



General Description

The ZM100N04D 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.

Features

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

Application

nd Synchronous Rectifier

Product Summary



Ordering Information:

Part NO.	ZM100N04D
Marking	ZM100N04
Packing Information	REEL TAPE
Basic ordering unit (pcs)	2500

Absolute Maximum Ratings $T_C = 25$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	45	V
Gate-Source Voltage	V_{GS}	20	V
Continuous Drain Current	$I_D@TC=25^{\circ}C$	35	A
	$I_D@TC=75^{\circ}C$	26.6	A
	$I_D@TC=100^{\circ}C$	22.1	A
Pulsed Drain Current ①	I_{DM}	80	A
Total Power Dissipation($TC=25^{\circ}C$)	$P_D@TC=25^{\circ}C$	85	W
Total Power Dissipation($TA=25^{\circ}C$)	$P_D@TA=25^{\circ}C$	3.5	W
Operating Junction Temperature	T_J	-55 to 150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to 150	$^{\circ}C$

**Thermal resistance**

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R_{thJC}	-	-	1.5	° C/W
Thermal resistance, junction - ambient	R_{thJA}	-	-	35	° C/W
Soldering temperature, wave soldering for 10s	T_{sold}	-	-	265	° C

Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	45			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}	$V_{DS}=45V, V_{GS}=0V$			1.0	μA
Gate- Source Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
Static Drain-source On Resistance		$V_{GS}=10V, I_D=20A$		13	16	m Ω
		$V_{GS}=4.5V, I_D=10A$		17	22	m Ω
Forward Trans conductance	g_{FS}	$V_{DS}=10V, I_D=10A$		12		s
Source-drain voltage	V_{SD}	$I_S=20A$			1.28	V

Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	C_{iss}	F=1MHZ	-	1190	-	pF
Output capacitance	C_{oss}		-	290	-	
Reverse transfer capacitance	C_{rss}		-	100	-	

Gate Charge characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Total gate charge	Q_g	$V_{DD}=25V$	-	20	-	nC
Gate - Source charge	Q_{gs}	$I_D=30A$	-	6	-	
Gate - Drain charge	Q_{gd}	$V_{GS}=10V$	-	8	-	

Note: ①

;



