

**B**

The ZM040N04S 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.

Advance high cell density Trench technology  
 $R_{DS(ON)}$  to minimize conductive loss

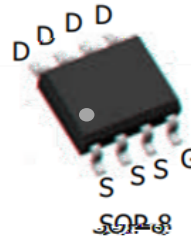
nd Synchronous Rectifier

**Product Summary**


$V_{DS} = 40V$

$R_{DS(ON)} = 5.5m\Omega$

$I_D = 15A$


**Information:**

Part NO.	ZM040N04S
Marking	ZM040N04
Packing Information	REEL TAPE
Basic ordering unit (pcs)	4000-TAP

 $T_C = 25$ 

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	40	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_D @ T_C = 25$	15	A
	$I_D @ T_C = 75$	11	A
	$I_D @ T_C = 100$	9.5	A
Pulsed Drain Current	$I_{DM}$	40	A
Total Power Dissipation	$P_D @ T_C = 25$	4.0	W
Total Power Dissipation	$P_D @ T_A = 25$	0.75	W
Operating Junction Temperature	$T_J$	-55 to 150	
Storage Temperature	$T_{STG}$	-55 to 150	
Single Pulse Avalanche Energy	$E_{AS}$	180	mJ



Fig.1 Power Dissipation

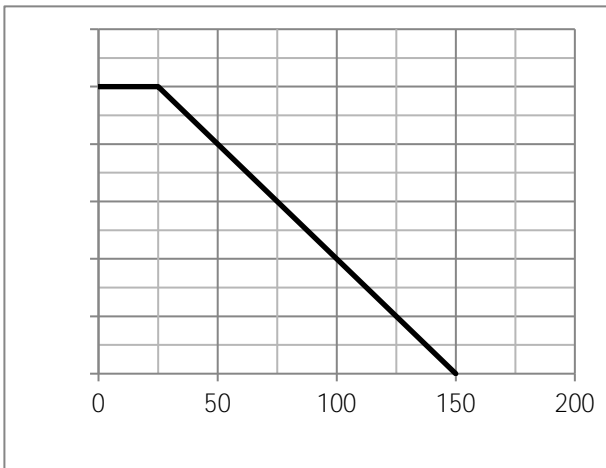


Fig.2 Typical output Characteristics

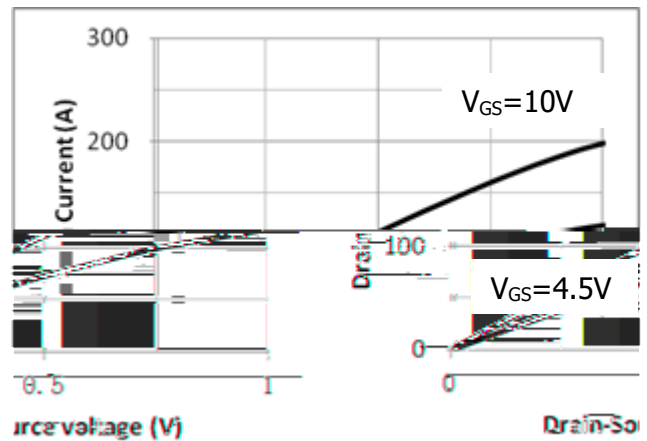


Fig.3 Threshold Voltage V.S Junction Temperature

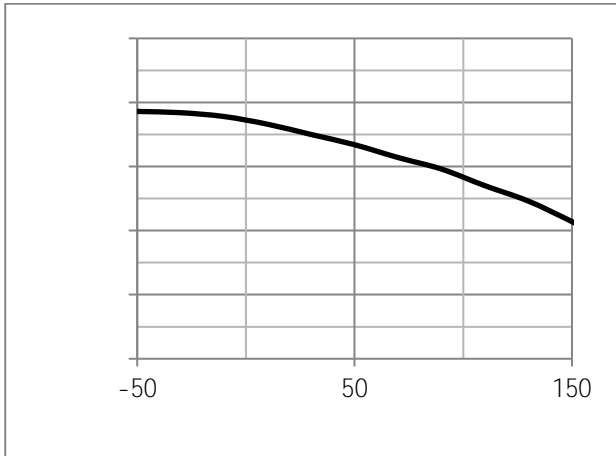


Fig.4 Resistance V.S Drain Current

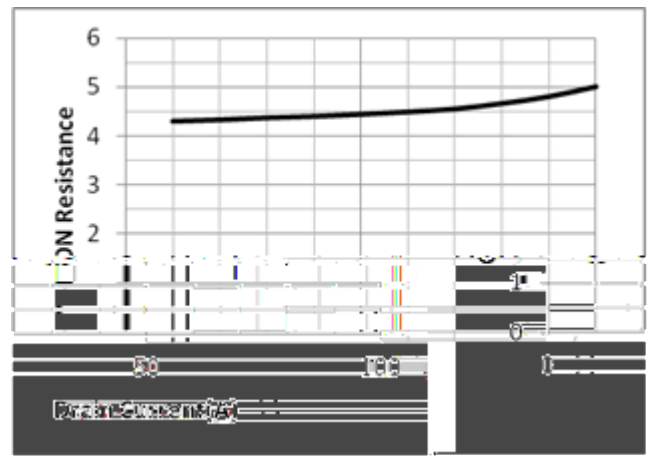


Fig.5 On-Resistance VS Gate Source Voltage

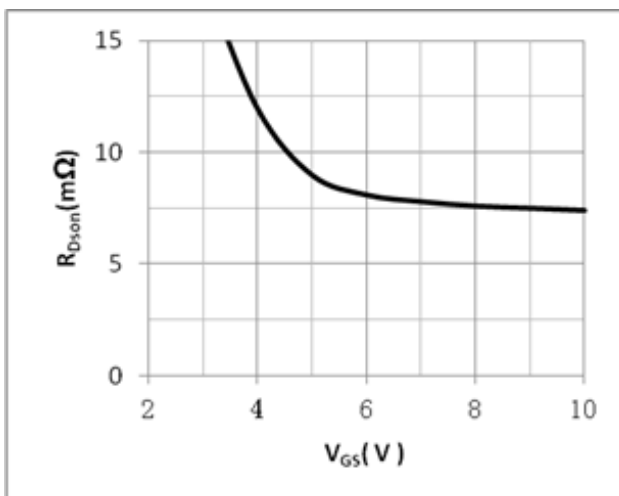


Fig.6 On-Resistance V.S Junction Temperature

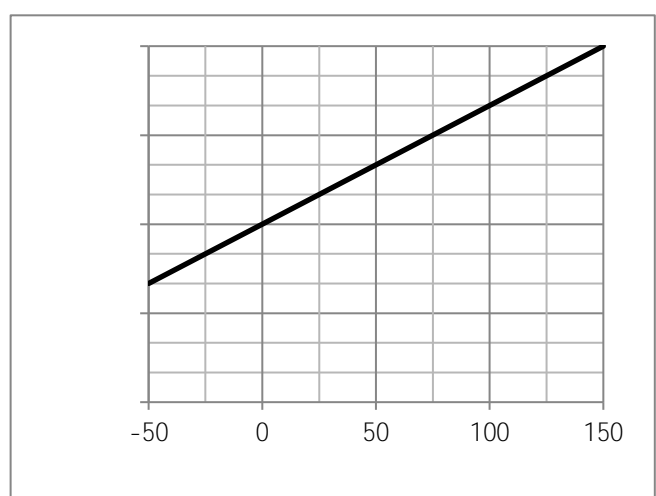


Fig.7 Switching Time Measurement Circuit

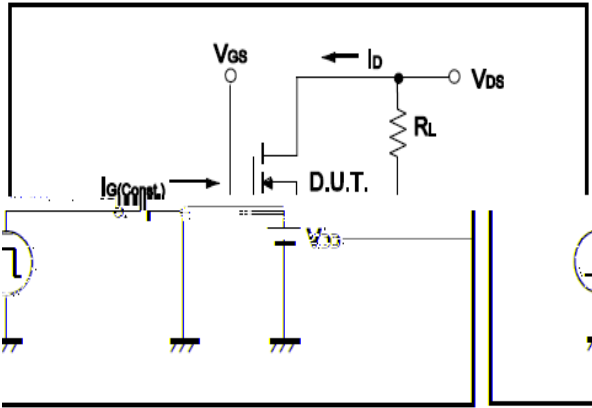


Fig.8 Gate Charge Waveform

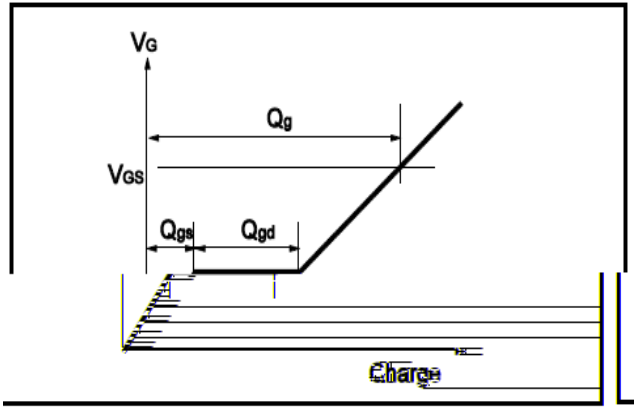


Fig.9 Switching Time Measurement Circuit

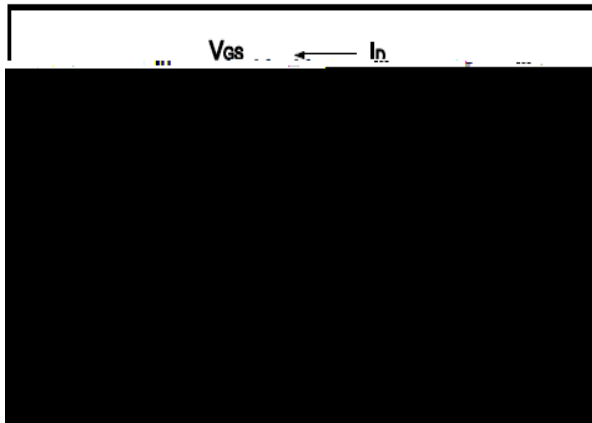


Fig.10 Gate Charge Waveform

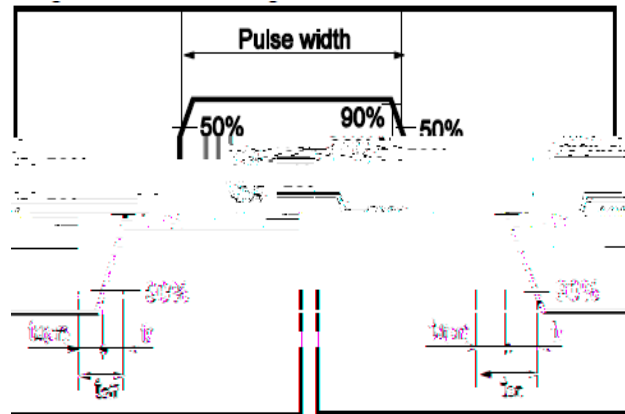


Fig.11 Avalanche Measurement Circuit

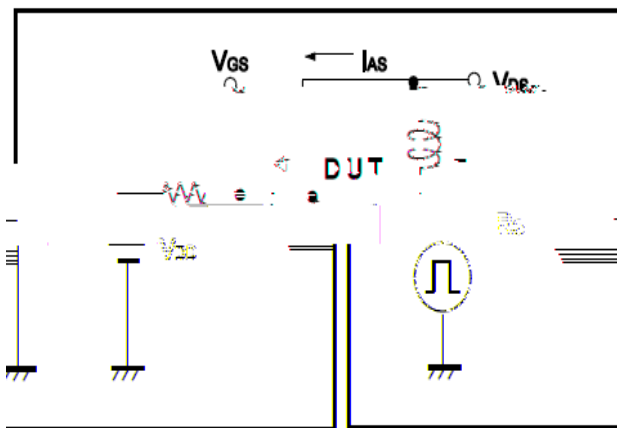
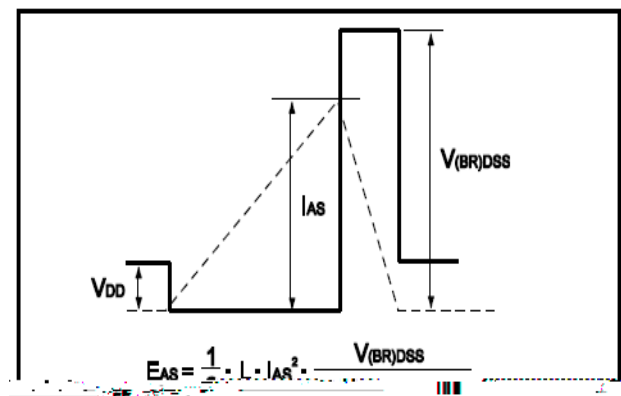


Fig.12 Avalanche Waveform



(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

