

### General Description

The CMN6P06M uses advanced trench technology and design to provide excellent RDS(ON) with low gate charge . This device is well suited for use as a load switch or in PWM applications.

### Features

- RDS(ON)<68mΩ @ VGS=-10V
- RDS(ON)<80mΩ @ VGS=-4.5V
- Fast switching speed
- Surface mount package

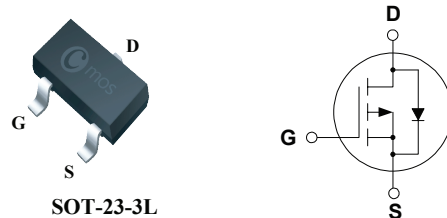
### Product Summary

BVDSS	RDSON	ID
-60V	68mΩ	-6A

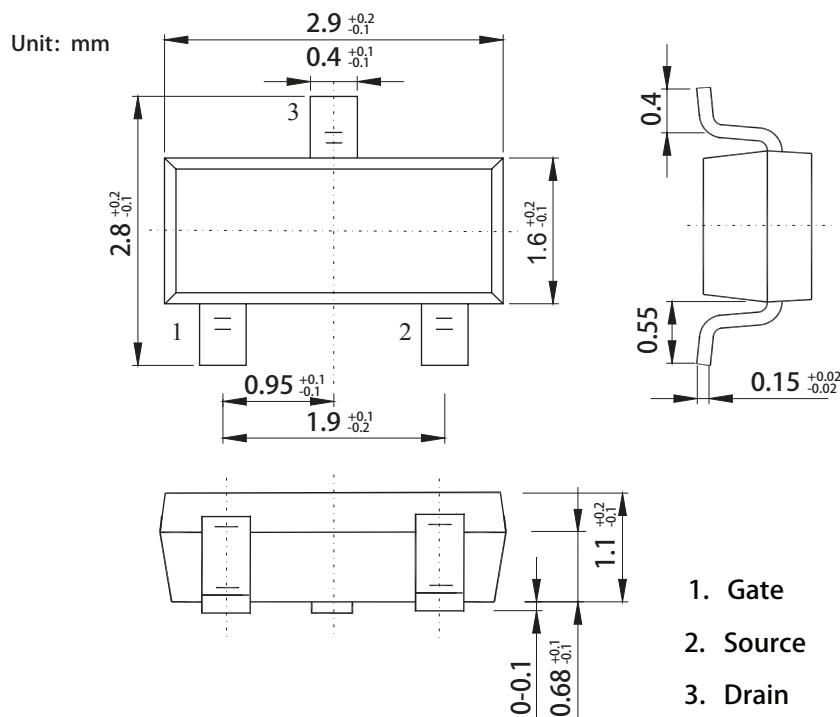
### Applications

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

### SOT-23-3L Pin Configuration



Type	Package	Marking
CMN6P06M	SOT-23-3L	6P06M



P-Channel Enhancement Mode Field Effect Transistor

**Absolute Maximum Ratings**

Symbol	Parameter	Rating	Units
$V_{DS}$	Drain-Source Voltage	-60	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Continuous Drain Current	-6	A
$I_{DM}$	Pulsed Drain Current	-18	A
$P_D@T_A=25^\circ C$	Total Power Dissipation	1.4	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	---	83.5	$^\circ C/W$

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-60	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=-10V, I_D=-3A$	---	---	68	m $\Omega$
		$V_{GS}=-4.5V, I_D=-2A$	---	---	80	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}, I_D=-250\mu A$	-1	---	-3	V
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=-60V, V_{GS}=0V$	---	---	-1	$\mu A$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	---	---	$\pm 100$	nA
$g_{fs}$	Forward Transconductance	$V_{DS}=-10V, I_D=-2A$	---	5	---	S
$Q_g$	Total Gate Charge	$I_D=-4A$	---	25	---	nC
$Q_{gs}$	Gate-Source Charge	$V_{DS}=-30V$	---	3	---	
$Q_{gd}$	Gate-Drain Charge	$V_{GS}=-10V$	---	7	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=-30V, R_G=3\Omega$ $V_{GS}=-10V, R_L=7.5\Omega$	---	8	---	ns
$T_r$	Rise Time		---	4	---	
$T_{d(off)}$	Turn-Off Delay Time		---	30	---	
$T_f$	Fall Time		---	8	---	
$C_{iss}$	Input Capacitance	$V_{DS}=-30V, V_{GS}=0V, f=1MHz$	---	1200	---	pF
$C_{oss}$	Output Capacitance		---	85	---	
$C_{rss}$	Reverse Transfer Capacitance		---	35	---	

**Diode Characteristics**

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

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