

## Dual P-Channel Enhancement Mode MOSFET

### General Description

The CMS4805 uses advanced trench technology to provide excellent RDS(ON). This device is suitable for use as a load switch or in PWM applications.

### Features

- RDS(ON)=42mΩ @ VGS=-10V
- RDS(ON)=75mΩ @ VGS=-4.5V
- Advanced trench process technology
- RoHS Compliant

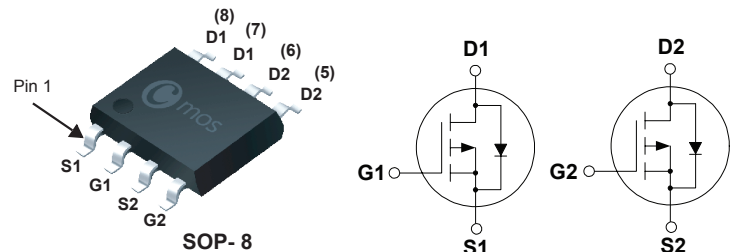
### Product Summary

BVDSS	RDSON	ID
-30V	42mΩ	-6.5A

### Applications

- Inverter Switch
- Synchronous Rectifier
- Load Switch
- DC/DC Converter

### SOP-8 Pin Configuration



Type	Package	Marking
CMS4805	SOP- 8	CMS4805

### Absolute Maximum Ratings (TA=25°C Unless Otherwise Noted)

Symbol	Parameter	Rating	Units
V <sub>DS</sub>	Drain-Source Voltage	-30	V
V <sub>GS</sub>	Gate-Source Voltage	±20	V
I <sub>D</sub> @T <sub>A</sub> =25°C	Continuous Drain Current	-6.5	A
I <sub>D</sub> @T <sub>A</sub> =70°C	Continuous Drain Current	-5.3	A
I <sub>DM</sub>	Pulsed Drain Current	-19	A
P <sub>D</sub> @T <sub>A</sub> =25°C	Total Power Dissipation	3	W
T <sub>STG</sub>	Storage Temperature Range	-55 to 150	°C
T <sub>J</sub>	Operating Junction Temperature Range	-55 to 150	°C

### Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
R <sub>θJA</sub>	Thermal Resistance, Junction-to-Ambient	---	75	°C/W

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Electrical Characteristics ( $T_A = 25^\circ\text{C}$  , unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-30	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=-10V, I_D=-10A$	---	---	42	m $\Omega$
		$V_{GS}=-4.5V, I_D=-4A$	---	---	75	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}, I_D = -250\mu A$	-1	---	-2.5	V
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=-24V, V_{GS}=0V$	---	---	-1	uA
		$V_{DS}=-24V, V_{GS}=0V, T_J=55^\circ\text{C}$	---	---	-5	
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS} = \pm 20V, V_{DS}=0V$	---	---	$\pm 100$	nA
$g_{fs}$	Forward Transconductance	$V_{DS}=-5V, I_D=-6A$	---	10	---	S
$Q_g$	Total Gate Charge	$V_{DS}=-15V, V_{GS}=-10V, I_D=-6A$	---	15	---	nC
$Q_{gs}$	Gate-Source Charge		---	2	---	
$Q_{gd}$	Gate-Drain Charge		---	4	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=-15V, V_{GS}=-10V, R_L=2.5\Omega$ $R_{GEN}=3\Omega$	---	8.6	---	ns
$T_r$	Rise Time		---	5	---	
$T_{d(off)}$	Turn-Off Delay Time		---	28.5	---	
$T_f$	Fall Time		---	14	---	
$C_{iss}$	Input Capacitance	$V_{DS}=-15V, V_{GS}=0V, f=1\text{MHz}$	---	1300	---	pF
$C_{oss}$	Output Capacitance		---	115	---	
$C_{rss}$	Reverse Transfer Capacitance		---	80	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_{SD}$	Diode Forward Voltage	$V_{GS}=0V, I_{SD}=-6A$	---	---	-1	V

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