

General Description

The CMN3402ZM uses advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. This device is suitable for use as a load switch or in PWM applications.

Features

- $R_{DS(ON)} < 38m\Omega$ @ $V_{GS}=10V$
- $R_{DS(ON)} < 60m\Omega$ @ $V_{GS}=4.5V$
- Simple drive requirement
- Surface mount package

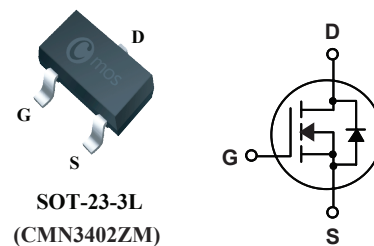
Product Summary

BVDSS	$R_{DS(on)}$ max.	ID
30V	38mΩ	4.6A

Applications

- DC/DC Converter
- Load Switch for Portable Devices

SOT-23-3L Pin Configuration



Type	Package	Marking
CMN3402ZM	SOT-23-3L	3402

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	±20	V
$I_D@T_A=25^\circ C$	Continuous Drain Current	4.6	A
$I_D@T_A=70^\circ C$	Continuous Drain Current	3.9	A
I_{DM}	Pulsed Drain Current	20	A
$P_D@T_A=25^\circ C$	Total Power Dissipation	1.4	W
T_{STG}	Storage Temperature Range	-55 to 150	°C
T_J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	90	°C/W

Electrical Characteristics (T_J=25°C , unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V , I _D =250uA	30	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =6A	---	31	38	mΩ
		V _{GS} =4.5V , I _D =5A	---	46	60	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	1.0	---	3.0	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =24V , V _{GS} =0V	---	---	1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±20V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =5V , I _D =5A	---	4	---	S
Q _g	Total Gate Charge	I _D =4A	---	6	---	nC
Q _{gs}	Gate-Source Charge	V _{DS} = 15V	---	1.2	---	
Q _{gd}	Gate-Drain Charge	V _{GS} = 4.5V	---	3	---	
T _{d(on)}	Turn-On Delay Time	V _{DS} = 15V	---	3	---	ns
T _r	Rise Time	R _{GEN} =3.3Ω	---	35	---	
T _{d(off)}	Turn-Off Delay Time	V _{GS} =10V	---	14	---	
T _f	Fall Time	I _D =4A	---	5	---	
C _{iss}	Input Capacitance	V _{DS} =15V , V _{GS} =0V , f=1MHz	---	320	---	pF
C _{oss}	Output Capacitance		---	50	---	
C _{rss}	Reverse Transfer Capacitance		---	40	---	

Diode Characteristics

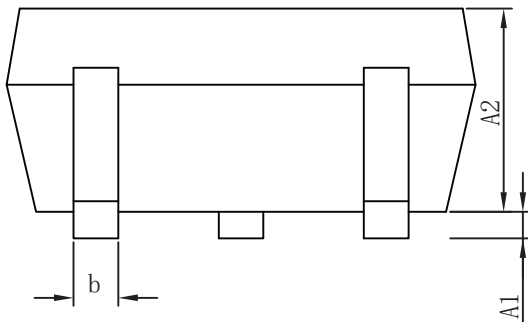
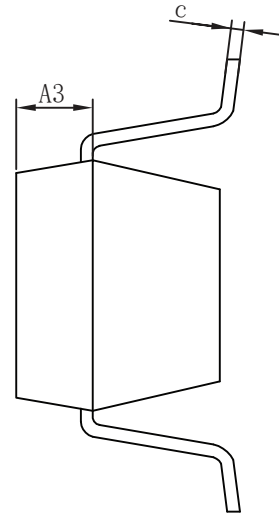
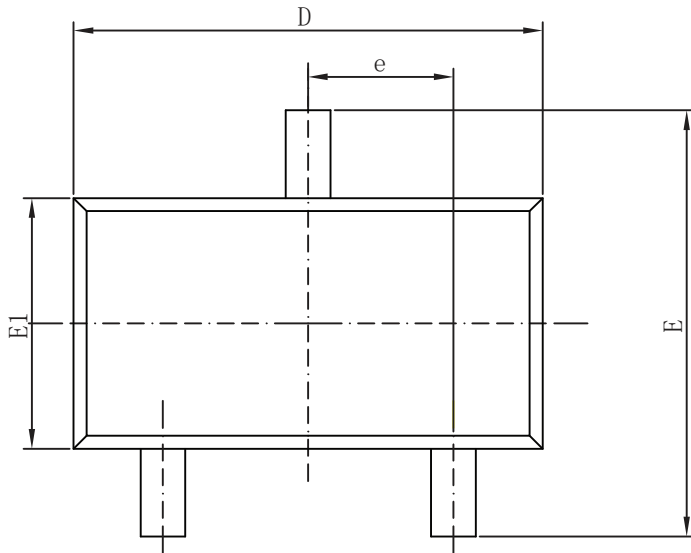
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V , Force Current	---	---	4.6	A
I _{SM}	Pulsed Source Current		---	---	20	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =1A , T _J =25°C	---	---	1.2	V
t _{rr}	Reverse Recovery Time	I _F =4A , T _J =25°C	---	8.7	---	ns
Q _{rr}	Reverse Recovery Charge	di/dt =100 A/μs	---	2.3	---	nC

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 Cmos assumes no liability for customers' product design or applications.
 Cmos reserves the right to improve product design ,functions and reliability without notice.Please refer to the latest version of specification.

Package Dimension

SOT-23-3L

Unit :mm



Dimensions In Millimeters			
Symbol	Min.	Max.	Ave.
A1	0.000	0.200	0.100
A2	1.000	1.200	1.100
A3	0.350	0.550	0.450
D	2.700	3.100	2.900
E	2.600	3.100	2.850
E1	1.400	1.800	1.600
b	0.250	0.450	0.350
e	0.850	1.050	0.950
c	0.080	0.200	0.130