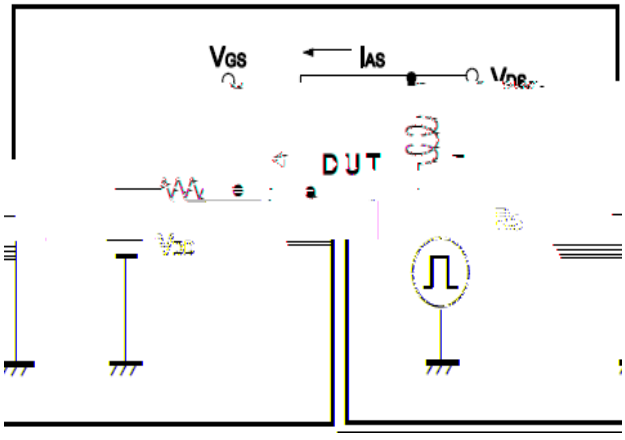
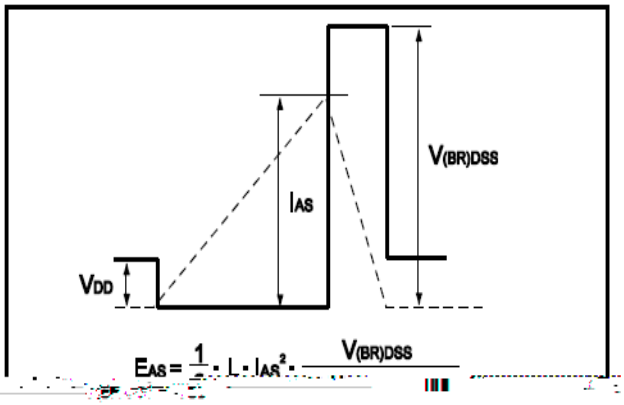


Fig.6 Avalanche Waveform



●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