

N-Channel Enhancement Mode Field Effect Transistor

General Description

The CMN2922A uses advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. This device is suitable for use as a load switch or in PWM applications.

Features

- $R_{DS(ON)} < 88m\Omega @ V_{GS}=10V$
- $R_{DS(ON)} < 110m\Omega @ V_{GS}=4.5V$
- Surface mount package

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	100	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D @ T_C=25^\circ C$	Continuous Drain Current	3.5	A
I_{DM}	Pulsed Drain Current	11	A
$P_D @ T_C=25^\circ C$	Total Power Dissipation	1.2	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ C$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ C$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient (Steady State)	---	125	$^\circ C/W$

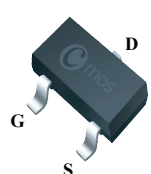
Product Summary

BVDSS	$R_{DS(ON)}$	ID
100V	88m Ω	3.5A

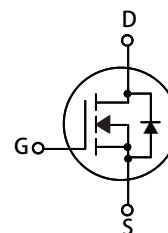
Applications

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

SOT-23 Pin Configuration



SOT-23
(CMN2922A)



Type	Package	Marking
CMN2922A	SOT-23	2922A

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=250\mu A$	100	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=2A$	---	---	88	$m\Omega$
		$V_{GS}=4.5V$, $I_D=1A$	---	---	110	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	1	---	3	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=60V$, $V_{GS}=0V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=5V$, $I_D=3A$	---	5	---	S
Q_g	Total Gate Charge	$I_D=2.0A$	---	4.0	---	nC
Q_{gs}	Gate-Source Charge	$V_{DD}=50V$	---	1.0	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=4.5V$	---	1.2	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=30V$	---	20	---	ns
T_r	Rise Time	$R_G=50\Omega$	---	10	---	
$T_{d(off)}$	Turn-Off Delay Time	$I_D=1.0A$	---	15	---	
T_f	Fall Time	$V_{GS}=4.5V$	---	8	---	
C_{iss}	Input Capacitance	$V_{DS}=15V$, $V_{GS}=0V$, $f=1MHz$	---	225	---	pF
C_{oss}	Output Capacitance		---	160	---	
C_{rss}	Reverse Transfer Capacitance		---	23	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=2A$	---	---	1.2	V

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