

### General Description

The CMN3419M is P-channel enhancement mode Power MOSFET, designed in serried ranks. With fast switching speed, low on-resistance, favorable stabilization. Used in commercial and industrial surface mount applications and suited for low voltage applications such as DC/DC converters.

### Features

- $R_{DS(ON)} < 72m\Omega @ V_{GS} = -10V$
- $R_{DS(ON)} < 90m\Omega @ V_{GS} = -4.5V$
- Simple drive requirement
- Surface mount package

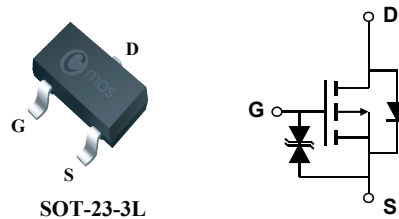
### Product Summary

BVDSS	RDSON	ID
-20V	72mΩ	-3.5A

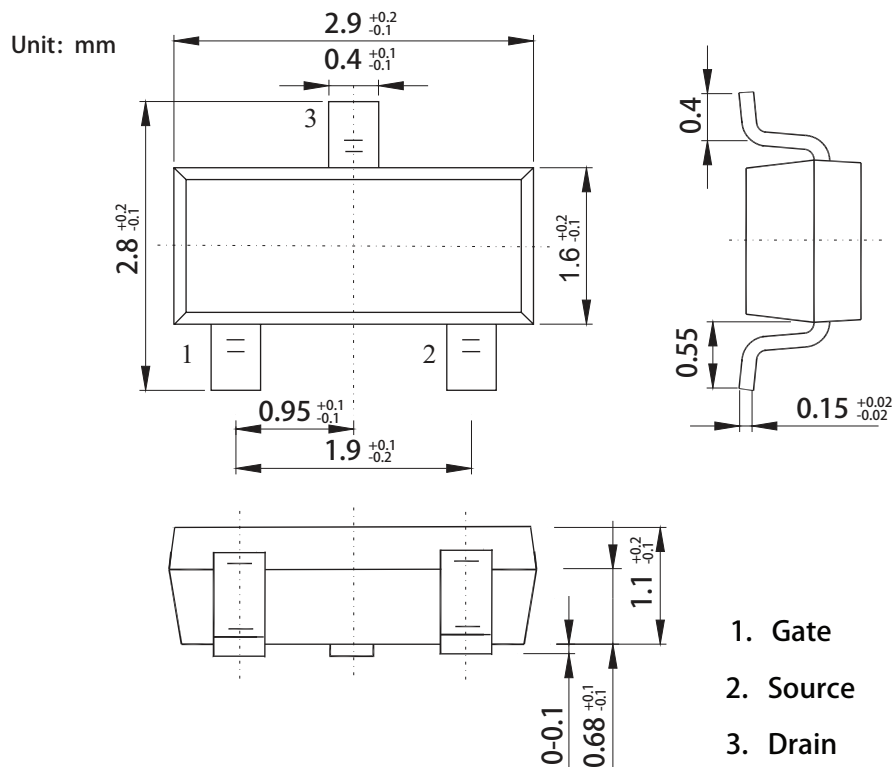
### Applications

- PWM applications
- Load switch
- Power management
- PA Switch

### SOT-23-3L Pin Configuration



Type	Package	Marking
CMN3419M	SOT-23-3L	3419



P-Channel Enhancement Mode Field Effect Transistor

**Absolute Maximum Ratings**

Symbol	Parameter	Rating	Units
$V_{DS}$	Drain-Source Voltage	-20	V
$V_{GS}$	Gate-Source Voltage	$\pm 12$	V
$I_D @ T_A=25^\circ C$	Continuous Drain Current	-3.5	A
$I_{DM}$	Pulsed Drain Current	-10.5	A
$P_D @ T_A=25^\circ C$	Total Power Dissipation	1.5	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	---	125	$^\circ C/W$

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-20	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=-10V, I_D=-3.5A$	---	60	72	m $\Omega$
		$V_{GS}=-4.5V, I_D=-3A$	---	85	90	
		$V_{GS}=-2.5V, I_D=-1A$	---	125	132	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}, I_D=-250\mu A$	-0.5	---	-1.5	V
$I_{DSS}$	Zero gate voltage drain current	$V_{DS}=-16V, V_{GS}=0V$	---	---	-1	$\mu A$
		$V_{GS}=0V, V_{DS}=-16V, T_J=55^\circ C$	---	---	-5	
$I_{GSS}$	Gate-Body Leakage current	$V_{GS}=\pm 12V, V_{DS}=0V$	---	---	$\pm 10$	$\mu A$
$Q_g$	Total Gate Charge	$I_D=-4.5A$	---	3	---	nC
$Q_{gs}$	Gate-Source Charge	$V_{DS}=-10V$	---	0.5	---	
$Q_{gd}$	Gate-Drain Charge	$V_{GS}=-3.5V$	---	1	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=-10V, V_{GS}=-10V$ $R_{GEN}=3\Omega, R_L=2.8\Omega$	---	10	---	ns
$T_r$	Rise Time		---	6	---	
$T_{d(off)}$	Turn-Off Delay Time		---	20	---	
$T_f$	Fall Time		---	8	---	
$C_{iss}$	Input Capacitance	$V_{DS}=-10V, V_{GS}=0V, f=1MHz$	---	700	---	pF
$C_{oss}$	Output Capacitance		---	65	---	
$C_{rss}$	Reverse Transfer Capacitance		---	35	---	

**Diode Characteristics**

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

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