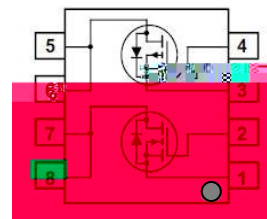


**Product Summary**

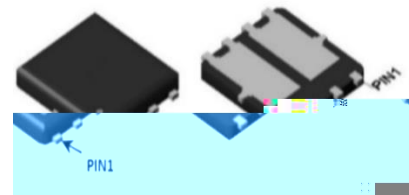
It combines advanced trench MOSFET technology with a low resistance package to provide extremely low  $R_{DS(ON)}$ . It combines one N channel MOSFET and one P channel MOSFET.



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



Dual DIE in one package



Power Management in Notebook Computer  
 BLDC Motor driver

Part NO.	ZMC88403N
Marking	ZMC88403
Packing Information	REEL TAPE
Basic ordering unit (pcs)	3000

**Thermal resistance**

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	$R_{thJC}$	-	-	1.5	$^{\circ}C/W$
Thermal resistance, junction - ambient	$R_{thJA}$	-	-	37	$^{\circ}C/W$
Soldering temperature, wavesoldering for 10s	$T_{sold}$	-	-	265	$^{\circ}C$

**N Channel Absolute Maximum Ratings  $T_C = 25$** 

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	40	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_D@TC=25$	26	A
	$I_D@TC=75$	20	A
	$I_D@TC=100$	16	A

Pulsed Drain Current	$I_{DM}$	78	A
Total Power Dissipation	$P_D@T_C=25$	42	W
Total Power Dissipation	$P_D@T_A=25$	1.7	W
Operating Junction Temperature	$T_J$	-55 to 150	
Storage Temperature	$T_{STG}$	-55 to 150	
Single Pulse Avalanche Energy	$E_{AS}$	55	mJ

**P Channel Absolute Maximum Ratings  $T_C = 25$** 

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	-40	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_{D@T_C=25}$	-18	A
	$I_{D@T_C=75}$	-13.6	A
	$I_{D@T_C=100}$	-11	A
Pulsed Drain Current	$I_{DM}$	-54	A
Total Power Dissipation	$P_D@T_C=25$	42	W
Total Power Dissipation	$P_D@T_A=25$	1.7	W
Operating Junction Temperature	$T_J$	-55 to 150	
Storage Temperature	$T_{STG}$	-55 to 150	
Single Pulse Avalanche Energy	$E_{AS}$	51	mJ

**N Channel Electronic Characteristics**

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	40			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	$I_{DSS}$	$V_{DS} = 40V, V_{GS} = 0V$			1.0	$\mu A$
Gate- Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0V$			...100	nA
Static Drain-source On Resistance		$V_{GS} = 10V, I_D = 8A$		13	17	m
		$V_{GS} = 4.5V, I_D = 6A$		18	24	m
Forward Trans conductance	$g_{FS}$	$V_{DS} = 25V, I_D = 6A$		10		S

Source-drain voltage 0 0 1 223.1



N Channel characteristics curve

Fig.1 Power Dissipation Derating Curve

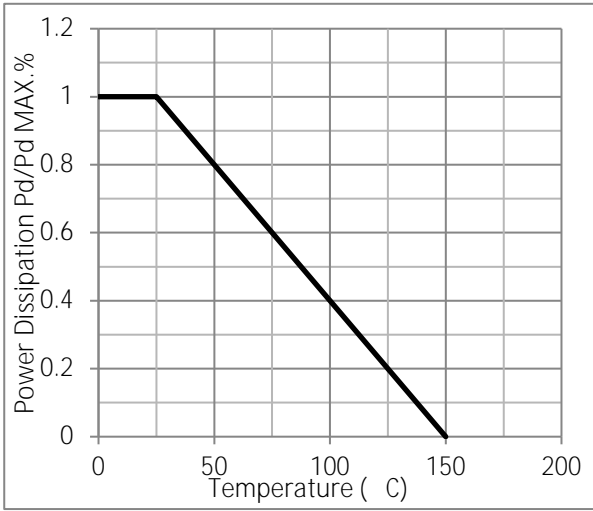


Fig.2 Typical output Characteristics

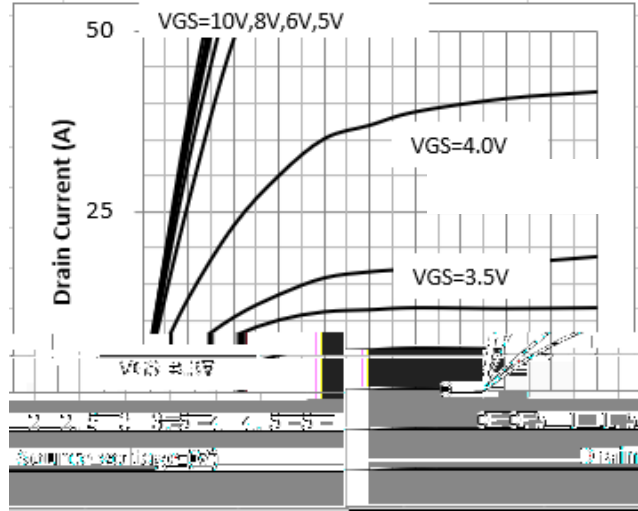
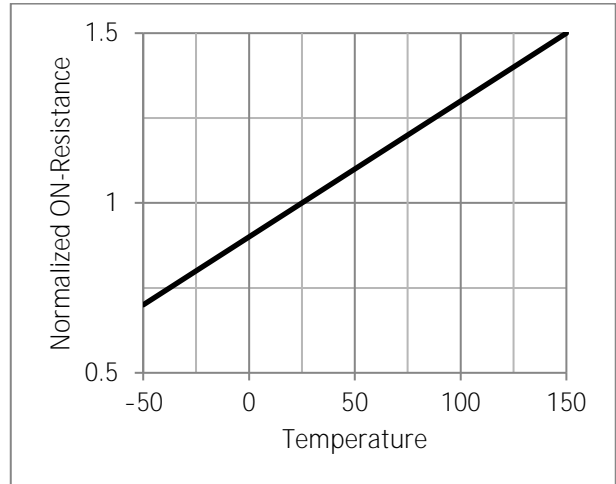
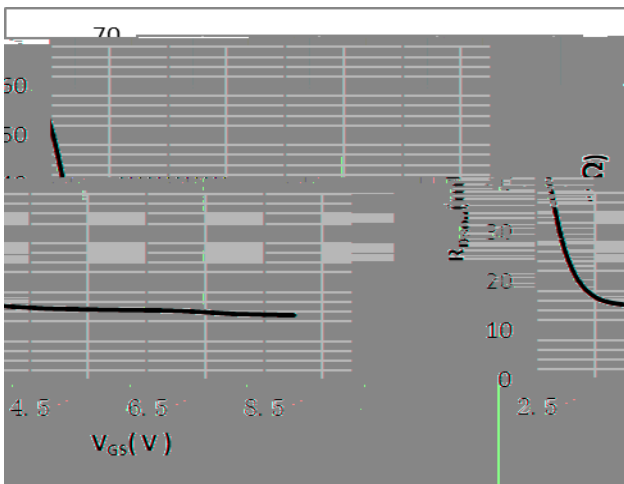
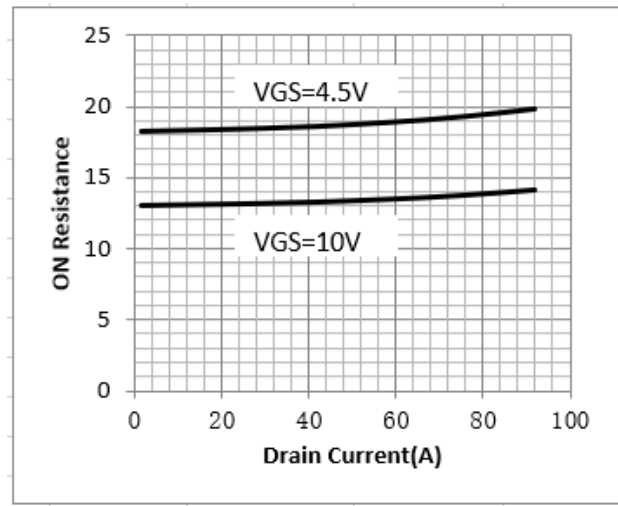


Fig.3 Threshold Voltage V.S Junction Temperature



Fig.4 Resistance V.S Drain Current







**Test Circuit**

Fig.1 Switching Time Measurement Circuit

Fig.2 Gate Charge Waveform

Fig.3 Fig.

