

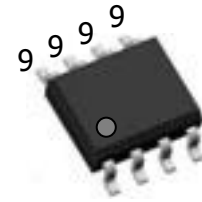
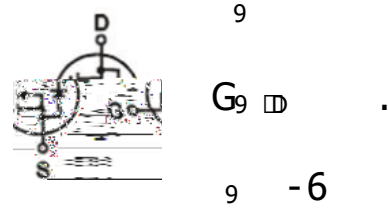
B

The ZM065N06S combines advanced trench MOSFET technology with a low resistance package to provide extremely low $R_{DS(ON)}$.

A

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

Synchronous Rectification in DC/DC and AC/DC
 Converters
 Industrial and Motor Drive applications

Product Summary


D "-"

Part NO.	ZM065N06S
Marking	ZM065N06
Packing Information	REEL TAPE
Basic ordering unit (pcs)	4000

 $T_C = 25$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	$I_D @ T_C = 25$	18	A
	$I_D @ T_C = 75$	13.7	A
	$I_D @ T_C = 100$	11.3	A
Pulsed Drain Current	I_{DM}	55	A
Total Power Dissipation	$P_D @ T_C = 25$	80	W
Total Power Dissipation	$P_D @ T_A = 25$	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}	150	mJ
Avalanche Current @ $L = 0.1mH$	I_{AS}	60	A

Thermal resistance

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R _{thJC}	-	-	1.6	° C/W
Thermal resistance, junction - ambient	R _{thJA}	-	-	50	° C/W
Soldering temperature, wavesoldering for 10s	T _{sold}	-	-	265	° C

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250uA	60			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} =60V, 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	G _{9 ID}	V _{GS} =10V, I _D =16A				
		V _{GS} =4.5V, I _D =10A				
Forward Transconductance	g _{FS}	V _{DS} =25V, I _D =8A				
Source-drain voltage	V _{SD}	I _S =16A				

Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	C _{iss}	V _{GS} =0V, V _{DS} =20V f = 1MHz	-	4100	-	pF
Output capacitance	C _{oss}		-	226	-	
Reverse transfer capacitance	C _{rss}		-	144	-	

Switching Parameters(T_a = 25)

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Total gate charge	Q _g	V _{DD} = 25V	-	58	-	nC
Gate - Source charge	Q _{gs}	I _D = 15A	-	14.8	-	
Gate - Drain charge	Q _{gd}	V _{GS} = 10V	-	6.9	-	
Body Diode Reverse Recovery Time	t _{rr}	I _F =20A, di/dt=100A/μs		27		nS
Body Diode Reverse Recovery Charge	Q _{rr}	I _F =20A, di/dt=100A/μs		65		nC

Note:

Fig.1 Gate-Charge Characteristics

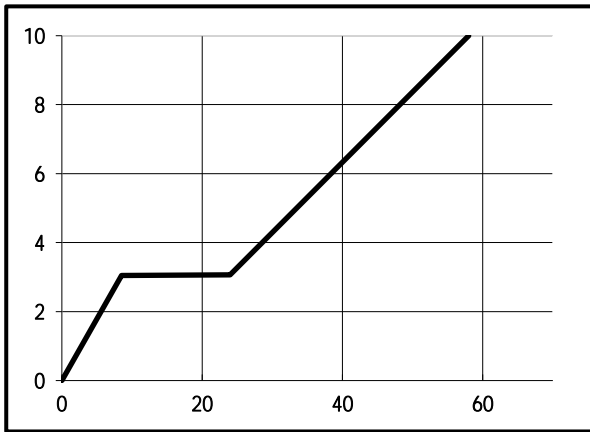


Fig.2 Capacitance Characteristics

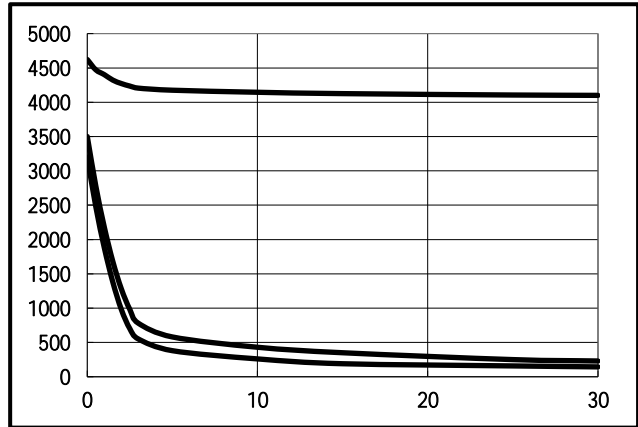


Fig.3 Power Dissipation

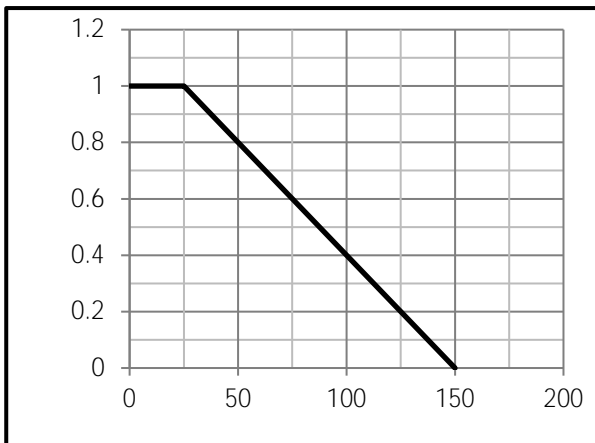


Fig.4 Typical output Characteristics

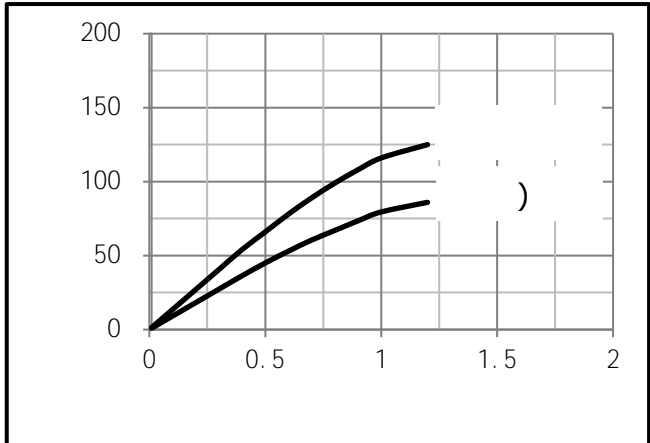


Fig.5 Threshold Voltage V.S Junction Temperature

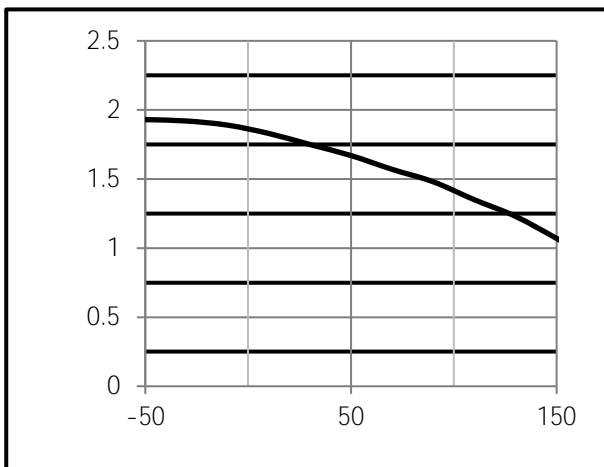
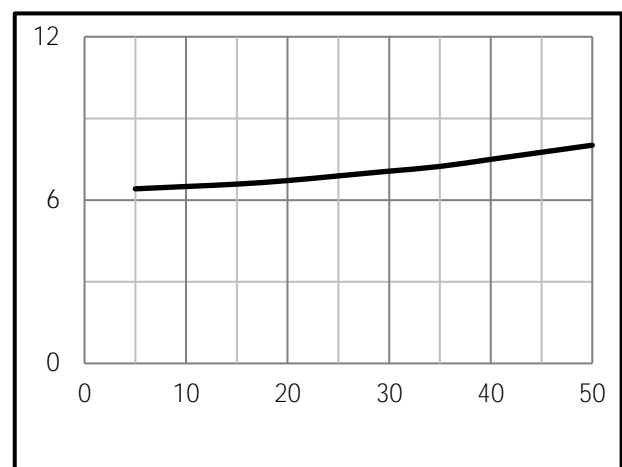


Fig.6 Resistance V.S Drain Current





D "G

- D "G

I

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		