L I

Product Summary

The ZMP68304S combines advanced trench MOSFET technology with a low resistance package to provide extremely low $R_{DS(ON)}$. Two P Channel MOSFET inside for dual DIE implication.

density Trench technology

$_{DS(ON)}$ to minimize conductive loss

Dual DIE in one package

F

Power Management in Notebook Computer

BLDC Motor driver

T

P Channel 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	$I_{D@}$TC=25	-5	A
	$I_{D@}$TC=75	-3.8	A
	$I_{D@}$TC=100	-3.2	A
Pulsed Drain Current	I_{DM}	-10	A
Total Power Dissipation(TC=25)	P_D@TC=25	3.6	W
Total Power Dissipation(TA=25)	P_D@TA=25	0.69	W
Operating Junction Temperature	T_J	-55 to 150	
Storage Temperature	T_{STG}	-55 to 150	
Single Pulse Avalanche Energy	E_{AS}	25	mJ

Thermal resistance

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R_{thJC}	-	-	34	° C/W
Thermal resistance, junction - ambient	R_{thJA}	-	-	180	° C/W
Soldering temperature, wavesoldering for 10s	T_{sold}	-	-	265	° C

Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} =0V,I_D =-250uA	-30			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}=-30V, V_{GS} =0V			-1.0	uA
Gate- Source Leakage Current	I_{GSS}	V_{GS}=±12V ,V_{DS} =0V			100	nA
Static Drain-source On Resistance		V_{GS}=-10V, I_D=-20A				
		V_{GS}=-4.5V, I_D=-10A				
Forward Transconductance	g_{FS}	V_{DS} =-10V, I_D=-5A				
Source-drain voltage	V_{SD}	Is=-20A				

H

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	C_{iss}	f = 1MHz	-	550	-	pF
Output capacitance	C_{oss}		-	230	-	
Reverse transfer capacitance	C_{rss}		-	113	-	

Gate Charge characteristics(T_a = 25)

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Total gate charge	Q_g	V_{DD} =25V	-	10	-	nC
Gate - Source charge	Q_{gs}	I_D = 2A	-	4	-	
Gate - Drain charge	Q_{gd}	V_{GS} = 10V	-	6	-	