CMS8434

P-Channel Enhancement Mode MOSFET

General Description

The CMS8434 uses advanced trench technology to provide excellent RDS(ON), and ultra-low low gate charge. This device is suitable for use as a load switch or in PWM applications.

Features

- RDS(ON)=32mΩ @ VGS=-4.5V
- RDS(ON)=40mΩ @ VGS=-2.5V
- Ultra low On-Resistance.
- Surface mount package.

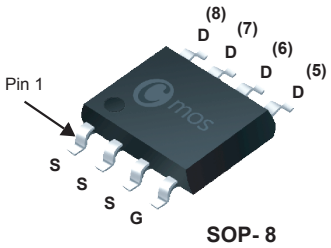
Product Summary

BVDSS	RDSON	ID
-20V	32mΩ	-11A

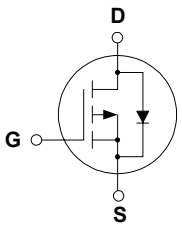
Applications

- Note Book PC
- Lithium Ion Battery Applications
- Load Switch
- Power management

SOP-8 Pin Configuration



SOP- 8



Type	Package	Marking
CMS8434	SOP- 8	8434

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

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-20	V
V_{GS}	Gate-Source Voltage	±12	V
I_D	Continuous Drain Current	-11	A
I_{DM}	Pulsed Drain Current	-30	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 (PCB mounted)	---	50	℃/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=-250μA	-20	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=-4.5V , I_D=-8A	---	---	32	mΩ
		V_{GS}=-2.5V , I_D=-7A	---	---	40	
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D = -250μA	-0.3	---	-1	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=-20V, V_{GS}=0V	---	---	-1	uA
I_{GSS}	Gate-Source Leakage Current	V_{GS} =±12V , V_{DS}=0V	---	---	±100	nA
Q_g	Total Gate Charge	V_{DS}=-10V , V_{GS}=-4.5V , I_D=-8A	---	16	---	nC
Q_{gs}	Gate-Source Charge		---	1.5	---	
Q_{gd}	Gate-Drain Charge		---	3.6	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DD}=-10V, V_{GEN} =-4.5V, R_L =10Ω R_G =6Ω , I_D=-1A	---	18	---	ns
T_r	Rise Time		---	13	---	
$T_{d(off)}$	Turn-Off Delay Time		---	120	---	
T_f	Fall Time		---	54	---	
C_{iss}	Input Capacitance	V_{DS}=-10V , V_{GS}=0V , f=1MHz	---	1500	---	pF
C_{oss}	Output Capacitance		---	200	---	
C_{rss}	Reverse Transfer Capacitance		---	150	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_{SD}=-1.7A	---	---	-1.2	V

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