

General Description

The CMN2328TM combines advanced trench MOSFET technology with a low resistance package to provide extremely low RDS(ON). This device is ideal for boost converters and synchronous rectifiers for consumer, telecom, industrial power supplies and LED backlighting.

Features

- RDS(ON)<103mΩ @ VGS=10V
- RDS(ON)<108mΩ @ VGS=4.5V
- SOT-23-3L Package

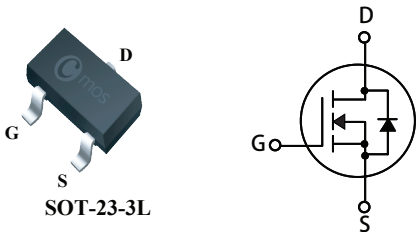
Product Summary

BVDSS	RDSON	ID
100V	103mΩ	4.5A

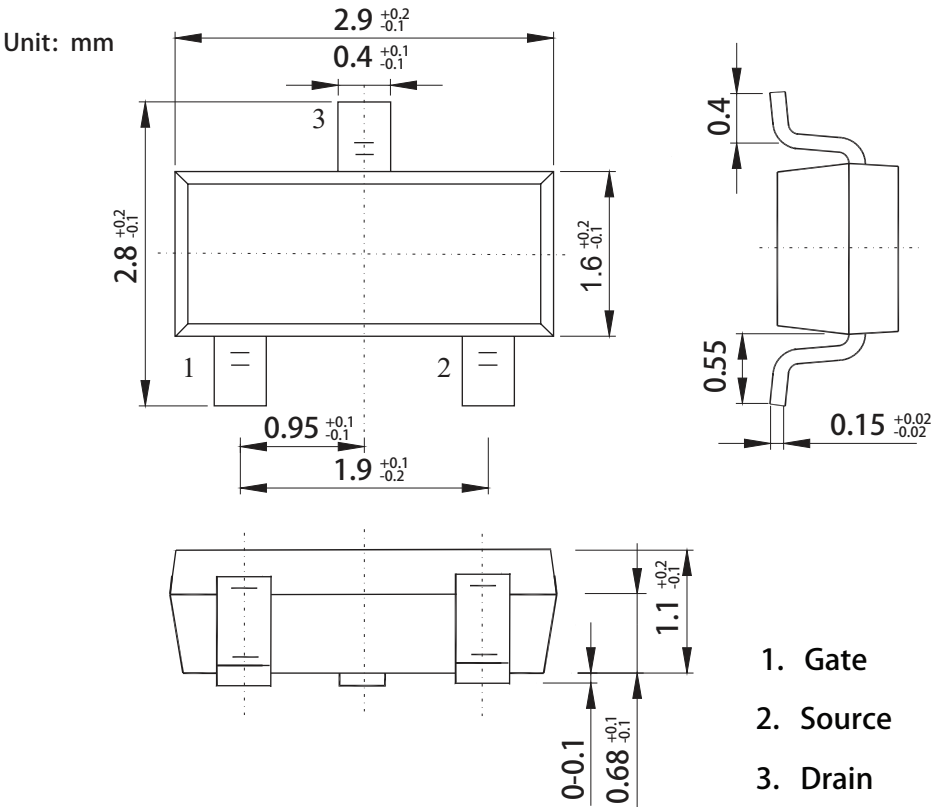
Applications

- DC-DC converters
- Load Switch
- System Switch

SOT-23-3L Pin Configuration



Type	Package	Marking
CMN2328TM	SOT-23-3L	2328



N-Channel Enhancement Mode Field Effect Transistor

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	100	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_C=25^\circ\text{C}$	Continuous Drain Current	4.5	A
I_{DM}	Pulsed Drain Current	15	A
$P_D@T_C=25^\circ\text{C}$	Total Power Dissipation	3	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ\text{C}$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	100	$^\circ\text{C}/\text{W}$

Electrical Characteristics ($T_J=25^\circ\text{C}$, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0\text{V}$, $I_D=250\mu\text{A}$	100	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10\text{V}$, $I_D=2.8\text{A}$	---	---	103	m Ω
		$V_{GS}=4.5\text{V}$, $I_D=1\text{A}$	---	---	108	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu\text{A}$	1	---	2.5	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=100\text{V}$, $V_{GS}=0\text{V}$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20\text{V}$, $V_{DS}=0\text{V}$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=5\text{V}$, $I_D=0.5\text{A}$	---	4	---	S
Q_g	Total Gate Charge	$V_{DS}=50\text{V}$, $I_D=5\text{A}$ $V_{GS}=10\text{V}$	---	12	---	nC
Q_{gs}	Gate-Source Charge		---	3	---	
Q_{gd}	Gate-Drain Charge		---	2	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=30\text{V}$, $V_{GS}=10\text{V}$, $R_{GEN}=1.8\Omega$ $I_D=5\text{A}$	---	4	---	ns
T_r	Rise Time		---	26	---	
$T_{d(off)}$	Turn-Off Delay Time		---	17	---	
T_f	Fall Time		---	9	---	
C_{iss}	Input Capacitance	$V_{DS}=25\text{V}$, $V_{GS}=0\text{V}$, $f=1\text{MHz}$	---	1500	---	pF
C_{oss}	Output Capacitance		---	55	---	
C_{rss}	Reverse Transfer Capacitance		---	40	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	$V_{GS}=0\text{V}$, $I_S=1\text{A}$	---	---	1.2	V

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