

General Description

The CMN3460MD uses advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. It can be used for a wide variety of applications, including load switching, low current inverters and low current DC-DC converters. It is ESD protected.

Features

- $R_{DS(ON)} < 1.8\Omega$ @ $V_{GS} = 10V$
- $R_{DS(ON)} < 2.2\Omega$ @ $V_{GS} = 4.5V$
- SOT-23-3L Package

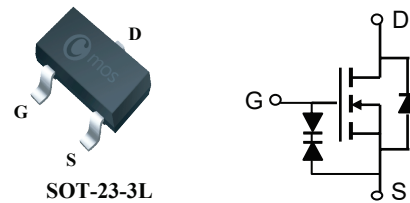
Product Summary

BVDSS	$R_{DS(ON)}$	I_D
60V	1.8Ω	0.65A

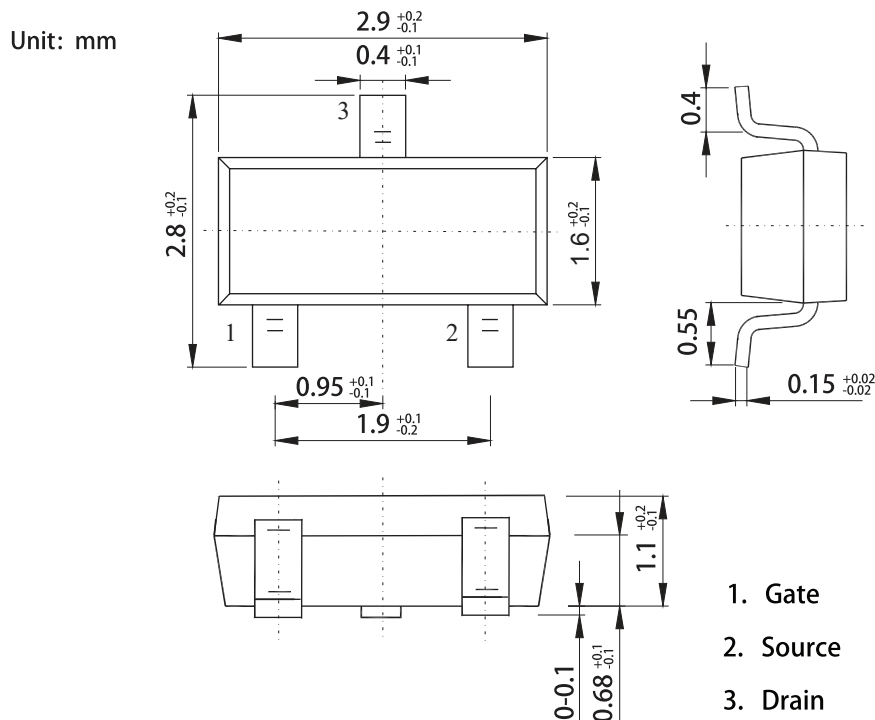
Applications

- inverters
- Load Switch
- DC-DC converters

SOT-23-3L Pin Configuration



Type	Package	Marking
CMN3460MD	SOT-23-3L	3460M



N-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	± 20	V
$I_D @ T_A = 25^\circ\text{C}$	Continuous Drain Current	0.65	A
$I_D @ T_A = 70^\circ\text{C}$	Continuous Drain Current	0.5	A
I_{DM}	Pulsed Drain Current	1.6	A
$P_D @ T_A = 25^\circ\text{C}$	Total Power Dissipation	1.4	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ\text{C}$

Thermal Data

Symbol	Parameter	Rating	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient ($t \leq 10\text{s}$)	90	$^\circ\text{C}/\text{W}$

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS} = 0\text{V}$, $I_D = 250\mu\text{A}$	60	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS} = 10\text{V}$, $I_D = 0.65\text{A}$	---	1.55	1.8	Ω
		$V_{GS} = 4.5\text{V}$, $I_D = 0.5\text{A}$	---	1.8	2.2	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS} = V_{DS}$, $I_D = 250\mu\text{A}$	1	---	3	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS} = 60\text{V}$, $V_{GS} = 0\text{V}$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS} = \pm 20\text{V}$, $V_{DS} = 0\text{V}$	---	---	± 10	μA
g_{fs}	Forward Transconductance	$V_{DS} = 5\text{V}$, $I_D = 0.5\text{A}$	---	0.8	---	S
R_g	Gate Resistance	$V_{DS} = 0\text{V}$, $V_{GS} = 0\text{V}$, $f = 1\text{MHz}$	---	291	---	Ω
Q_g	Total Gate Charge	$I_D = 0.65\text{A}$	---	0.3	---	nC
Q_{gs}	Gate-Source Charge	$V_{DS} = 30\text{V}$	---	0.1	---	
Q_{gd}	Gate-Drain Charge	$V_{GS} = 4.5\text{V}$	---	0.13	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS} = 30\text{V}$	---	5.3	---	ns
T_r	Rise Time	$R_L = 75\Omega$	---	2.8	---	
$T_{d(off)}$	Turn-Off Delay Time	$R_{GEN} = 3\Omega$	---	20	---	
T_f	Fall Time	$V_{GS} = 10\text{V}$	---	5.5	---	
C_{iss}	Input Capacitance	$V_{DS} = 30\text{V}$, $V_{GS} = 0\text{V}$, $f = 1\text{MHz}$	---	25	---	pF
C_{oss}	Output Capacitance		---	2	---	
C_{rss}	Reverse Transfer Capacitance		---	0.6	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	$V_{GS} = 0\text{V}$, $I_S = 0.1\text{A}$	---	0.8	1.2	V

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Typical Characteristics

