

General Description

The ZM085N03S combines advanced trench MOSFET technology with a low resistance package to provide extremely low $R_{DS(ON)}$.

Features

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

Application

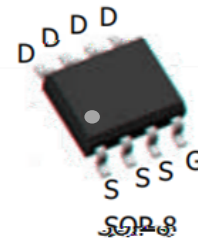
Product Summary



$V_{DS}=30V$

$R_{DS(ON)} = 8m$

$I_D=15A$



Ordering Information:

Part NO.	ZM085N03S
Marking	ZM085N03
Packing Information	REEL TAPE
Basic ordering unit (pcs)	4000

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	$I_D@T_C=25$	15	A
	$I_D@T_C=75$	11.4	A
	$I_D@T_C=100$	9.5	A
Pulsed Drain Current	I_{DM}	35	A
Total Power Dissipation	$P_D@T_C=25$	3.1	W
Total Power Dissipation	$P_D@T_A=25$	0.69	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}	43	mJ

Thermal resistance

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R_{thJC}	-	-	40	$^{\circ}C/W$
Thermal resistance, junction - ambient	R_{thJA}	-	-	180	$^{\circ}C/W$
Soldering temperature, wavesoldering for 10s	T_{sold}	-	-	265	$^{\circ}C$

Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{GS} = V_{DS}, I_D = 250\mu A$	1.2		2.5	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0V$			1.0	μA
Gate- Source Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			100	nA
Static Drain-source On Resistance	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 12A$				
		$V_{GS} = 4.5V, I_D = 6A$				
Forward Transconductance	g_{FS}	$V_{DS} = 25V, I_D = 10A$				
Source-drain voltage	V_{SD}	$I_S = 12A$				

Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	C_{iss}		-	1200	-	
Output capacitance	C_{oss}	$f = 1MHz$	-	235	-	pF

Fig.1 Power Dissipation

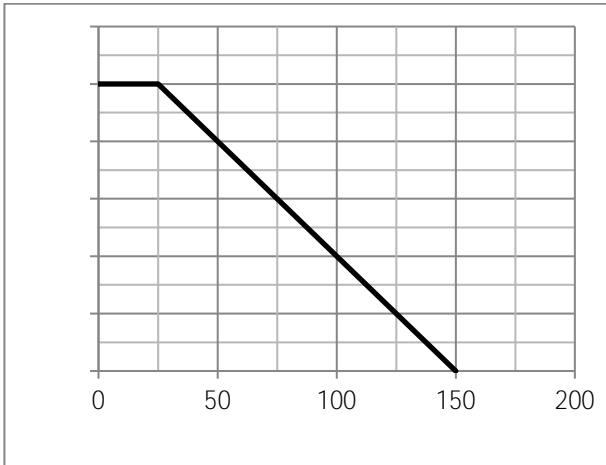


Fig.2 Typical output Characteristics

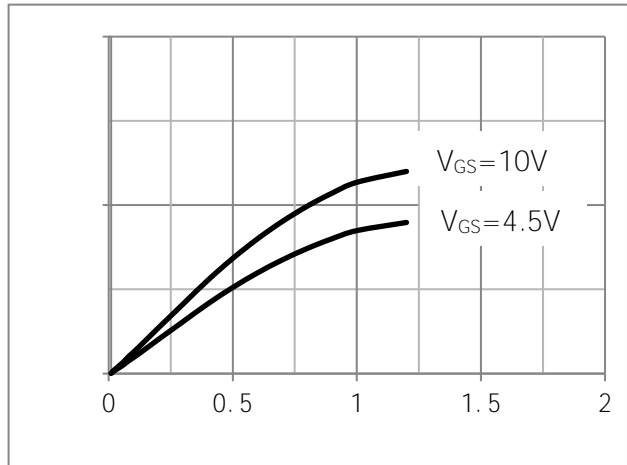


Fig.3 Threshold Voltage V.S Junction Temperature

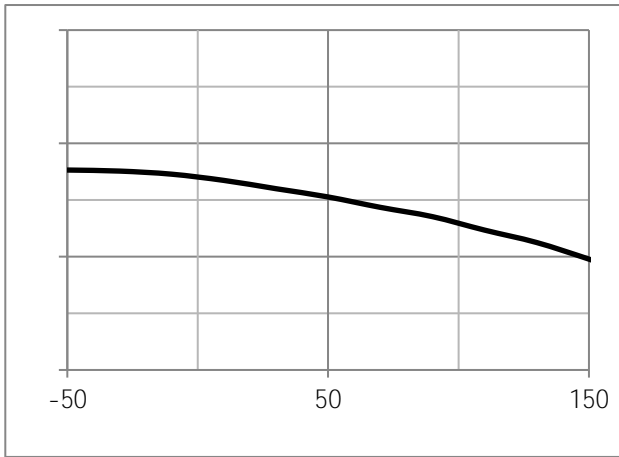


Fig.4 Resistance V.S Drain Current

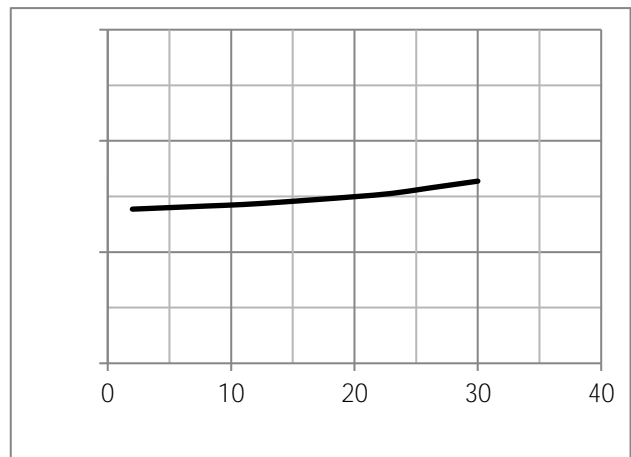


Fig.5 On-Resistance VS Gate Source Voltage

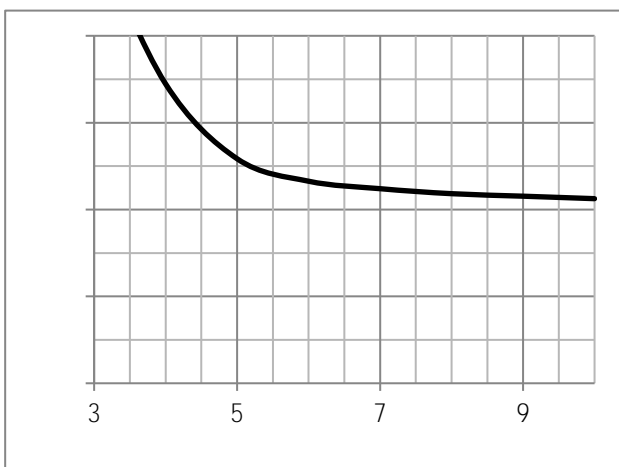


Fig.6 On-Resistance V.S Junction Temperature

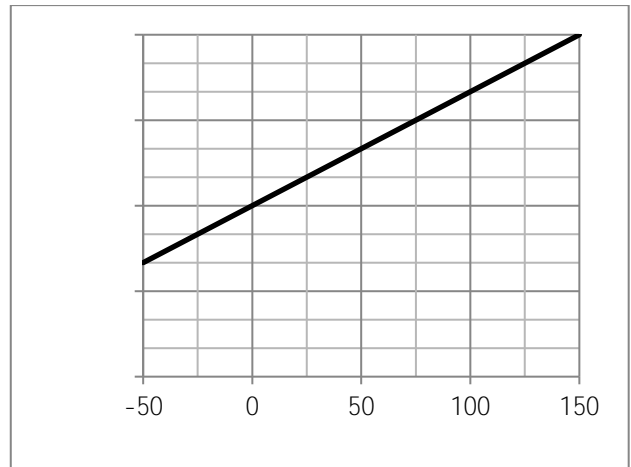




Fig.7 Switching Time Measurement Circuit

Fig.8 Gate Charge Waveform

Dimensions(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

