

General Description

The CMN2717M 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

- $R_{DS(ON)} < 50m\Omega$ @ $V_{GS} = -10V$
- $R_{DS(ON)} < 85m\Omega$ @ $V_{GS} = -2.5V$
- Simple drive requirement
- Surface mount package

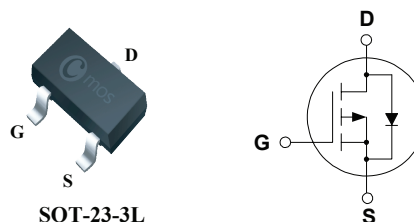
Product Summary

BVDSS	RDSON	ID
-20V	50mΩ	-7A

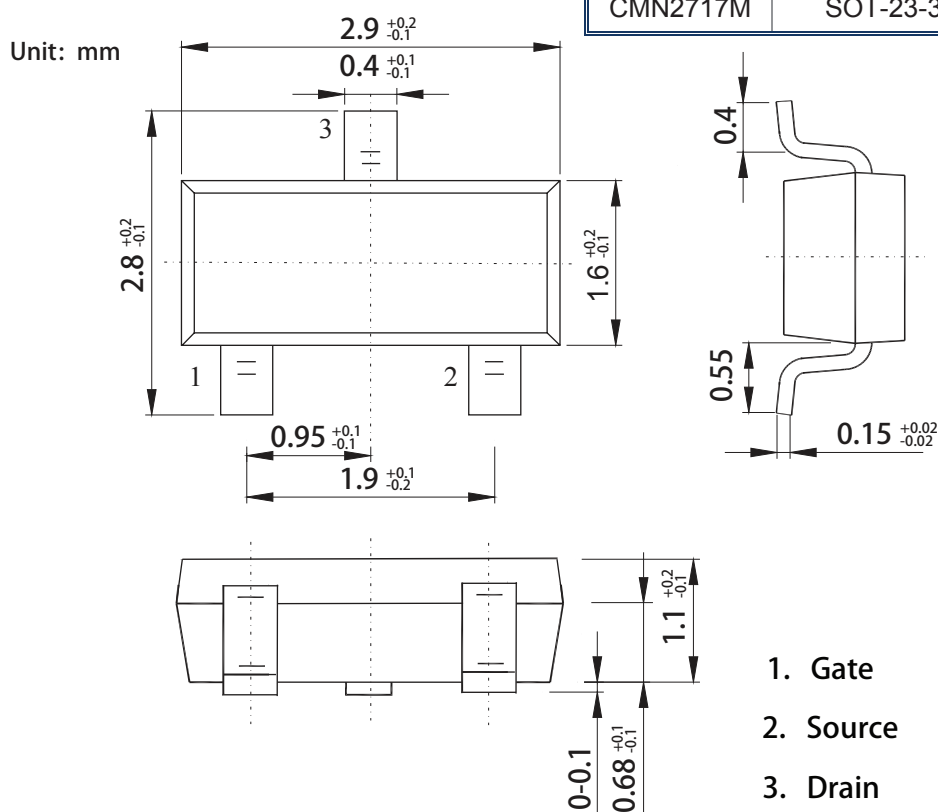
Applications

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

SOT-23-3L Pin Configuration



Type	Package	Marking
CMN2717M	SOT-23-3L	2717



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	± 14	V
$I_D @ T_A=25^\circ\text{C}$	Continuous Drain Current	-7	A
I_{DM}	Pulsed Drain Current	-21	A
$P_D @ T_A=25^\circ\text{C}$	Total Power Dissipation	2	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	150	$^\circ\text{C}$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	110	$^\circ\text{C/W}$

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu\text{A}$	-20	---	---	V
$R_{DS(on)}$	Static Drain-Source On-Resistance	$V_{GS}=-10V, I_D=-5A$	---	40	50	m Ω
		$V_{GS}=-4.5V, I_D=-4.5A$	---	50	60	
		$V_{GS}=-2.5V, I_D=-3.5A$	---	75	85	
			---	75	85	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}, I_D=-250\mu\text{A}$	-0.5	---	-1.5	V
I_{DSS}	Zero gate voltage drain current	$V_{DS}=-16V, V_{GS}=0V$	---	---	-1	μA
		$V_{GS}=0V, V_{DS}=-16V, T_J=55^\circ\text{C}$	---	---	-5	
I_{GSS}	Gate-Body Leakage current	$V_{GS}=\pm 14V, V_{DS}=0V$	---	---	± 100	nA
Q_g	Total Gate Charge	$I_D=-4.5A$	---	16	---	nC
Q_{gs}	Gate-Source Charge	$V_{DS}=-10V$	---	1.3	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=-4.5V$	---	3	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=-10V, V_{GS}=-4.5V$ $R_{GEN}=3\Omega, R_L=2\Omega$	---	5	---	ns
T_r	Rise Time		---	8	---	
$T_{d(off)}$	Turn-Off Delay Time		---	45	---	
T_f	Fall Time		---	14	---	
C_{iss}	Input Capacitance	$V_{DS}=-10V, V_{GS}=0V, f=1\text{MHz}$	---	1200	---	pF
C_{oss}	Output Capacitance		---	130	---	
C_{rss}	Reverse Transfer Capacitance		---	103	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	$V_{GS}=0V, I_S=-4A$	---	---	-1.2	V

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