CMS4435

P-Channel Enhancement Mode MOSFET

General Description

The CMS4435 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	RDSON	ID
-30V	25mΩ	-9A

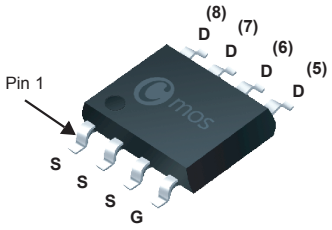
Applications

- Load switch
- Power management
- Battery protection

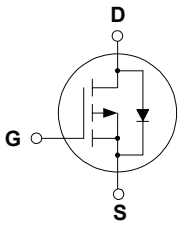
Features

- P-Channel MOSFET
- Low ON-resistance
- Surface Mount Package
- RoHS Compliant

SOP-8 Pin Configuration



SOP- 8



Type	Package	Marking
CMS4435	SOP- 8	CMS4435

Absolute Maximum Ratings (T_A=25℃ Unless Otherwise Noted)

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-30	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current [1]	-9	A
I_{DM}	Pulsed Drain Current [2]	-27	A
P_D@T_A=25℃	Total Power Dissipation	2.5	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-to-Ambient [1]	---	50	℃/W

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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=-250μA	-30	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance[3]	V_{GS}=-10V , I_D=-8A	---	---	25	mΩ
		V_{GS}=-4.5V , I_D=-4A	---	---	36	
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D = -250μA	-1	---	-3	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=-24V, 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=-2.5A	---	14	---	S
Q_g	Total Gate Charge[3]	V_{DS}=-24V , V_{GS}=-4.5V , I_D=-7A	---	18	---	nC
Q_{gs}	Gate-Source Charge		---	3	---	
Q_{gd}	Gate-Drain Charge		---	9	---	
$T_{d(on)}$	Turn-On Delay Time[3]	V_{DS}=-15V, V_{GS}=-10V , R_D=15Ω R_G=3.3Ω , I_D=-1A	---	10	---	ns
T_r	Rise Time		---	8	---	
$T_{d(off)}$	Turn-Off Delay Time		---	46	---	
T_f	Fall Time		---	32	---	
C_{iss}	Input Capacitance	V_{DS}=-25V , V_{GS}=0V , f=1MHz	---	1300	---	pF
C_{oss}	Output Capacitance		---	200	---	
C_{rss}	Reverse Transfer Capacitance		---	180	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage[3]	V_{GS}=0V , I_{SD}=-5A	---	---	-1.2	V

Notes:

1.Surface mounted on 1 in^2 copper pad of FR4 board, t <10sec; 125 ℃/W when mounted on Min. copper pad.

2.Pulse width limited by Max. junction temperature.

3.Pulse test