CMN3407M

P-Channel Enhancement Mode Field Effect Transistor

General Description

The CMN3407M uses advanced trench technology to provide excellent RDS(ON) with low gate charge. This device is suitable for use as a load switch or in PWM applications.

Product Summary

BVDSS	RDSON	ID
-30V	48mΩ	-4.3A

Applications

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

Features

- RDS(ON)<48mΩ @ VGS=-10V
- RDS(ON)<78mΩ @ VGS=-4.5V
- Surface mount package

SOT-23-3L Pin Configuration
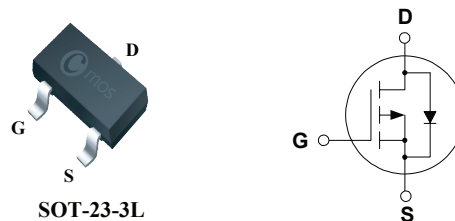
SOT-23-3L

Type	Package	Marking
CMN3407M	SOT-23-3L	X7XB

Unit: mm

$2.9^{+0.2}_{-0.1}$
$0.4^{+0.1}_{-0.1}$
$2.8^{+0.2}_{-0.1}$
$1.6^{+0.2}_{-0.1}$
$0.95^{+0.1}_{-0.1}$
$1.9^{+0.1}_{-0.2}$
0.4
0.55
$0.15^{+0.02}_{-0.02}$
$1.1^{+0.2}_{-0.1}$
0-0.1
$0.68^{+0.1}_{-0.1}$

1. Gate
2. Source
3. Drain

CMN3407M
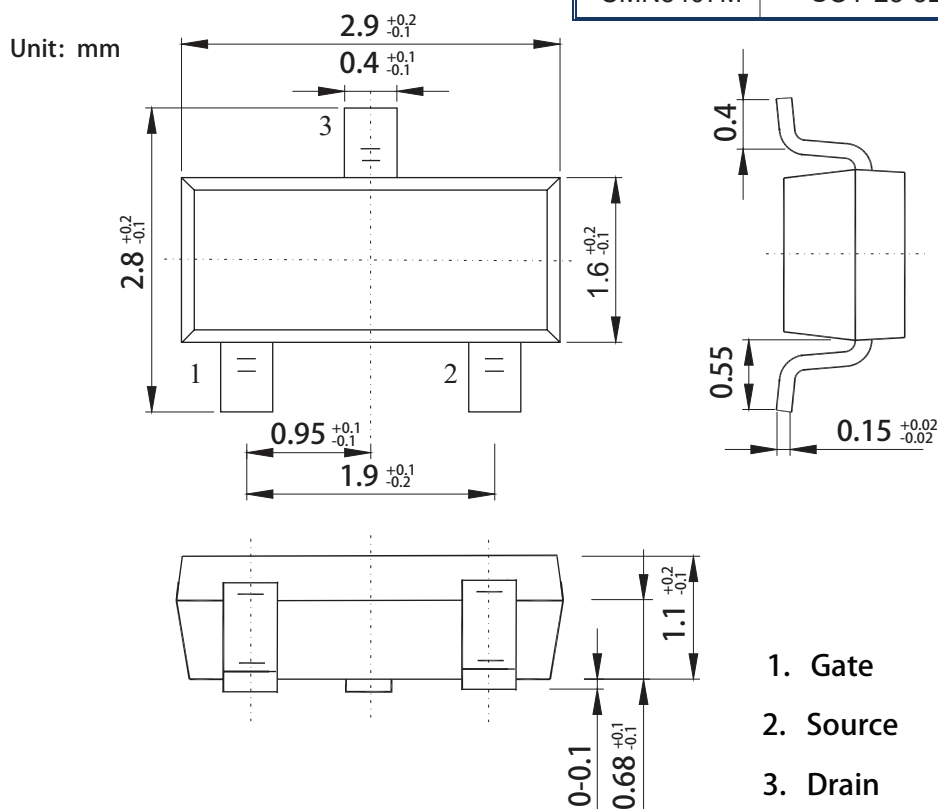
P-Channel Enhancement Mode Field Effect Transistor

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℃	Continuous Drain Current	-4.3	A
I_{DM}	Pulsed Drain Current	-25	A
P_D@T_A=25℃	Total Power Dissipation	1.4	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 (Steady-State)	---	125	℃/W

Electrical Characteristics (T_A=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=-4.3A	---	---	48	mΩ
		V_{GS}=-4.5V , I_D=-3A	---	---	78	
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =-250uA	-1.4	---	-2.4	V
I_{DSS}	Zero gate voltage drain current	V_{DS}=-30V , V_{GS}=0V	---	---	-1	uA
		V_{GS}= 0V , V_{DS}=-30V , T_J =55℃	---	---	-5	
I_{GSS}	Gate-Body Leakage current	V_{GS}=±20V , V_{DS}=0V	---	---	±100	nA
Q_g	Total Gate Charge	I_D=-4.3A	---	9.2	---	nC
Q_{gs}	Gate-Source Charge	V_{DS} =-15V	---	1.6	---	
Q_{gd}	Gate-Drain Charge	V_{GS} =-10V	---	2.2	---	
$T_{d(on)}$	Turn-On Delay Time	V_{GS} =-10V	---	7.5	---	ns
T_r	Rise Time	V_{DS} =-15V	---	5.5	---	
$T_{d(off)}$	Turn-Off Delay Time	R_L =3.5Ω	---	19	---	
T_f	Fall Time	R_{GEN} =3Ω	---	7	---	
C_{iss}	Input Capacitance		---	520	---	pF
C_{oss}	Output Capacitance	V_{DS}=-15V , V_{GS}=0V , f=1MHz	---	100	---	
C_{rss}	Reverse Transfer Capacitance		---	65	---	

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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