CMS4468

Cmos

N-Channel Enhancement Mode MOSFET

General Description

The CMS4468 uses advanced

trenchtechnology to provide

excellent RDS(ON).This device

is suitable for use as a synchronous

switch in PWM applications.

Features

- RDS(ON)≤15mΩ @ VGS=10V

- RDS(ON)≤20mΩ @ VGS=4.5V
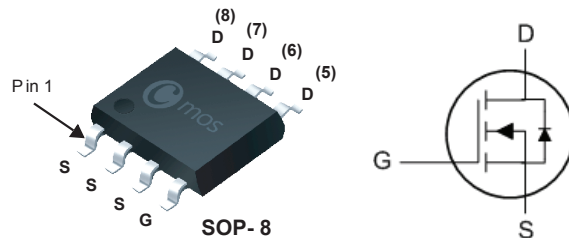
- Surface mount package.

- RoHS Compliant

Product Summary

BVDSS	RDSON	ID
30V	15mΩ	12A

Applications

- DC/DC Converter
- Synchronous Rectifier
- Load Switch
- Battery protection

SOP-8 Pin Configuration

SOP- 8

Type	Package	Marking
CMS4468	SOP-8	CMS4468

Absolute Maximum Ratings (TA=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	12	A
I_{DM}	Pulsed Drain Current	36	A
$P_D@T_A=25℃$	Total Power Dissipation	3	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)	---	75	℃/ 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$_D$=12A	---	---	15	mΩ
		V$_{GS}$=4.5V , I$_D$=10A	---	---	20	
V$_{GS(th)}$	Gate Threshold Voltage	V$_{GS}$=V$_{DS}$, I$_D$ =250μA	1	---	2.5	V
I$_{DSS}$	Drain-Source Leakage Current	V$_{DS}$=24V , V$_{GS}$=0V	---	---	1	uA
		V$_{DS}$=24V , V$_{GS}$=0V, T$_J$=55℃	---	---	5	
I$_{GSS}$	Gate-Source Leakage Current	V$_{GS}$ = ±20V , V$_{DS}$=0V	---	---	±100	nA
gfs	Forward Transconductance	V$_{DS}$=5V, I$_D$=12A	---	3	---	S
R$_g$	Gate Resistance	V$_{DS}$=0V , V$_{GS}$=0V , f=1MHz	---	4	---	Ω
Q$_g$	Total Gate Charge	V$_{DS}$=15V , V$_{GS}$=10V , I$_D$=12A	---	18	---	nC
Q$_{gs}$	Gate-Source Charge		---	4	---	
Q$_{gd}$	Gate-Drain Charge		---	5	---	
T$_{d(on)}$	Turn-On Delay Time	V$_{DS}$=15V , V$_{GS}$=10V , R$_L$ =1.3Ω R$_{GEN}$=3Ω	---	5	---	ns
T$_r$	Rise Time		---	6	---	
T$_{d(off)}$	Turn-Off Delay Time		---	20	---	
T$_f$	Fall Time		---	5	---	
C$_{iss}$	Input Capacitance	V$_{DS}$=15V , V$_{GS}$=0V , f=1MHz	---	800	---	pF
C$_{oss}$	Output Capacitance		---	146	---	
C$_{rss}$	Reverse Transfer Capacitance		---	115	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I$_S$	Continuous Source Current	V$_G$=V$_D$=0V , Force Current	---	---	12	A
I$_{SM}$	Pulsed Source Current		---	---	36	A
V$_{SD}$	Diode Forward Voltage	V$_{GS}$=0V , I$_F$=1A , T$_J$=25℃	---	---	1	V
t$_{rr}$	Reverse Recovery Time	V$_{GS}$=0V ,I$_F$ =12A dI /dt=100A/μs	---	20	---	ns
Q$_{rr}$	Reverse Recovery Charge		---	10	---	nC

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