

### General Description

The CMN3400AM 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

- $R_{DS(ON)} < 36m\Omega$  @  $V_{GS} = 10V$
- $R_{DS(ON)} < 42m\Omega$  @  $V_{GS} = 4.5V$
- Simple drive requirement
- Surface mount package

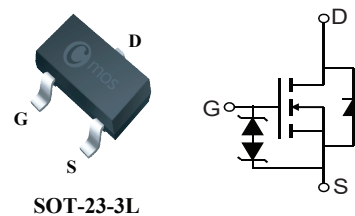
### Product Summary

BVDSS	RDSON	ID
30V	36mΩ	5.8A

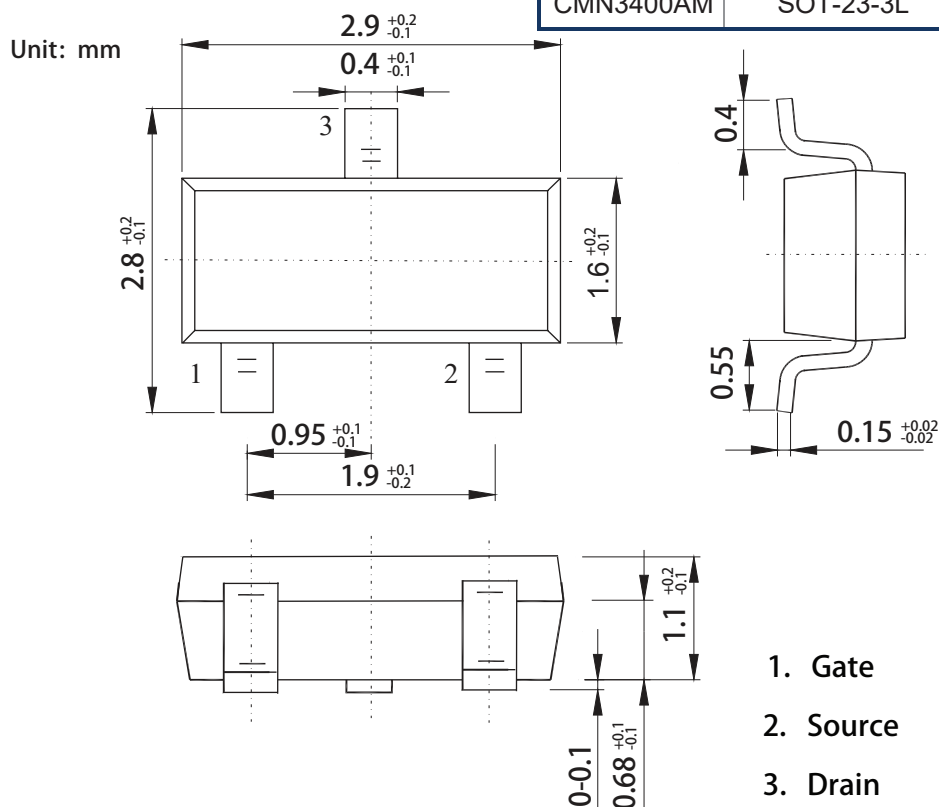
### Applications

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

### SOT-23-3L Pin Configuration



Type	Package	Marking
CMN3400AM	SOT-23-3L	AOLA



## 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	$\pm 10$	V
$I_D@T_A=25^\circ\text{C}$	Continuous Drain Current	5.8	A
$I_{DM}$	Pulsed Drain Current	30	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	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	125	$^\circ\text{C}/\text{W}$

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

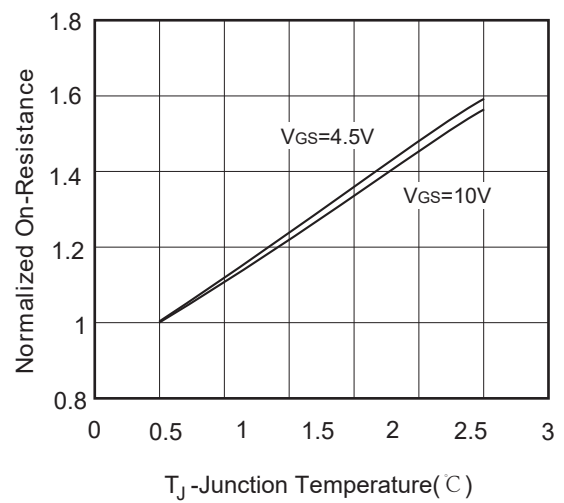
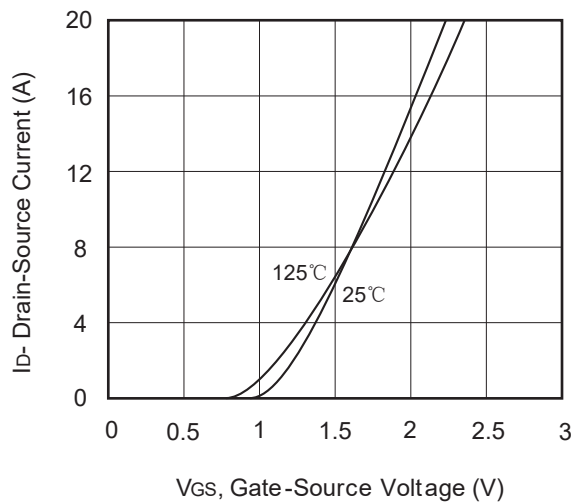
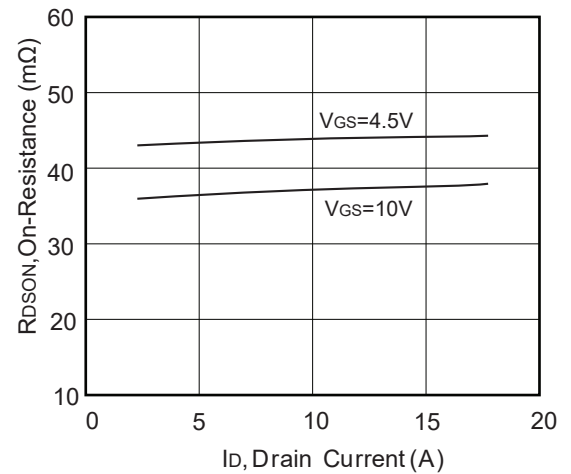
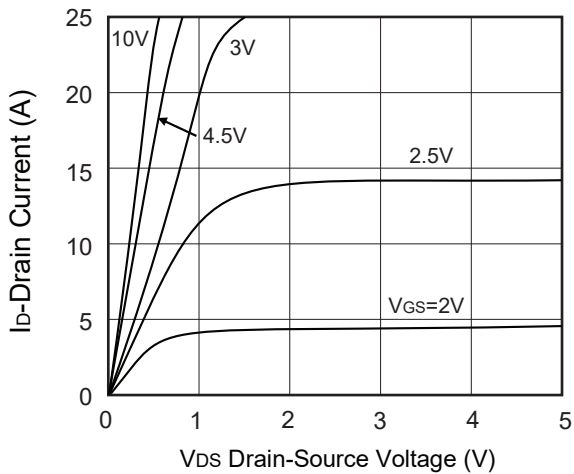
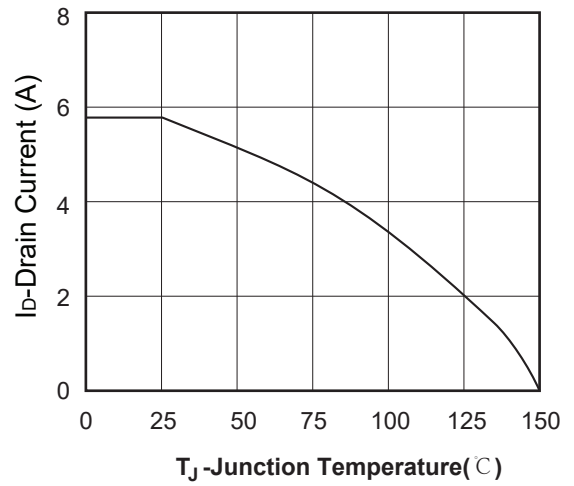
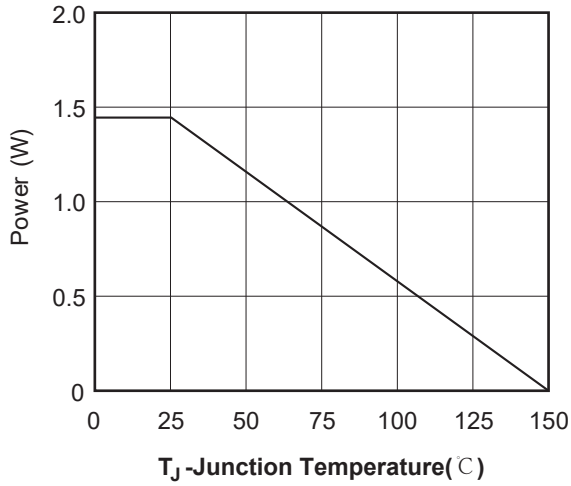
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0\text{V}$ , $I_D=250\mu\text{A}$	30	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10\text{V}$ , $I_D=6\text{A}$	---	---	36	m $\Omega$
		$V_{GS}=4.5\text{V}$ , $I_D=5\text{A}$	---	---	42	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$ , $I_D=250\mu\text{A}$	0.7	---	1.5	V
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=24\text{V}$ , $V_{GS}=0\text{V}$	---	---	1	$\mu\text{A}$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 10\text{V}$ , $V_{DS}=0\text{V}$	---	---	$\pm 5$	$\mu\text{A}$
$g_{fs}$	Forward Transconductance	$V_{DS}=5\text{V}$ , $I_D=5\text{A}$	---	6	---	S
$Q_g$	Total Gate Charge	$I_D=5.8\text{A}$	---	9.7	---	nC
$Q_{gs}$	Gate-Source Charge	$V_{DS}=15\text{V}$	---	1.6	---	
$Q_{gd}$	Gate-Drain Charge	$V_{GS}=4.5\text{V}$	---	3.1	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=15\text{V}$	---	3.3	---	ns
$T_r$	Rise Time	$R_G=3\Omega$	---	4.8	---	
$T_{d(off)}$	Turn-Off Delay Time	$V_{GS}=10\text{V}$	---	26.3	---	
$T_f$	Fall Time	$R_L=2.7\Omega$	---	4.1	---	
$C_{iss}$	Input Capacitance	$V_{DS}=15\text{V}$ , $V_{GS}=0\text{V}$ , $f=1\text{MHz}$	---	310	---	pF
$C_{oss}$	Output Capacitance		---	100	---	
$C_{rss}$	Reverse Transfer Capacitance		---	75	---	

### Diode Characteristics

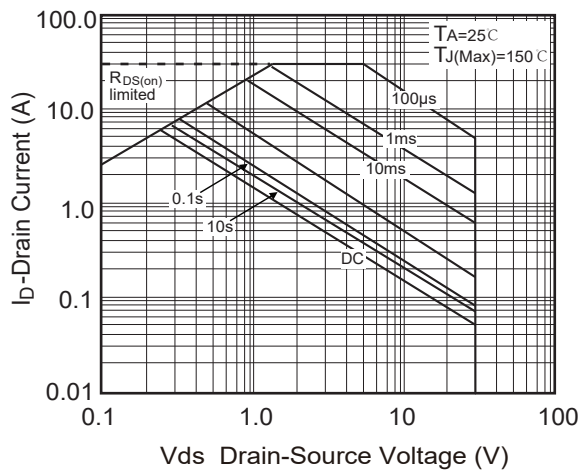
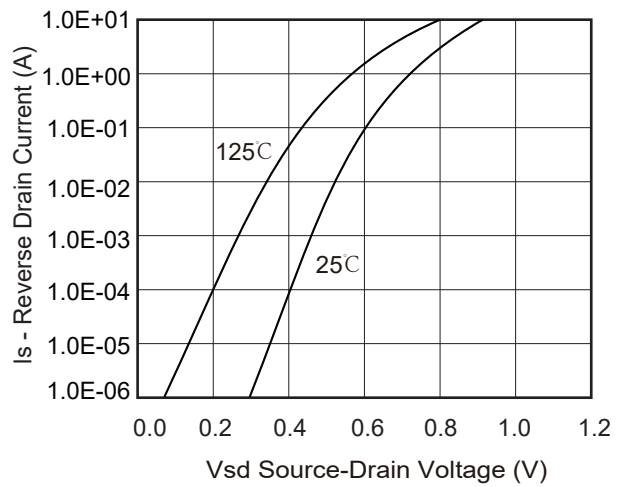
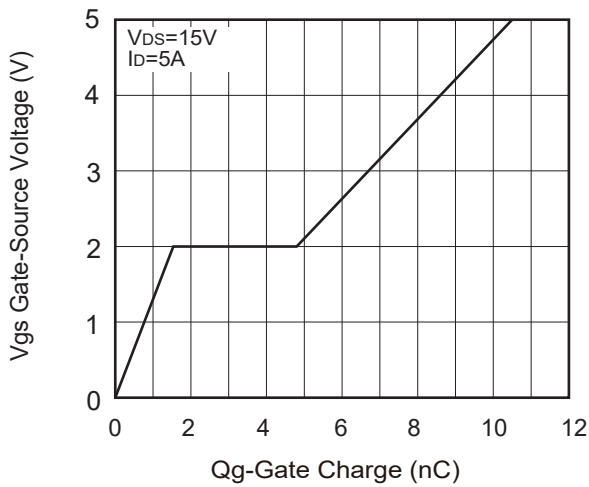
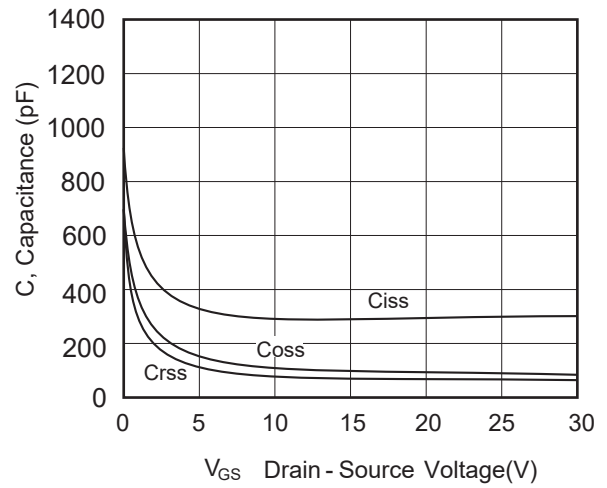
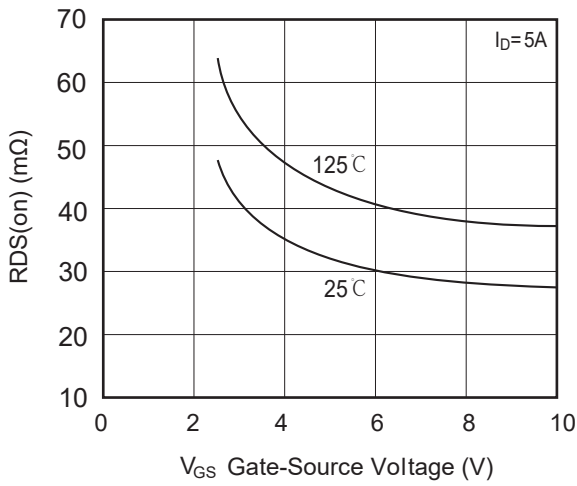
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_{SD}$	Diode Forward Voltage	$V_{GS}=0\text{V}$ , $I_S=1\text{A}$	---	---	1	V

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