CMN3J332AM

-30V, 31mΩ typ., -7A P-Channel MOSFET

General Description

The CMN3J332AM uses advanced trench technology to provide excellent RDS(ON). This device is suitable for use as a load switch or in PWM applications.

Product Summary

BVDSS	RDS(on) max.	ID
-30V	35mΩ	-7A

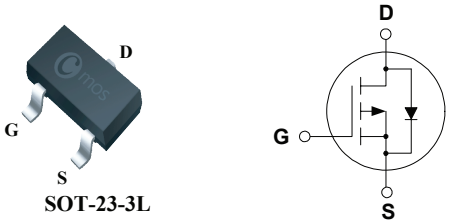
Applications

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

Features

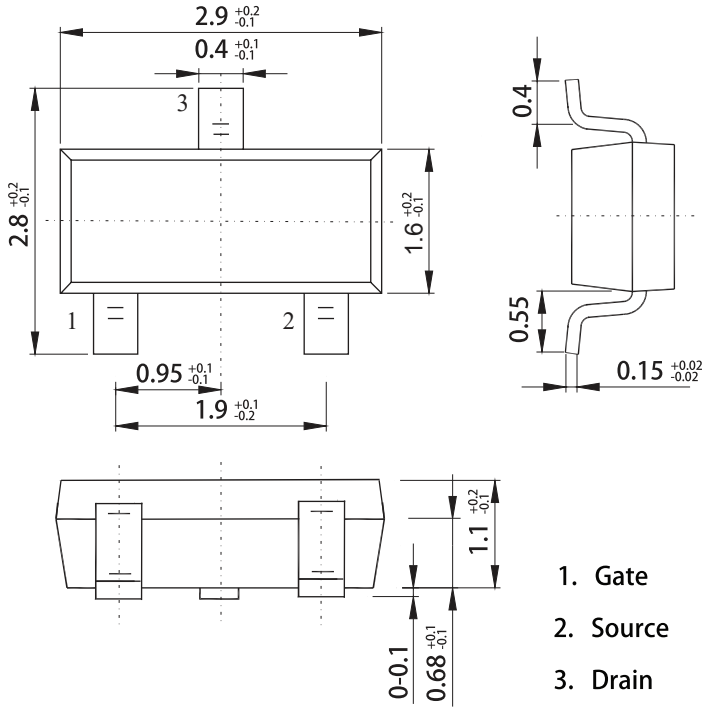
- RDS(ON)<35mΩ @ VGS=-10V
- RDS(ON)<55mΩ @ VGS=-4.5V
- Simple drive requirement
- Surface mount package
- RoHS Compliant

SOT-23-3L Pin Configuration



Type	Package	Marking
CMN3J332AM	SOT-23-3L	KFJA

Unit: mm



1. Gate
2. Source
3. Drain

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Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-30	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_C=25℃	Continuous Drain Current	-7	A
I_{DM}	Pulsed Drain Current	-21	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	150	℃

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	75	℃/W

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

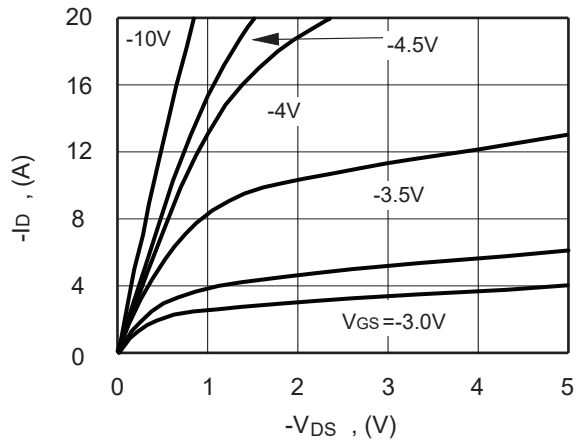
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V , I_D=-250uA	-30	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=-10V , I_D=-5A	---	31	35	mΩ
		V_{GS}=-4.5V , I_D=-4A	---	44	55	
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =-250uA	-1	---	-2.5	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=-28V , 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=-4A	---	8	---	S
R_g	Gate Resistance	V_{DS}=0V , V_{GS}=0V , f=1MHz	---	20	---	Ω
Q_g	Total Gate Charge	I_D=-7A V_{DS}=-15V V_{GS}=-10V	---	19	---	nC
Q_{gs}	Gate-Source Charge		---	3.5	---	
Q_{gd}	Gate-Drain Charge		---	5	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DS}=-15V R_{GEN}=3Ω V_{GS}= -10V R_L=2.2Ω	---	8	---	ns
T_r	Rise Time		---	6	---	
$T_{d(off)}$	Turn-Off Delay Time		---	20	---	
T_f	Fall Time		---	8	---	
C_{iss}	Input Capacitance	V_{DS}=-25V , V_{GS}=0V , f=1MHz	---	770	---	pF
C_{oss}	Output Capacitance		---	75	---	
C_{rss}	Reverse Transfer Capacitance		---	50	---	

Diode Characteristics

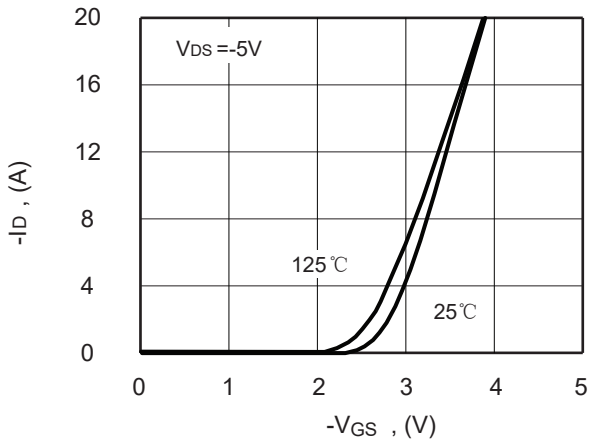
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_S=-6A	---	-0.87	-1.2	V

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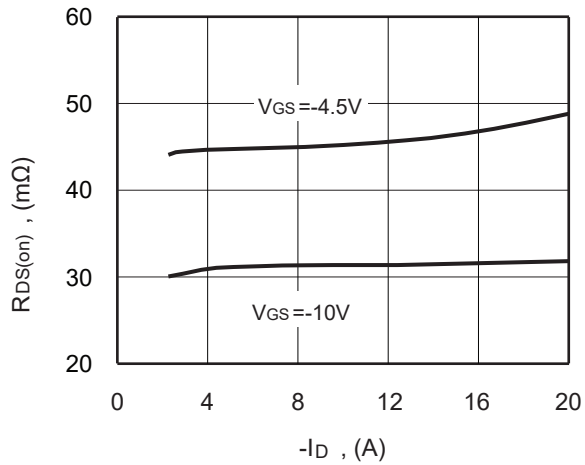
Typical Characteristics



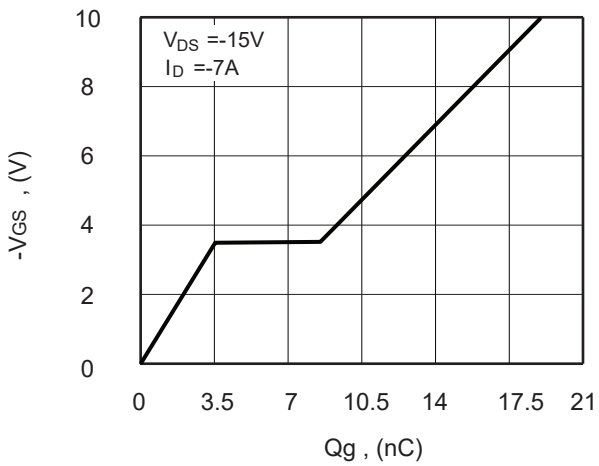
Output Characteristics



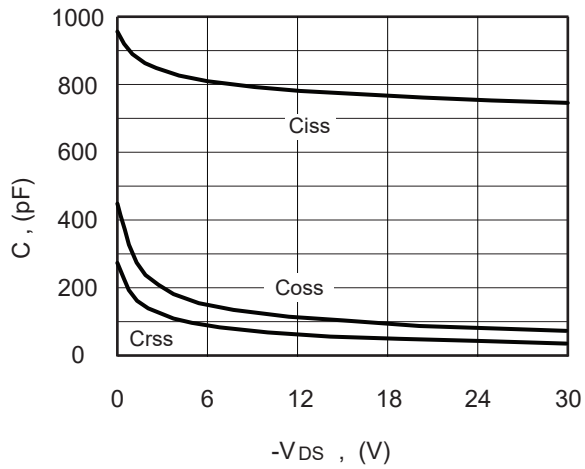
transfer characteristics



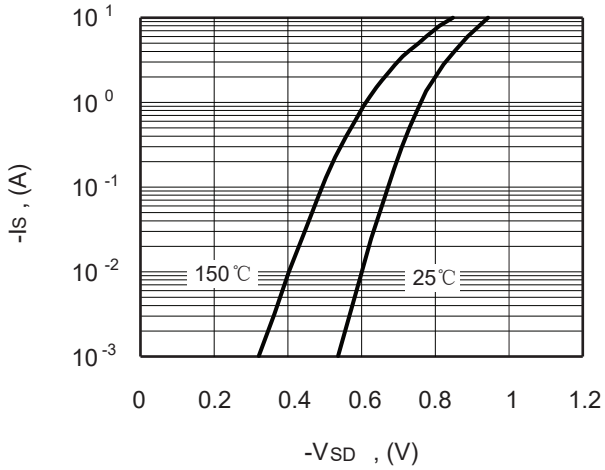
On-Resistance vs. Drain Current



Gate Charge Characteristics



Capacitance Characteristics



Body-Diode Characteristics