

### General Description

The CMN2N10M 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)<240mΩ @ VGS=10V
- RDS(ON)<275mΩ @ VGS=4.5V
- SOT-23-3L Package

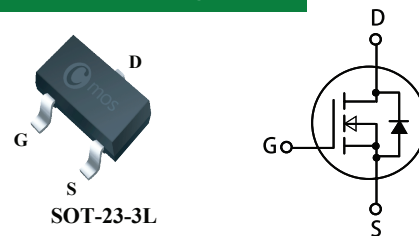
### Product Summary

BVDSS	RDSON	ID
100V	240mΩ	2A

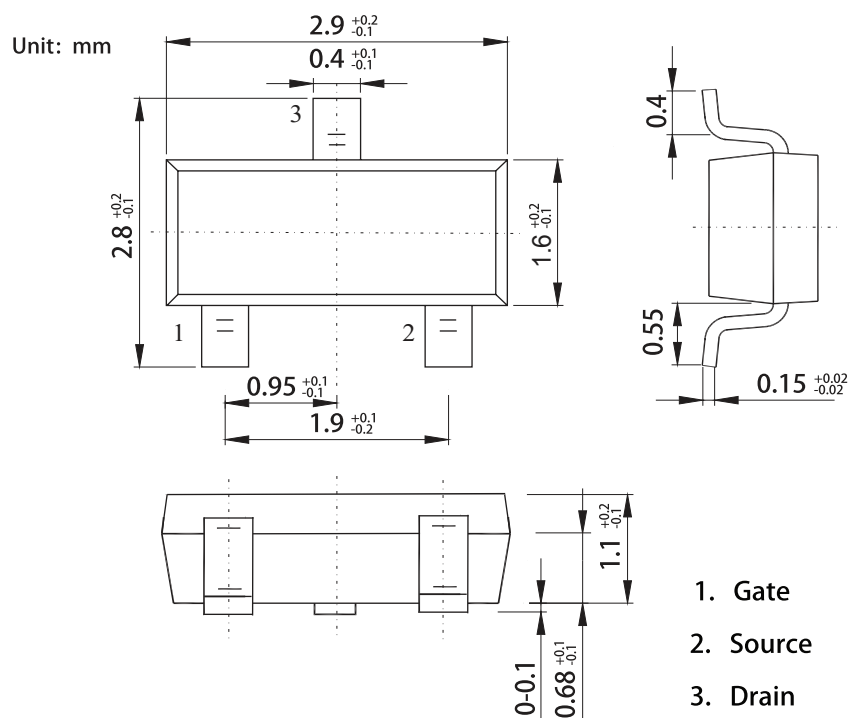
### Applications

- DC-DC converters
- Load Switch
- System Switch

### SOT-23-3L Pin Configuration



Type	Package	Marking
CMN2N10M	SOT-23-3L	2N10M



### Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
$V_{DS}$	Drain-Source Voltage	100	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D@T_C=25^\circ C$	Continuous Drain Current	2	A
$I_{DM}$	Pulsed Drain Current	6	A
$P_D@T_C=25^\circ C$	Total Power Dissipation	1.25	W
$T_{STG}$	Storage Temperature Range	-55 to 150	$^\circ C$
$T_J$	Operating Junction Temperature Range	-55 to 150	$^\circ C$

### Thermal Data

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

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	100	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V, I_D=1A$	---	---	240	m $\Omega$
		$V_{GS}=4.5V, I_D=0.5A$	---	---	275	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}, I_D=250\mu A$	1	---	3	V
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=100V, V_{GS}=0V$	---	---	1	$\mu A$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	---	---	$\pm 100$	nA
$g_{fs}$	Forward Transconductance	$V_{DS}=10V, I_D=20A$	---	2.5	---	S
$Q_g$	Total Gate Charge	$V_{DS}=80V, I_D=1A$ $V_{GS}=10V$	---	10	---	nC
$Q_{gs}$	Gate-Source Charge		---	1.5	---	
$Q_{gd}$	Gate-Drain Charge		---	1.7	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=50V, V_{GS}=10V, R_G=3.3\Omega$ $I_D=1A$	---	2	---	ns
$T_r$	Rise Time		---	20	---	
$T_{d(off)}$	Turn-Off Delay Time		---	15	---	
$T_f$	Fall Time		---	21	---	
$C_{iss}$	Input Capacitance	$V_{DS}=15V, V_{GS}=0V, f=1MHz$	---	425	---	pF
$C_{oss}$	Output Capacitance		---	120	---	
$C_{rss}$	Reverse Transfer Capacitance		---	65	---	

### Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_{SD}$	Diode Forward Voltage	$V_{GS}=0V, I_S=2A$	---	---	1.2	V

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