

General Description

This MOSFET utilizes a unique structure that combines the benefits of low on-resistance with fast switching speed, making it ideal for high-efficiency power management applications.

Features

- $R_{DS(ON)} < 200\text{m}\Omega$ @ $V_{GS} = -10\text{V}$
- SOT-23-3L package

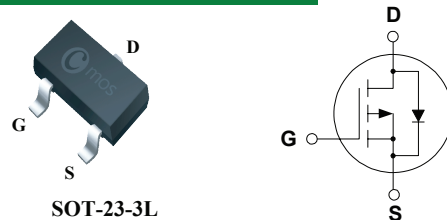
Product Summary

BVDSS	RDSON	ID
-100V	200mΩ	-1.5A

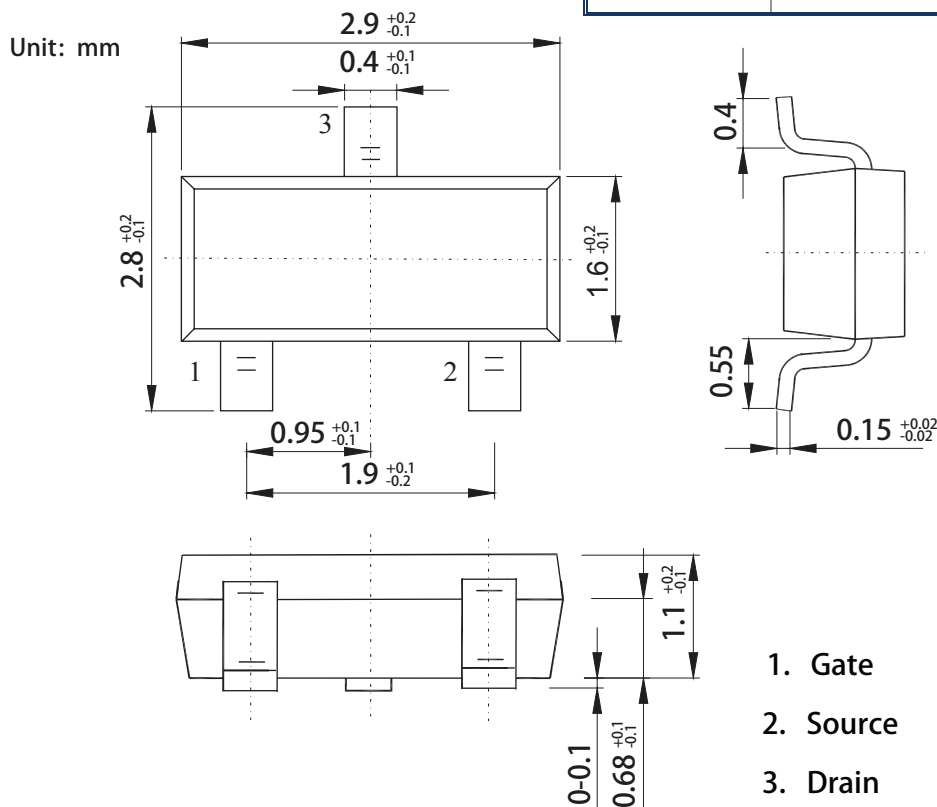
Applications

- DC-DC converters
- Relay and solenoid driving
- Power management functions
- Load switch

SOT-23-3L Pin Configuration



Type	Package	Marking
CMN1029M	SOT-23-3L	1029



P-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	Continuous Drain Current	-1.5	A
I_{DM}	Pulsed Drain Current	-5	A
$P_D@T_A=25^\circ C$	Total Power Dissipation	1.25	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ C$
T_J	Operating Junction Temperature Range	150	$^\circ C$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-abmient ($t \leq 5s$)	---	120	$^\circ C/W$

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	$V_{GS}=-10V, I_D=-5A$	---	---	200	$m\Omega$
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}, I_D=-250\mu A$	-1	---	-3	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=-80V, V_{GS}=0V$	---	---	-1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=-10V, I_D=-2A$	---	5.3	---	S
Q_g	Total Gate Charge	$V_{DS}=-50V, I_D=-2A$ $V_{GS}=-10V$	---	30	---	nC
Q_{gs}	Gate-Source Charge		---	3.5	---	
Q_{gd}	Gate-Drain Charge		---	6	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=-30V, R_{GEN}=3\Omega$ $I_D=-1A, V_{GS}=-10V$	---	38	---	ns
T_r	Turn-On Rise Time		---	18	---	
$T_{d(off)}$	Turn-Off Delay Time		---	51	---	
T_f	Turn-On Fall Time		---	6	---	
C_{iss}	Input Capacitance	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$	---	1500	---	pF
C_{oss}	Output Capacitance		---	100	---	
C_{rss}	Reverse Transfer Capacitance		---	40	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	$V_{GS}=0V, I_S=-5A$	---	---	-1.2	V