

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

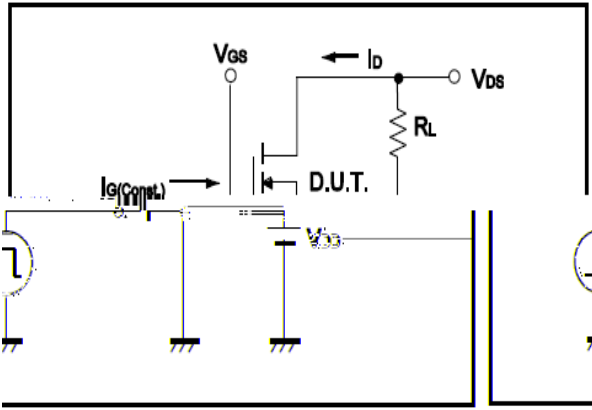


Fig.8 Gate Charge Waveform

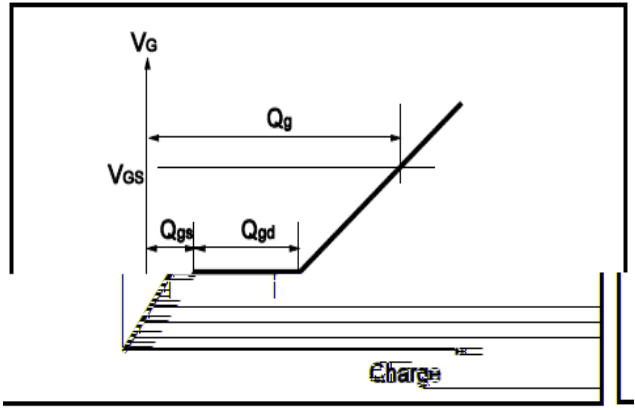


Fig.9 Switching Time Measurement Circuit

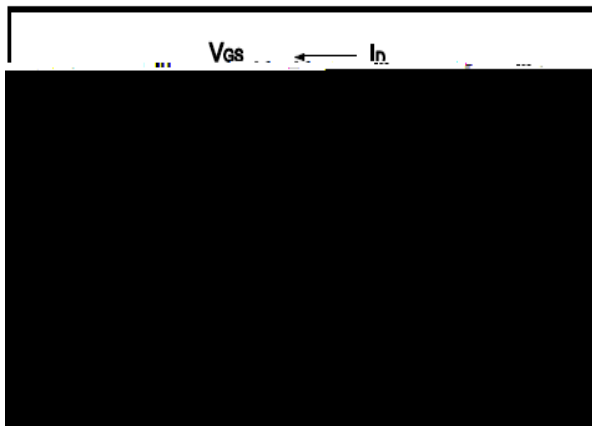


Fig.10 Gate Charge Waveform

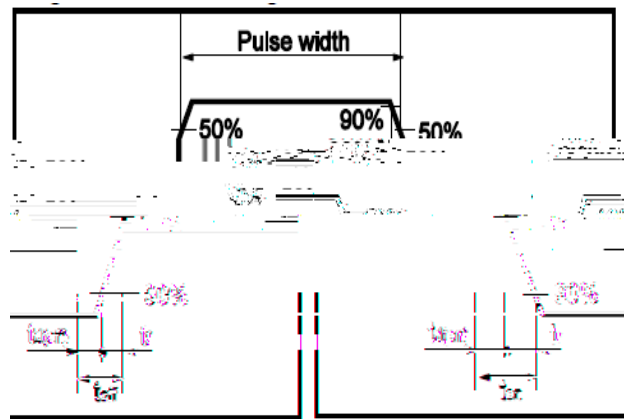


Fig.11 Avalanche Measurement Circuit

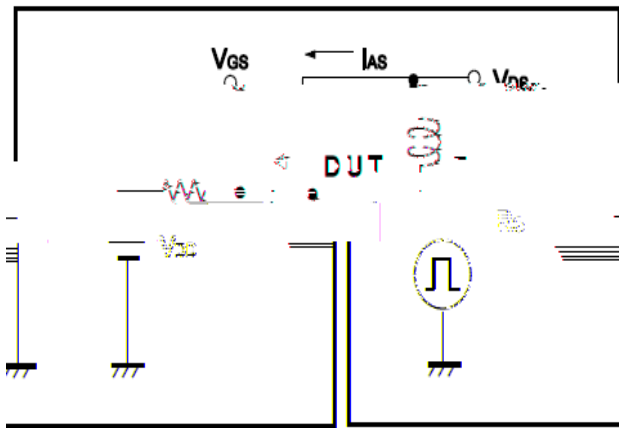
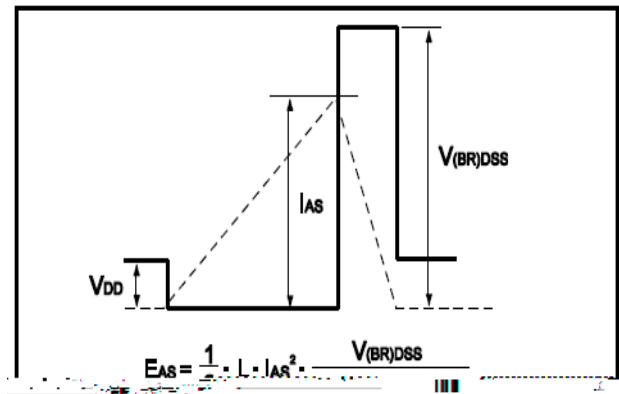


Fig.12 Avalanche Waveform



Unit mm

SYMBOL	min	max	SYMBOL	min	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			

