CMS4812

Dual N-Channel Enhancement Mode MOSFET

General Description

The CMS4812 uses advanced trench technology to provide excellent RDS(ON). The two MOSFETs make a compact and efficient switch and synchronous rectifier combination for use in buck converters.

Features

- RDS(ON)≤23mΩ @ VGS=10V
- RDS(ON)≤30mΩ @ VGS=4.5V
- Dual MOSFET in surface mount package.
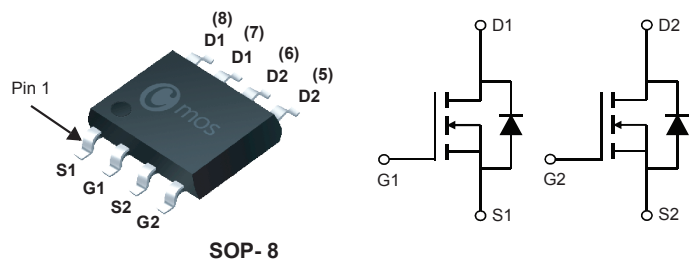- High Density Cell Design For Ultra Low On Resistance

Product Summary

BVDSS	RDSON	ID
30V	23mΩ	6.9A

Applications

- DC/DC Converter
- Load Switch
- Portable Equipment
- Power Management in Note book

SOP-8 Pin Configuration

SOP- 8

Type	Package	Marking
CMS4812	SOP- 8	4812

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	6.9	A
I$_{DM}$	Pulsed Drain Current	21	A
P$_D$@T$_A$=25℃	Total Power Dissipation	2	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$_{θJA}$	Thermal Resistance, Junction-to-Ambient (Steady-State)	---	110	℃/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	V$_{GS}$=10V , I$_D$=6.9A	---	---	23	mΩ
		V$_{GS}$=4.5V , I$_D$=5A	---	---	30	
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$_{DS}$=4.5V, I$_D$=6.9A	---	7	---	S
Q$_g$	Total Gate Charge	V$_{DS}$=15V , V$_{GS}$=10V , I$_D$=6.9A	---	13	---	nC
Q$_{gs}$	Gate-Source Charge		---	1.8	---	
Q$_{gd}$	Gate-Drain Charge		---	3.2	---	
T$_{d(on)}$	Turn-On Delay Time	V$_{DS}$=15V , V$_{GS}$ =10V, R$_L$ =2.2Ω R$_{GEN}$=3Ω	---	6	---	ns
T$_r$	Rise Time		---	4.8	---	
T$_{d(off)}$	Turn-Off Delay Time		---	28	---	
T$_f$	Fall Time		---	7	---	
C$_{iss}$	Input Capacitance	V$_{DS}$=15V , V$_{GS}$=0V , f=1MHz	---	450	---	pF
C$_{oss}$	Output Capacitance		---	95	---	
C$_{rss}$	Reverse Transfer Capacitance		---	68	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V$_{SD}$	Diode Forward Voltage	V$_{GS}$=0V , I$_S$=1A	---	---	1.1	V

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