

CMN2N15M



150V, 320mΩ typ., 2A N-Channel MOSFET

General Description

The CMN2N15M uses advanced trench technology and design to provide excellent RDS(ON). It can be used in a wide variety of applications.

Features

- RDS(ON)<450mΩ @ VGS=10V
- RDS(ON)<500mΩ @ VGS=4.5V
- SOT-23-3L Package
- RoHS Compliant

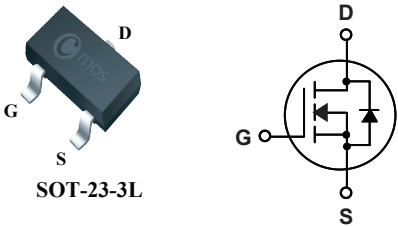
Product Summary

BVDSS	RDS(on) max.	ID
150V	450mΩ	2A

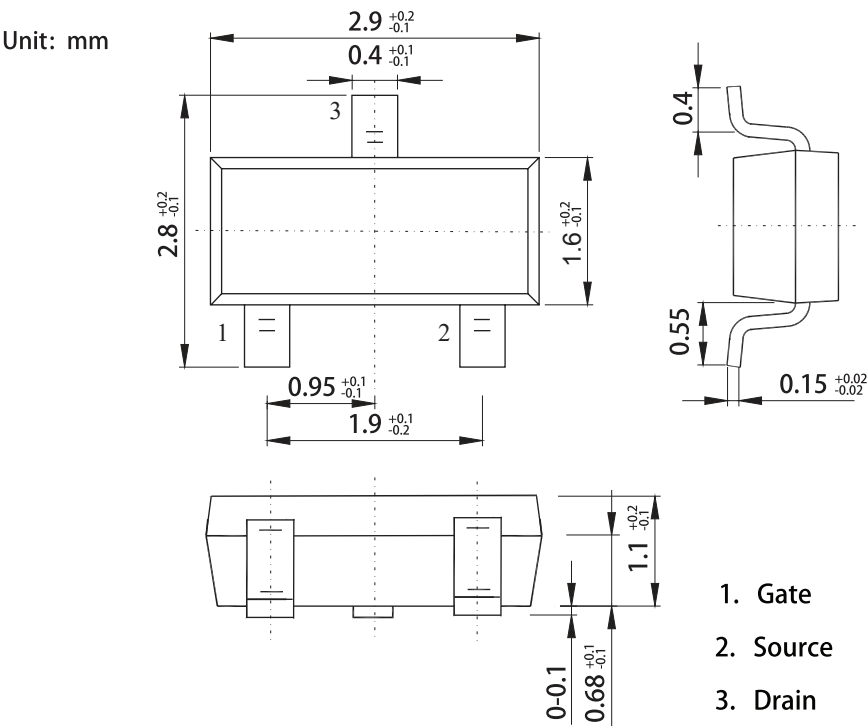
Applications

- DC/DC Converter

SOT-23-3L Pin Configuration



Type	Package	Marking
CMN2N15M	SOT-23-3L	2N15M



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	150	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D @ T_A=25^\circ\text{C}$	Continuous Drain Current	2	A
I_{DM}	Pulsed Drain Current	8	A
$P_D @ T_A=25^\circ\text{C}$	Total Power Dissipation	1.5	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	Rating	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	83	$^\circ\text{C}/\text{W}$

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0\text{V}$, $I_D=250\mu\text{A}$	150	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10\text{V}$, $I_D=2\text{A}$	---	320	450	mΩ
		$V_{GS}=4.5\text{V}$, $I_D=1\text{A}$	---	330	500	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu\text{A}$	1.0	---	3.0	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=120\text{V}$, $V_{GS}=0\text{V}$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20\text{V}$, $V_{DS}=0\text{V}$	---	---	± 100	nA
R_g	Gate Resistance	$V_{DS}=0\text{V}$, $V_{GS}=0\text{V}$, $f=1\text{MHz}$	---	2.3	---	Ω
Q_g	Total Gate Charge	$I_D=1.4\text{A}$	---	9	---	nC
Q_{gs}	Gate-Source Charge	$V_{DS}=75\text{V}$	---	1.5	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=10\text{V}$	---	2.3	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=75\text{V}$	---	6.5	---	ns
T_r	Rise Time	$I_D=1\text{A}$	---	3.5	---	
$T_{d(off)}$	Turn-Off Delay Time	$R_{GEN}=6\Omega$	---	22	---	
T_f	Fall Time	$V_{GS}=10\text{V}$	---	4	---	
C_{iss}	Input Capacitance	$V_{DS}=25\text{V}$, $V_{GS}=0\text{V}$, $f=1\text{MHz}$	---	410	---	pF
C_{oss}	Output Capacitance		---	20	---	
C_{rss}	Reverse Transfer Capacitance		---	10	---	

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

This product has been designed and qualified for the consumer market.

CMOS assumes no liability for customers' product design or applications.

CMOS reserves the right to improve product design, functions and reliability without notice.

Typical Characteristics

