

### General Description

The CMS2808D uses advanced trench technology to provide excellent RDS(ON). This device is suitable for use as a synchronous switch in PWM applications.

### Features

- RDS(ON) ≤ 13.5mΩ @ VGS=4.5V
- RDS(ON) ≤ 18mΩ @ VGS=2.5V
- Surface mount package.
- RoHS Compliant

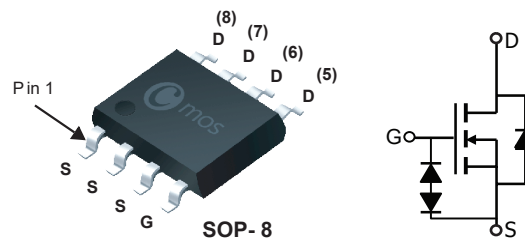
### Product Summary

BVDSS	RDSON	ID
20V	13.5mΩ	11A

### Applications

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

### SOP-8 Pin Configuration



Type	Package	Marking
CMS2808D	SOP-8	CMS2808D

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

Symbol	Parameter	Rating	Units
V <sub>DS</sub>	Drain-Source Voltage	20	V
V <sub>GS</sub>	Gate-Source Voltage	±10	V
I <sub>D</sub>	Continuous Drain Current	11	A
I <sub>DM</sub>	Pulsed Drain Current	33	A
P <sub>D@TA=25°C</sub>	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 )	---	50	°C/W

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	20	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=4.5V, I_D=6A$	---	---	13.5	m $\Omega$
		$V_{GS}=2.5V, I_D=3A$	---	---	18	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}, I_D=250\mu A$	0.5	---	1.0	V
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=16V, V_{GS}=0V$	---	---	1	uA
		$V_{DS}=16V, V_{GS}=0V, T_J=55^{\circ}\text{C}$	---	---	10	
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 10V, V_{DS}=0V$	---	---	$\pm 6$	uA
$g_{fs}$	Forward Transconductance	$V_{DS}=5V, I_D=1A$	---	10	---	S
$Q_g$	Total Gate Charge	$V_{DS}=10V, V_{GS}=4.5V, I_D=10.5A$	---	42	---	nC
$Q_{gs}$	Gate-Source Charge		---	6	---	
$Q_{gd}$	Gate-Drain Charge		---	7	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=5V, V_{GEN}=4.5V$ $R_{GEN}=6\Omega, I_D=1A$	---	11	---	ns
$T_r$	Rise Time		---	25	---	
$T_{d(off)}$	Turn-Off Delay Time		---	146	---	
$T_f$	Fall Time		---	39	---	
$C_{iss}$	Input Capacitance	$V_{DS}=15V, V_{GS}=0V, f=1\text{MHz}$	---	1100	---	pF
$C_{oss}$	Output Capacitance		---	890	---	
$C_{rss}$	Reverse Transfer Capacitance		---	165	---	

**Diode Characteristics**

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$I_S$	Continuous Source Current	$V_G=V_D=0V, \text{Force Current}$	---	---	11	A
$I_{SM}$	Pulsed Source Current		---	---	33	A
$V_{SD}$	Diode Forward Voltage	$V_{GS}=0V, I_F=1A, T_J=25^{\circ}\text{C}$	---	---	1	V

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