CMN2328TM

N-Channel Enhancement Mode Field Effect Transistor

General Description

The CMN2328TM uses advanced trench technology to provide excellent RDS(ON).This device is suitable for use as a Battery protection or in other Switching application.

Product Summary

BVDSS	$R_{DS(on)}$ max.	ID
100V	115mΩ	4.5A

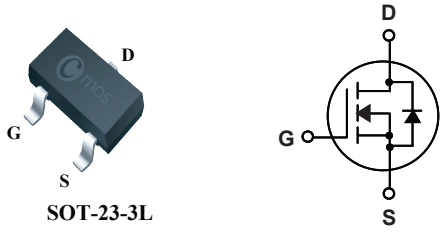
Applications

- DC/DC Converters
- Load Switch
- LED Backlighting in LCD TVs

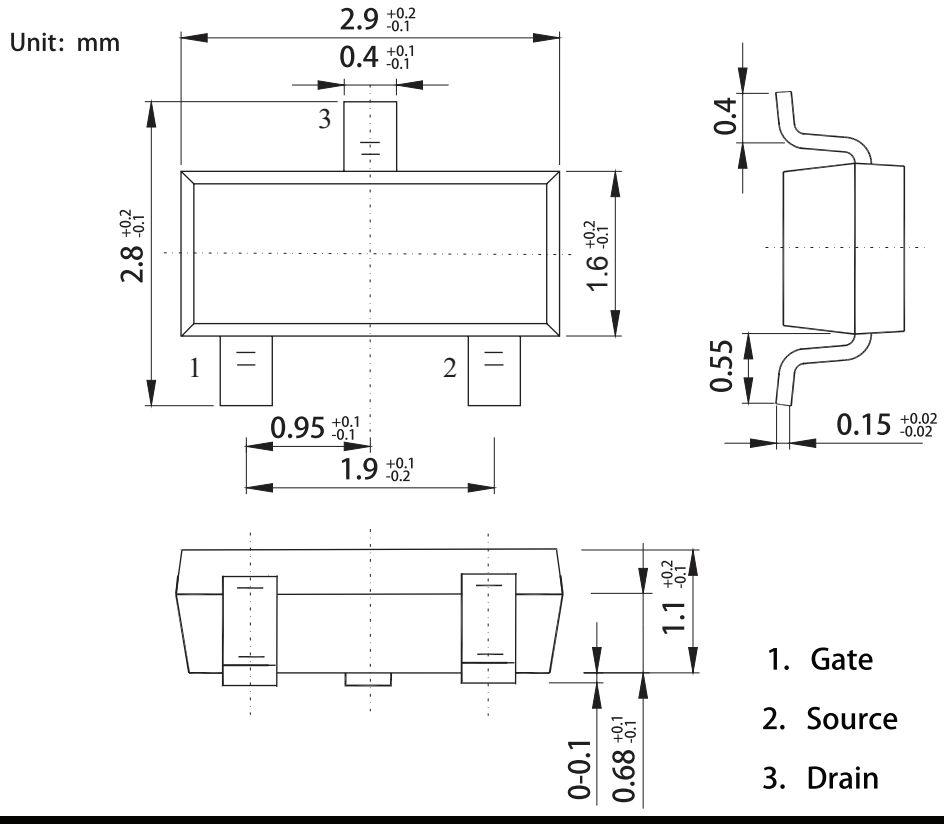
Features

- Low On-Resistance
- Simple Drive Requirement
- Surface Mount Package
- RoHS Compliant

SOT-23-3L Pin Configuration



Type	Package	Marking
CMN2328TM	SOT-23-3L	2328



1. Gate
2. Source
3. Drain

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Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	100	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_C=25℃	Continuous Drain Current	4.5	A
I_{DM}	Pulsed Drain Current	15	A
P_D@T_C=25℃	Total Power Dissipation	3	W
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	-55 to 150	℃

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	100	℃/W

Electrical Characteristics (T_J=25℃ , unless otherwise noted)

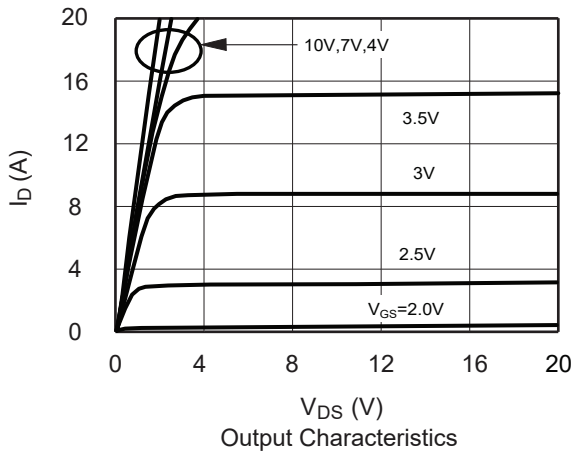
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V , I_D=250uA	100	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=10V , I_D=2.8A	---	---	115	mΩ
		V_{GS}=4.5V , I_D=1A	---	---	130	
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =250uA	1	---	2.5	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=100V, V_{GS}=0V	---	---	1	uA
I_{GSS}	Gate-Source Leakage Current	V_{GS} =±20V , V_{DS}=0V	---	---	±100	nA
gfs	Forward Transconductance	V_{DS}=5V , I_D=0.5A	---	4	---	S
Q_g	Total Gate Charge	V_{DS}=60V , I_D=2A V_{GS}=10V	---	30	---	nC
Q_{gs}	Gate-Source Charge		---	5.5	---	
Q_{gd}	Gate-Drain Charge		---	6	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DS}=50V , V_{GS}=10V , R_G =3.3Ω I_D=1A	---	20	---	ns
T_r	Rise Time		---	5	---	
$T_{d(off)}$	Turn-Off Delay Time		---	50	---	
T_f	Fall Time		---	4	---	
C_{iss}	Input Capacitance	V_{DS}=25V , V_{GS}=0V , f=1MHz	---	1150	---	pF
C_{oss}	Output Capacitance		---	30	---	
C_{rss}	Reverse Transfer Capacitance		---	20	---	

Diode Characteristics

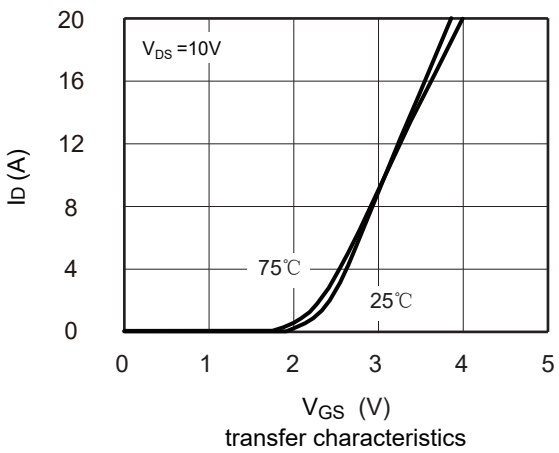
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_S=1A	---	---	1.2	V

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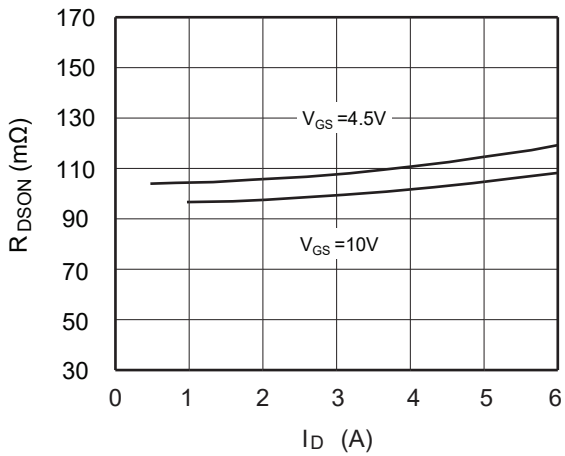
Typical Characteristics

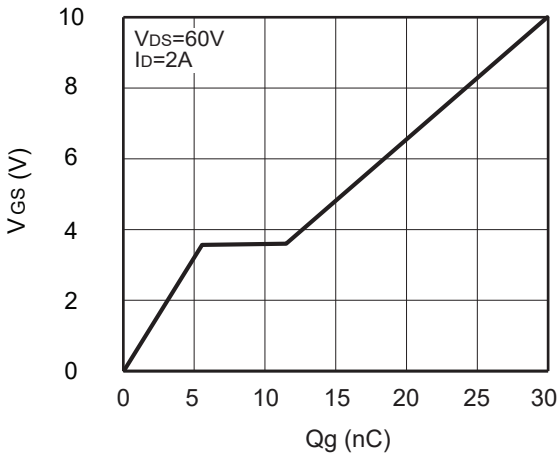


Output Characteristics

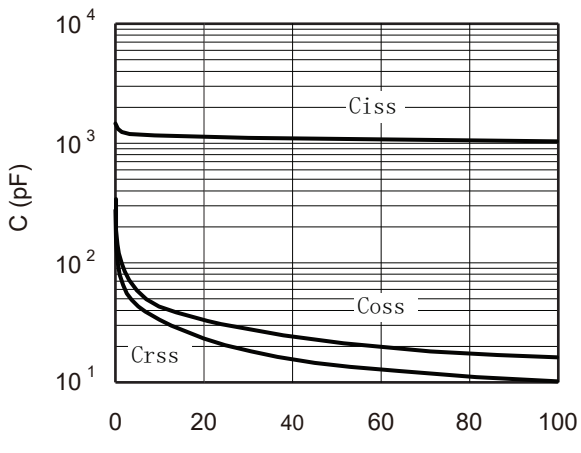


transfer characteristics

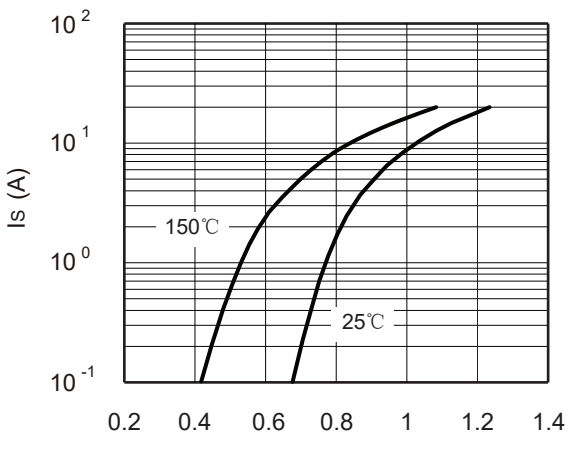




Gate charge vs gate-source voltage



Capacitance Characteristics



Body-Diode Characteristics