

General Description

The CMN3400ZM uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with gate voltages as low as 1.5V. This device is suitable for use as a load switch or in PWM applications.

Features

- $R_{DS(ON)} < 25m\Omega$ @ $V_{GS} = 10V$
- $R_{DS(ON)} < 38m\Omega$ @ $V_{GS} = 4.5V$
- Simple drive requirement
- Surface mount package

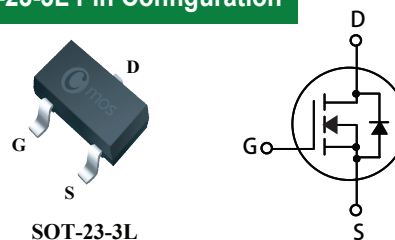
Product Summary

BVDSS	$R_{DS(ON)}$	ID
30V	25m Ω	6A

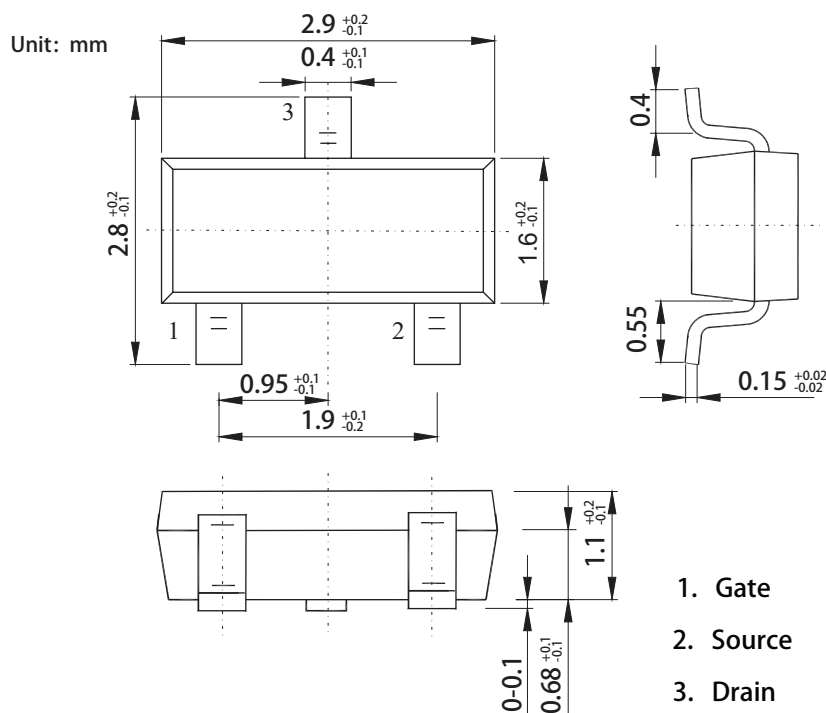
Applications

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

SOT-23-3L Pin Configuration



Type	Package	Marking
CMN3400ZM	SOT-23-3L	AOZ



N-Channel Enhancement Mode Field Effect Transistor

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_A=25^\circ\text{C}$	Continuous Drain Current	6	A
I_{DM}	Pulsed Drain Current	30	A
$P_D@T_A=25^\circ\text{C}$	Total Power Dissipation	1.5	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	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	125	$^\circ\text{C/W}$

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

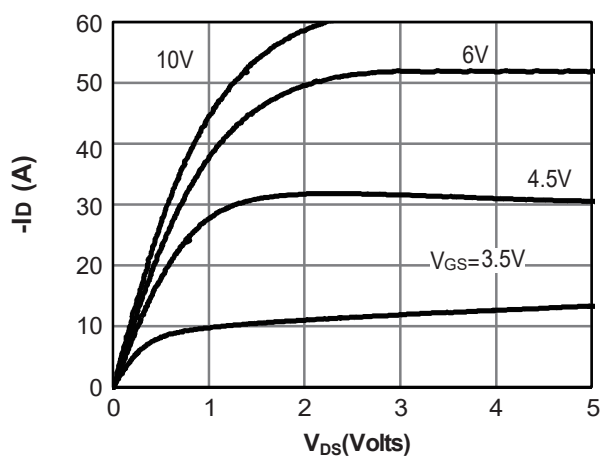
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu\text{A}$	30	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V, I_D=6A$	---	---	25	$m\Omega$
		$V_{GS}=4.5V, I_D=5A$	---	---	38	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}, I_D=250\mu\text{A}$	1.0	---	3.0	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=24V, V_{GS}=0V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=5V, I_D=5A$	---	5	---	S
Q_g	Total Gate Charge	$I_D=5.8A$	---	7.0	---	nC
Q_{gs}	Gate-Source Charge	$V_{DS}=15V$	---	1.5	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=10V$	---	2.0	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=15V$	---	5.0	---	ns
T_r	Rise Time	$R_G=3\Omega$	---	3.0	---	
$T_{d(off)}$	Turn-Off Delay Time	$V_{GS}=10V$	---	15	---	
T_f	Fall Time	$R_L=2.6\Omega$	---	3.0	---	
C_{iss}	Input Capacitance	$V_{DS}=15V, V_{GS}=0V, f=1\text{MHz}$	---	520	---	pF
C_{oss}	Output Capacitance		---	58	---	
C_{rss}	Reverse Transfer Capacitance		---	45	---	

Diode Characteristics

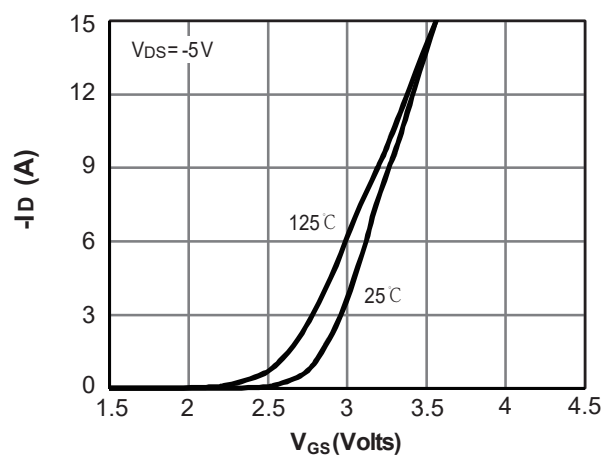
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	$V_{GS}=0V, I_S=1A$	---	---	1	V

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 Cmos assumes no liability for customers' product design or applications.
 Cmos reserves the right to improve product design, functions and reliability without notice.

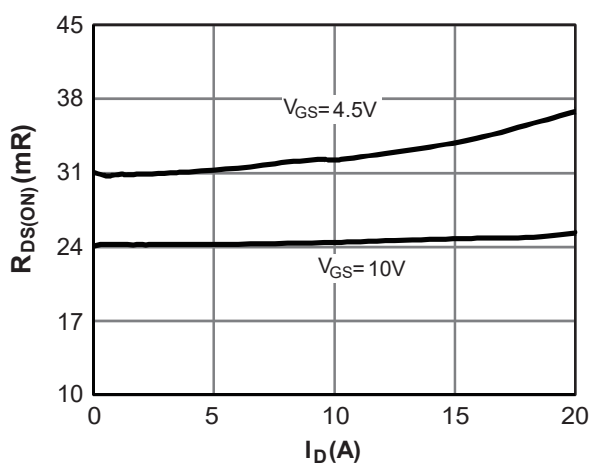
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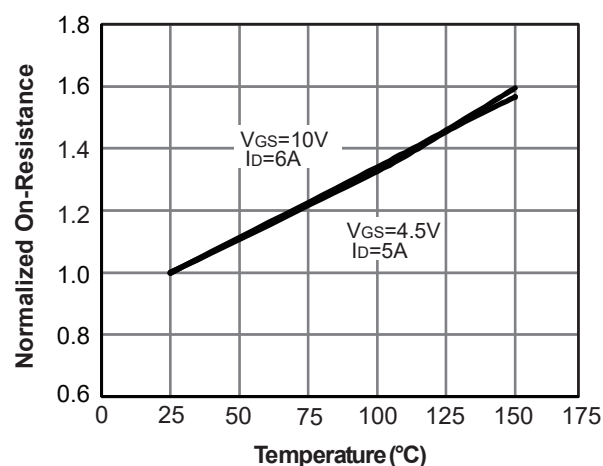
On-Region Characteristics



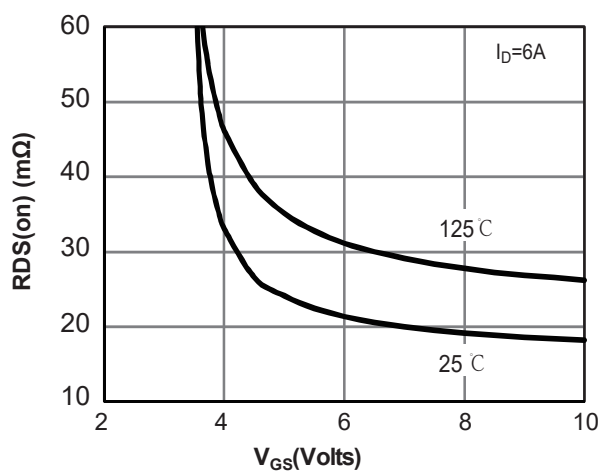
Transfer Characteristics



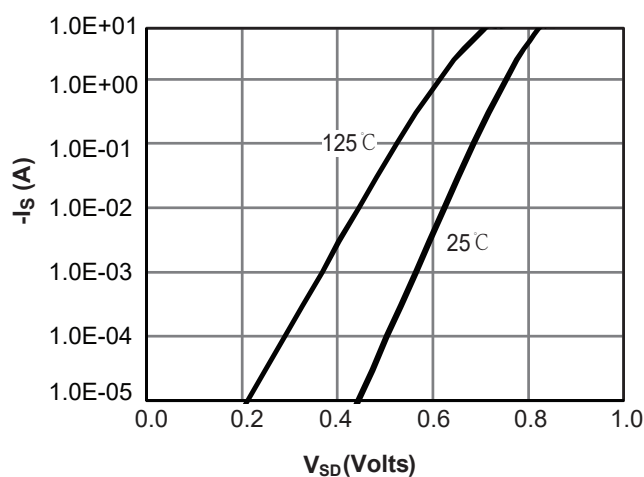
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Junction Temperature

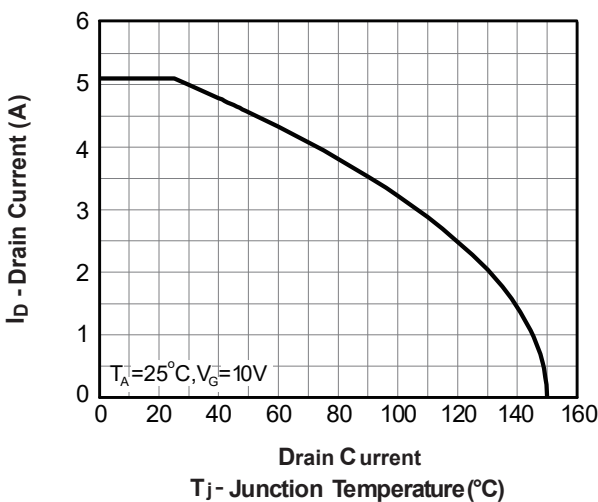
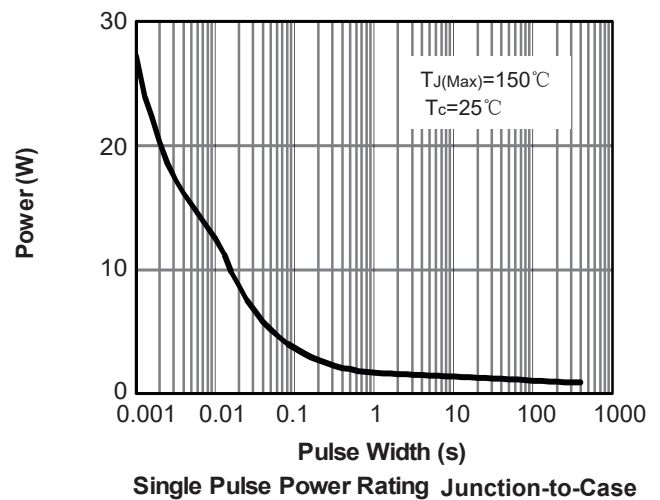
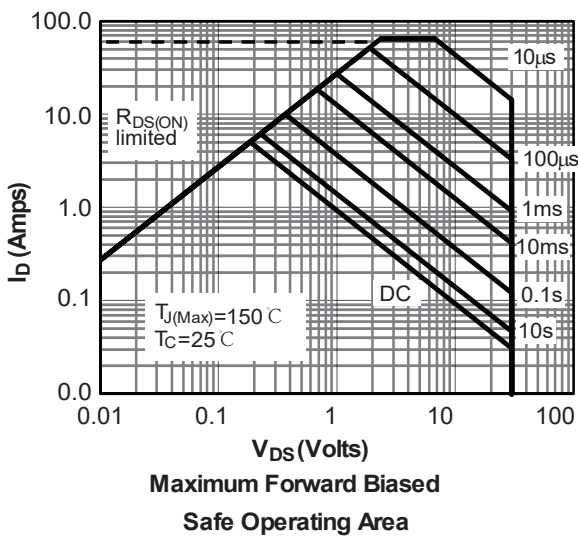
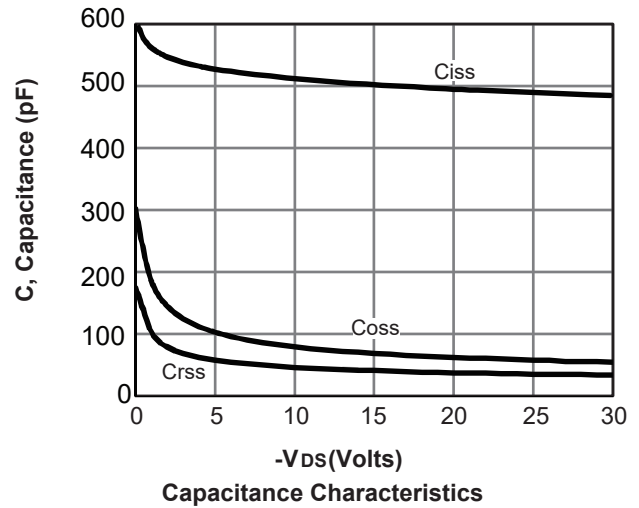
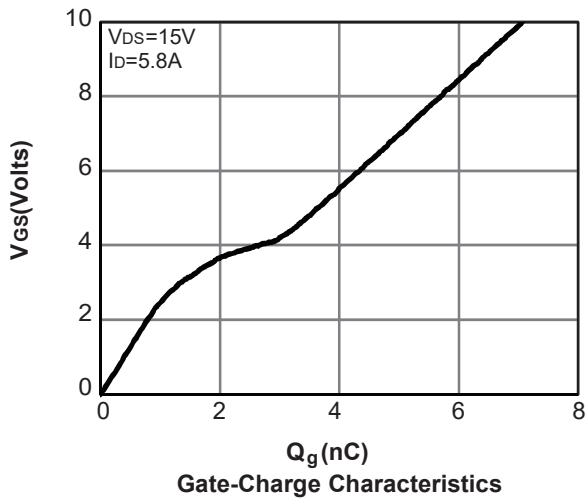


On-Resistance vs. Gate-Source Voltage



Body-Diode Characteristics

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