

General Description

The ZM120P04S 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

Ind Synchronous Rectifier

Product Summary

Ordering Information:

Part NO.	
Marking	
Packing Information	
Basic ordering unit (pcs)	4000

Absolute Maximum Ratings (T_C = 25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V _{DS}	-40	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current	I _{D@TC=25°C}	-10	A
	I _{D@TC=75°C}	-7.6	A
	I _{D@TC=100°C}	-6.3	A
Pulsed Drain Current	I _{DM}	-30	A
Total Power Dissipation	P _{D@TC=25°C}	3.1	W
Total Power Dissipation	P _{D@TA=25°C}	0.69	W
Operating Junction Temperature	T _J	-55 to 150	°C
Storage Temperature	T _{STG}	-55 to 150	°C
Single Pulse Avalanche Energy @L=0.1mH	E _{AS}	125	mJ
Avalanche Current @L=0.1mH	I _{AS}	50	A

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}	$V_{GS}=0V, I_D=-250\mu A$	-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	μA
Gate- Source Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
Static Drain-source On Resistance		$V_{GS}=-10V, I_D=-10A$		12	16	$m\Omega$
		$V_{GS}=-4.5V, I_D=-10A$		17	21	$m\Omega$
Forward Transconductance	g_{FS}	$V_{DS}=15V, I_D=-2A$		20		S
Source-Drain Leakage Current	I_{SD}	$V_{SD}=-10V, I_G=0A$			1.28	μA

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
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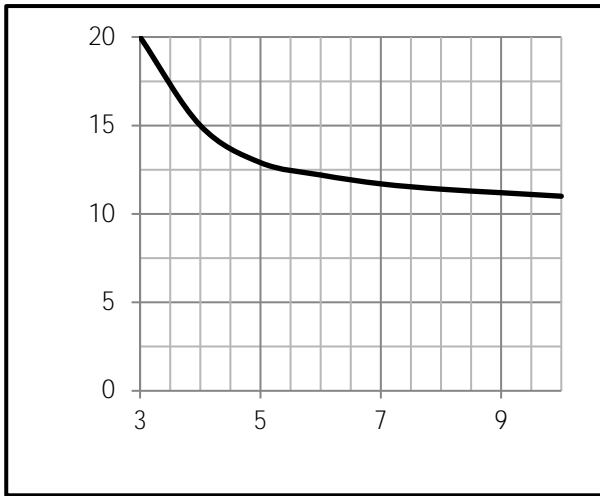


Fig.9 Switching Time Measurement Circuit

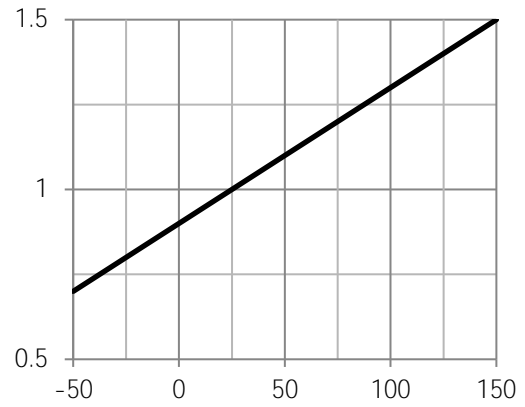


Fig.10 Gate Charge Waveform

Fig.11 Switching Time Measurement Circuit

Fig.12 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

