

Product Summary

It combines advanced trench MOSFET technology with a low resistance package to provide extremely low $R_{DS(ON)}$.



Trench technology
 $R_{DS(ON)}$ to minimize conductive loss



nd Synchronous Rectifier

Part NO.	ZM031N04I
Marking	ZM031N04
Packing Information	TUBE
Basic ordering unit (pcs)	900

$T_C = 25$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	40	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	$I_{D@TC=25}$	120	A
	$I_{D@TC=75}$	91.2	A
	$I_{D@TC=100}$	75.6	A
Pulsed Drain Current	I_{DM}	280	A
Total Power Dissipation	$P_D@TC=25$	70	W
Total Power Dissipation	$P_D@TA=25$	2.5	W
Operating Junction Temperature	T_J	-55 to 150	
Storage Temperature	T_{STG}	-55 to 150	
Single Pulse Avalanche Energy@L=0.1mH	E_{AS}	180	mJ
Avalanche Current@L=0.1mH	I_{AS}	60	A



Thermal resistance

resistance, junction - case	thJC				
- ambient	thJA				
soldering for 10s	sold				

-Source Breakdown Voltage	V_{DSS}	$V_{GS} = 0V, I_D = 250\mu A$			
	$V_{GS(TH)}$	$V_{GS} = V_{DS}, I_D = 250\mu A$			
-Source Leakage Current	I_{DSS}	$V_{DS} = 40V, V_{GS} = 0V$			A
- Source Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			
-source On Resistance		$V_{GS} = 10V, I_D = 24A$			
		$V_{GS} = 4.5V, I_D = 12A$			
conductance	g_{FS}	$V_{DS} = 25V, I_D = 10A$			
source-drain voltage	V_{SD}	24A			

	r_{iss}				
	r_{oss}				
	r_{rss}				

Gate Charge characteristics($T_a = 25^\circ C$)

charge	g	$V_{DD} = 25V$			
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Fig.7 Switching Time Measurement Circuit

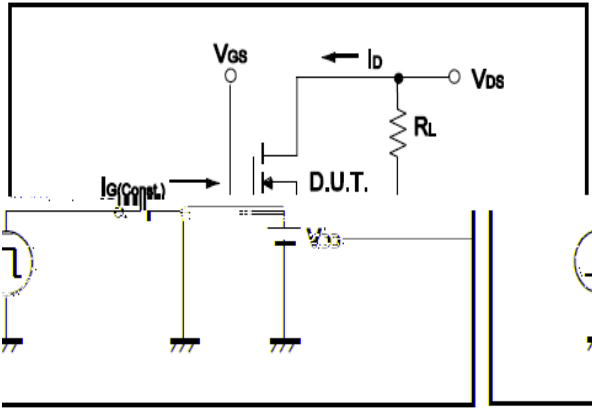


Fig.8 Gate Charge Waveform

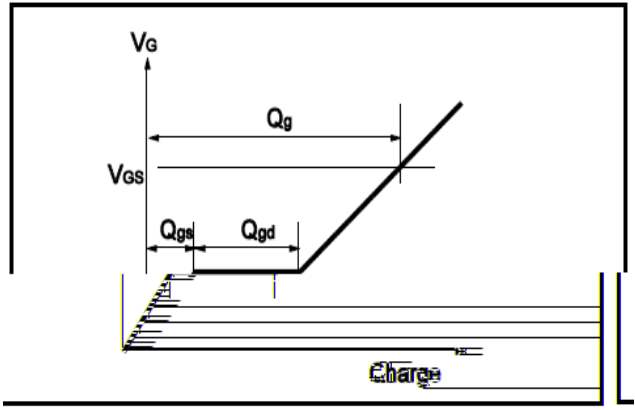


Fig.9 Switching Time Measurement Circuit

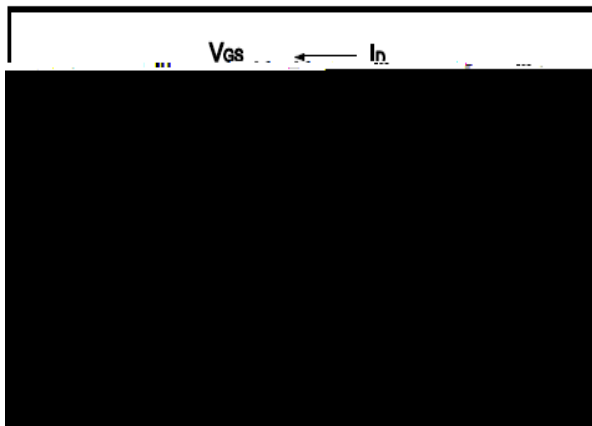


Fig.10 Gate Charge Waveform

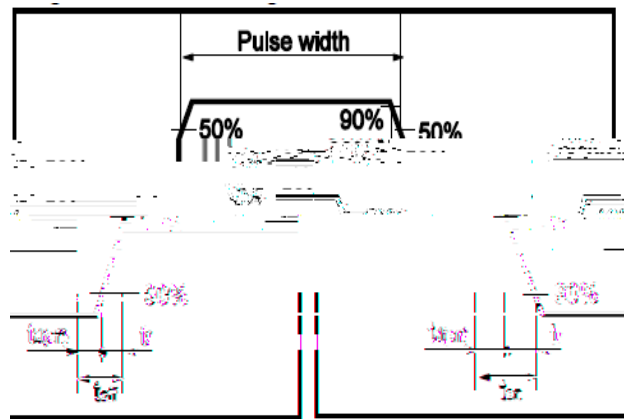


Fig.11 Avalanche Measurement Circuit

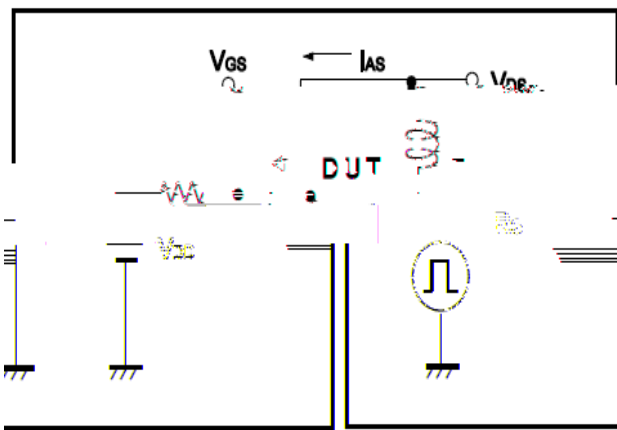
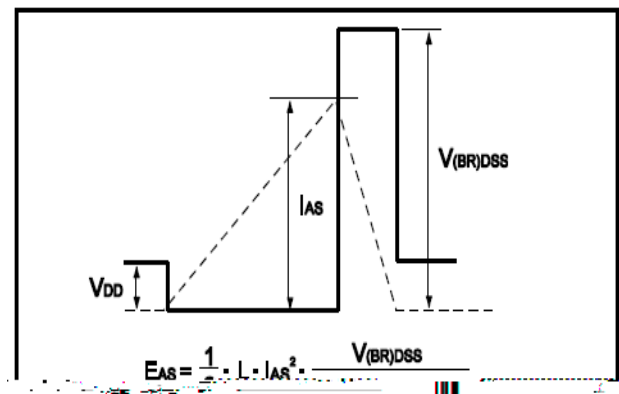


Fig.12 Avalanche Waveform



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Unit mm

SYMBOL	mi n	max	SYMBOL	mi n	max
A	2.10	2.50	D	6.35	6.80
A1	0.95	1.30	D1	5.10	5.50
B	0.80	1.25	E	5.30	6.30
b	0.50	0.80	e	2.24	2.35
b1	0.70	0.90	E1	4.43	4.73
c	0.45	0.60	L	7.00	9.40
c1	0.45	0.60			

