CMN2333M

P-Channel Enhancement Mode Field Effect Transistor

General Description

The CMN2333M uses advanced trench

technology to provide excellent RDS(ON),

low gate charge and operation with gate

voltages as low as 2.5V.

This device is suitable for use as a

load switch or in PWM applications.

Product Summary

BVDSS	RDSON	ID
-16V	37mΩ	-4A

Applications

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

SOT-23-3L Pin Configuration

SOT-23-3L

Type	Package	Marking
CMN2333M	SOT-23-3L	2333M

Features

- RDS(ON)<37mΩ @ VGS=-4.5V
- RDS(ON)<55mΩ @ VGS=-2.5V
- Simple drive requirement
- Surface mount package

Unit: mm

1. Gate
2. Source
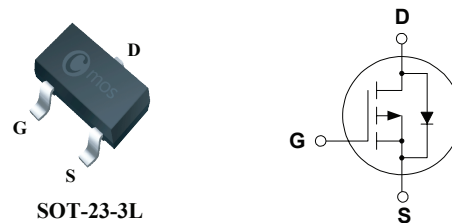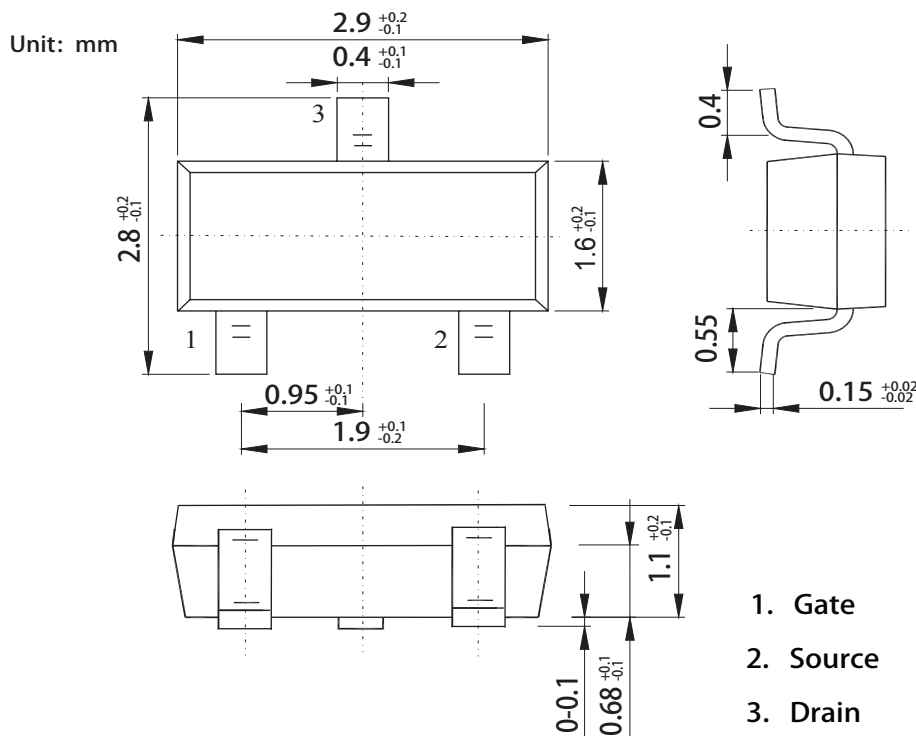3. Drain

P-Channel Enhancement Mode Field Effect Transistor

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-16	V
V_{GS}	Gate-Source Voltage	±10	V
I_D @T_A=25℃	Continuous Drain Current	-4	A
I_{DM}	Pulsed Drain Current	-12	A
P_D@T_A=25℃	Total Power Dissipation	1.2	W
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	150	℃

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{θJA}$	Thermal Resistance Junction-ambient	---	130	℃/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	-16	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=-4.5V , I_D=-5A	---	---	37	mΩ
		V_{GS}=-2.5V , I_D=-4A	---	---	55	
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =-250uA	-0.5	---	-1.5	V
I_{DSS}	Zero gate voltage drain current	V_{DS}=-16V ,V_{GS}=0V	---	---	-1	uA
I_{GSS}	Gate-Body Leakage current	V_{GS}=±10V , V_{DS}=0V	---	---	±100	nA
Q_g	Total Gate Charge [a]	I_D=-4A	---	15	---	nC
Q_{gs}	Gate-Source Charge [a]	V_{DS}=-12V	---	1.2	---	
Q_{gd}	Gate-Drain Charge [a]	V_{GS}=-4.5V	---	4	---	
$T_{d(on)}$	Turn-On Delay Time	V_{GS}=-10V	---	8	---	ns
T_r	Rise Time	V_{DS}=-10V	---	10	---	
$T_{d(off)}$	Turn-Off Delay Time	R_G=3.3Ω	---	55	---	
T_f	Fall Time	I_D=-1A	---	35	---	
C_{iss}	Input Capacitance [a]		---	2100	---	pF
C_{oss}	Output Capacitance [a]	V_{DS}=-15V , V_{GS}=0V , f=1MHz	---	180	---	
C_{rss}	Reverse Transfer Capacitance [a]		---	160	---	

Diode Characteristics

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

Notes：

a. Pulse test: PW ≤ 300μs, duty cycle ≤ 2%.