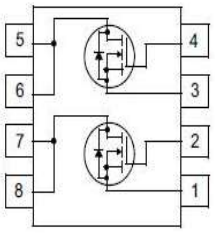
• General Description

It combines advanced trench MOSFET technology with a low resistance package to provide extremely low $R_{DS(ON)}$. Two N Channel MOSFET inside for dual DIE implication.

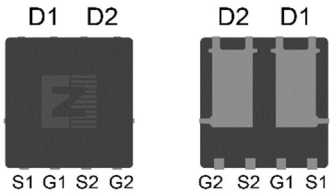
• Product Summary



V_{DS1} =30V
V_{DS2} =30V
$R_{DS(ON)1}$ =7.0mΩ
$R_{DS(ON)2}$ =7.0mΩ
I_{D1} =36A
I_{D2} =36A

• Features

- ■ Advance high cell density Trench technology
- ■Low $R_{DS(ON)}$ to minimize conductive loss
- ■Low Gate Charge for fast switching
- ■ Dual DIE in one package



DFN5*6

•Application

- ■ Power Management in Notebook Computer
- ■ BLDC Motor driver

•Ordering Information:

Part NO.	ZMD68308N
Marking	ZMD68308
Packing Information	REEL TAPE
Basic ordering unit (pcs)	3000

Absolute Maximum Ratings (T_C =25℃)

Parameter	**Symbol**	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	$I_{D@}$TC=25℃	36	A
	$I_{D@}$TC=75℃	27	A
	$I_{D@}$TC=100℃	22	A
Pulsed Drain Current ①	I_{DM}	72	A
Total Power Dissipation(TC=25℃)	P_D@TC=25℃	3.6	W
Total Power Dissipation(TA=25℃)	P_D@TA=25℃	0.69	W
Operating Junction Temperature	T_J	-55 to 150	℃
Storage Temperature	T_{STG}	-55 to 150	℃
Single Pulse Avalanche Energy	E_{AS}	102	mJ

●Thermal resistance

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R_{thJC}	-	-	34	° C/W
Thermal resistance, junction - ambient	R_{thJA}	-	-	180	° C/W
Soldering temperature, wavesoldering for 10s	T_{sold}	-	-	265	° C

Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} =0V,I_D =250uA	30			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}=30V, 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	$R_{DS(ON)}$	V_{GS}=10V, I_D=10A		7	9.1	mΩ
		V_{GS}=4.5V, I_D=8A		9.5	12	mΩ
Forward Transconductance	g_{FS}	V_{DS} =10V, I_D=5A		6		s
Source-drain voltage	V_{SD}	Is=10A			1.28	V

●Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	Ciss	VDS=25V f = 1MHz	-	1200	-	pF
Output capacitance	Coss		-	160	-	
Reverse transfer capacitance	Crss		-	120	-	

●Gate Charge characteristics(T_a = 25℃)

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Total gate charge	Qg	VDD =15V ID = 10A VGS = 10V	-	23	-	nC
Gate - Source charge	Qgs		-	3	-	
Gate - Drain charge	Qgd		-	6.3	-	
Body Diode Reverse Recovery Time	trr	IF=20A, di/dt=100A/μs		6.5		ns
Body Diode Reverse Recovery Charge	Qrr	IF=20A, di/dt=100A/μs		7		nC

•N Channel characteristics curve

Fig.1 Power Dissipation Derating Curve

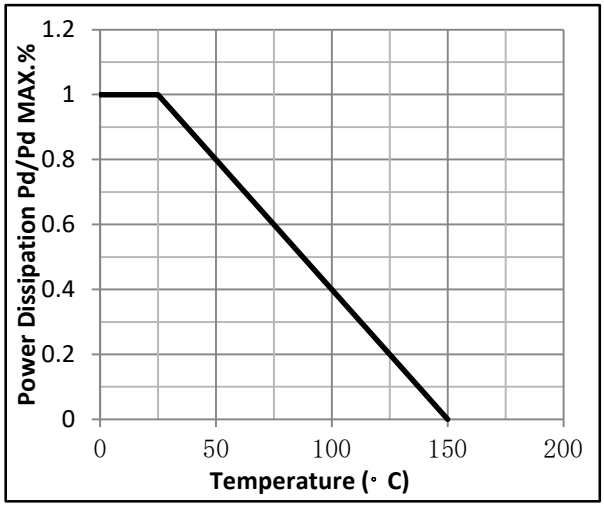


Fig.2 Typical output Characteristics

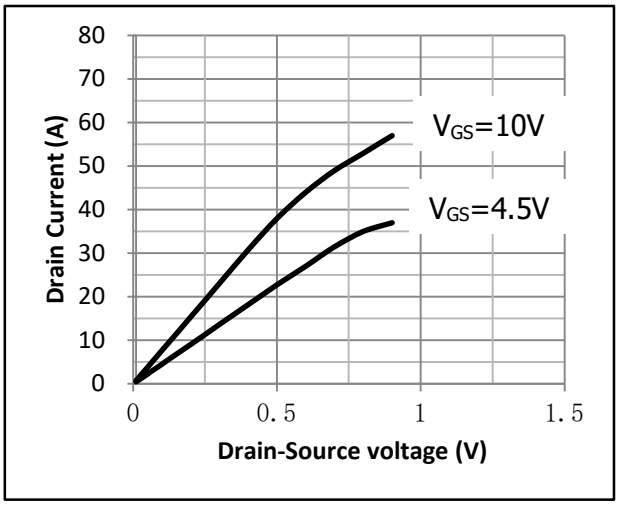


Fig.3 Threshold Voltage V.S Junction Temperature

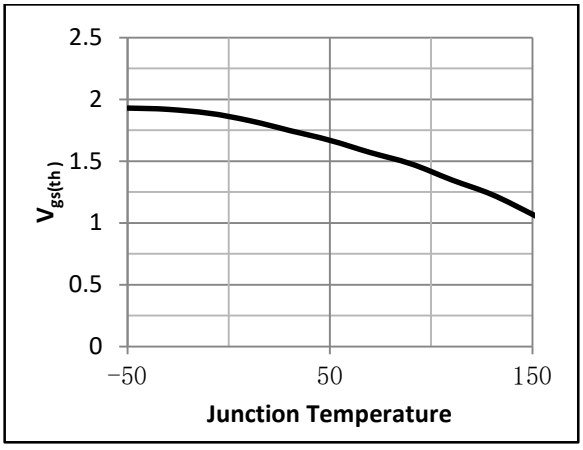


Fig.4 Resistance V.S Drain Current

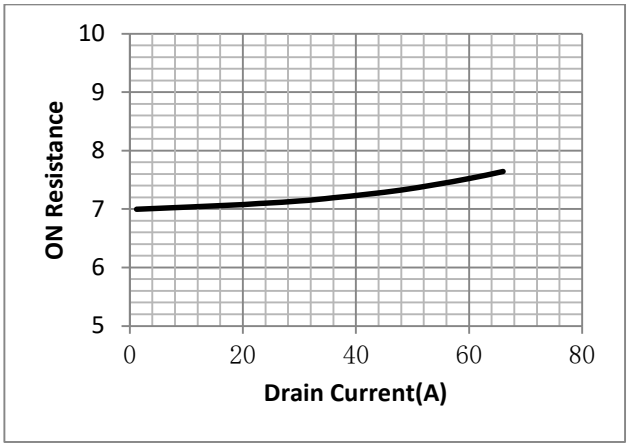


Fig.5 On-Resistance VS Gate Source Voltage

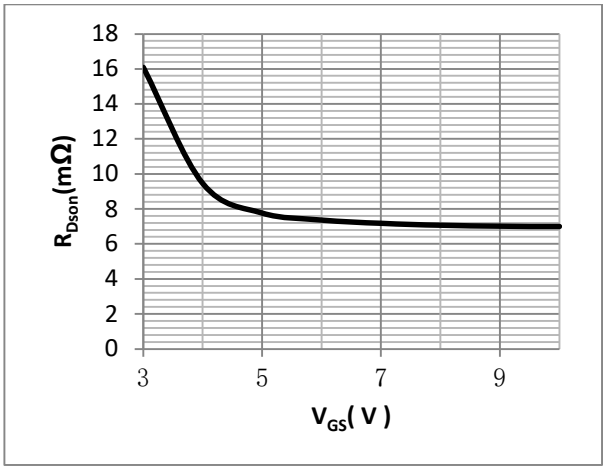
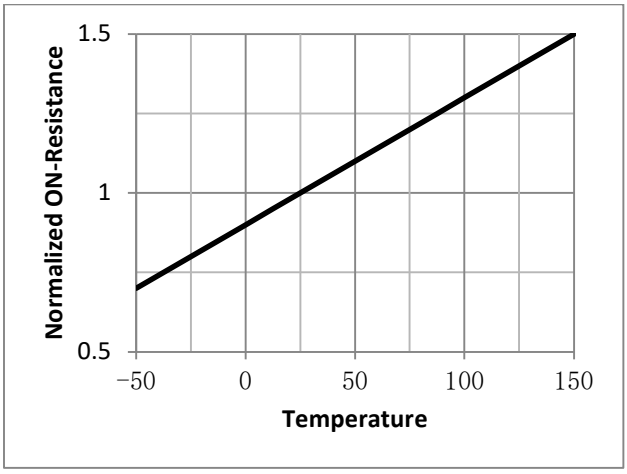


Fig.6 On-Resistance V.S Junction Temperature



•Test Circuit

Fig.7 Gate Charge Measurement Circuit

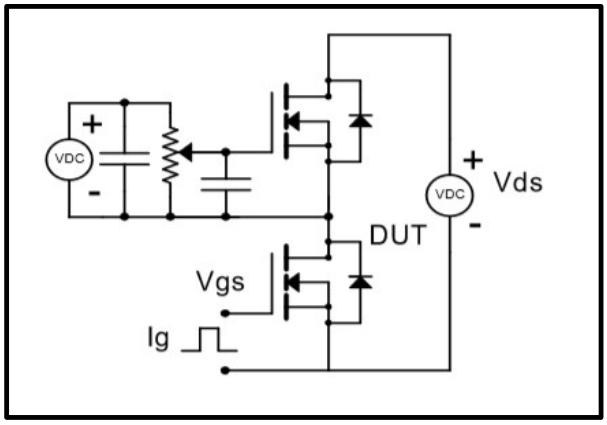


Fig.8 Gate Charge Waveform

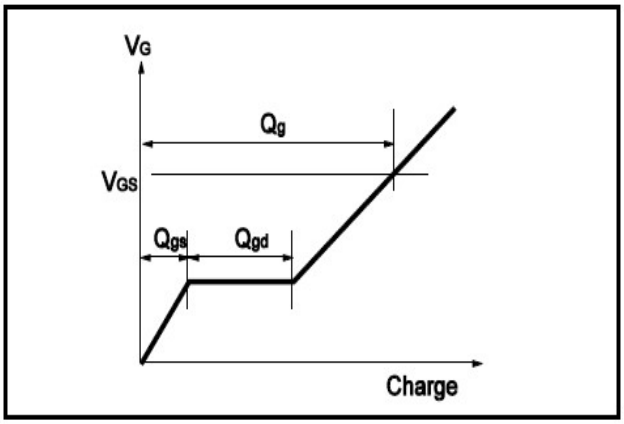


Fig.9 Switching Time Measurement Circuit

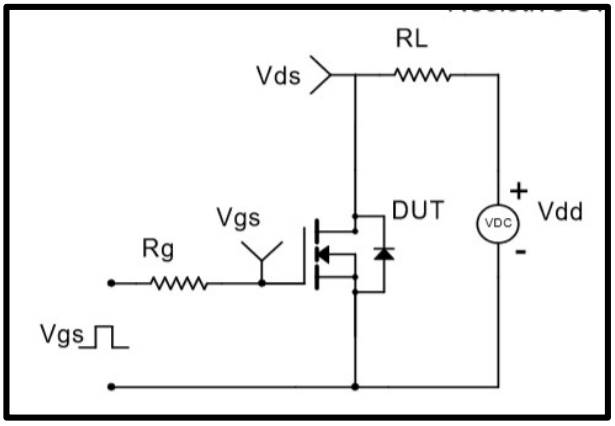


Fig.10 Switching Time Waveform

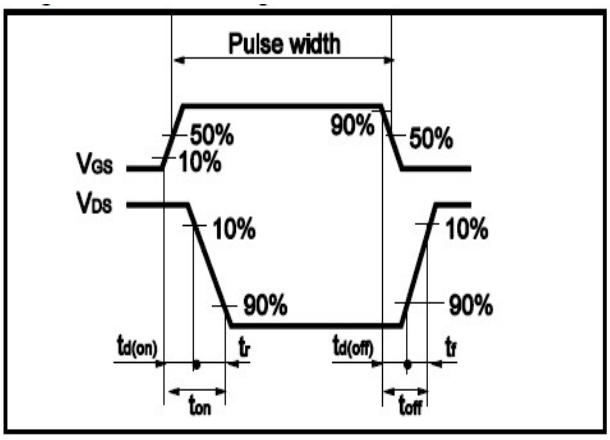


Fig.11 Avalanche Measurement Circuit

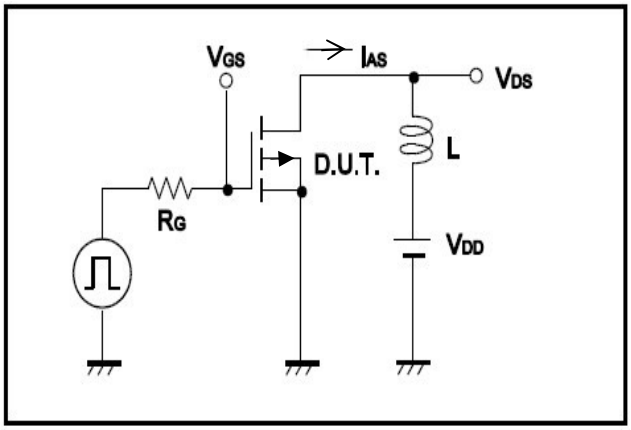
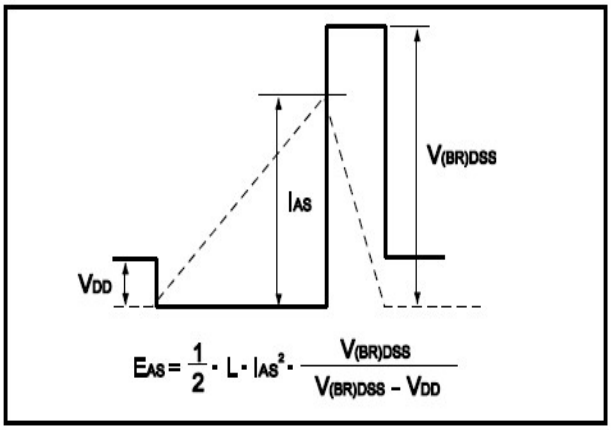
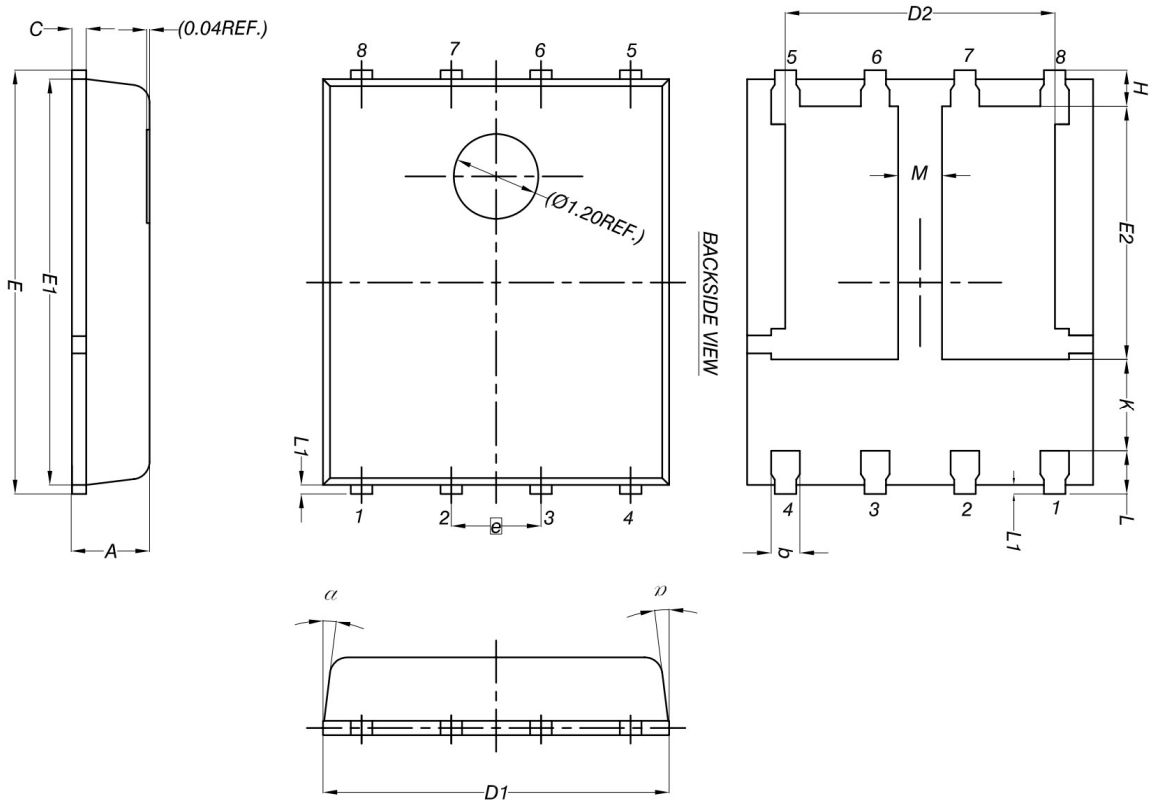


Fig.12 Avalanche Waveform



●Dimensions（DFN5×6）



DIM.	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.90	1.00	1.10
b	0.33	0.41	0.51
C	0.20	0.25	0.30
D1	4.80	4.90	5.00
D2	3.61	3.81	3.96
E	5.90	6.00	6.10
E1	5.70	5.75	5.80
E2	3.38	3.58	3.78
e	1.27 BSC		
H	0.41	0.51	0.61
K	1.10	-	-
L	0.51	0.61	0.71
L1	0.06	0.13	0.20
M	0.50	-	-
α	0°	-	12°