

Dual N-Channel Enhancement Mode MOSFET

General Description

The CMS9926B uses advanced trench technology to provide excellent $R_{DS(ON)}$. This device is suitable for use as a unidirectional or bi-directional load switch.

Features

- $R_{DS(ON)}=22m\Omega$ @ $V_{GS}=4.5V$
- $R_{DS(ON)}=30m\Omega$ @ $V_{GS}=2.5V$
- Dual MOSFET in surface mount package.
- High Density Cell Design For Ultra Low On-Resistance

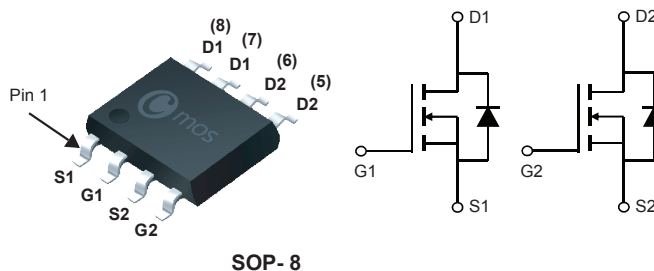
Product Summary

BVDSS	$R_{DS(ON)}$	ID
20V	22m Ω	6.5A

Applications

- DC/DC Converter
- Load Switch
- Battery protection
- Power management

SOP-8 Pin Configuration



Type	Package	Marking
CMS9926B	SOP- 8	CMS9926B

Maximum Ratings and Thermal Characteristics (TA = 25°C unless otherwise noted)

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	20	V
V_{GS}	Gate-Source Voltage	± 10	V
I_D	Continuous Drain Current	6.5	A
I_{DM}	Pulsed Drain Current	30	A
$P_D@T_A=25^\circ C$	Total Power Dissipation	2	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ C$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ C$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient ($t \leq 10$ sec)	---	62.5	$^\circ C/W$

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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	$V_{GS}=4.5V$, $I_D=6.5A$	---	20	22	$m\Omega$
		$V_{GS}=2.5V$, $I_D=5.5A$	---	28	30	
$V_{GS(th)}$	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	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS} = \pm 10V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=5V$, $I_D=6.5A$	---	15	---	S
Q_g	Total Gate Charge	$V_{DS}=10V$, $V_{GS}=4.5V$, $I_D=6A$	---	13	20	nC
Q_{gs}	Gate-Source Charge		---	3	---	
Q_{gd}	Gate-Drain Charge		---	3.3	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=10V$, $V_{GS}=4.5V$ $R_G=6\Omega$, $I_D=1A$	---	25	---	ns
T_r	Rise Time		---	40	---	
$T_{d(off)}$	Turn-Off Delay Time		---	50	---	
T_f	Fall Time		---	20	---	
C_{iss}	Input Capacitance	$V_{DS}=10V$, $V_{GS}=0V$, $f=1MHz$	---	640	---	pF
C_{oss}	Output Capacitance		---	140	---	
C_{rss}	Reverse Transfer Capacitance		---	80	---	

Diode Characteristics

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

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