

### General Description

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

### Features

- Low On-Resistance
- Dual MOSFET in surface mount package
- RoHS Compliant

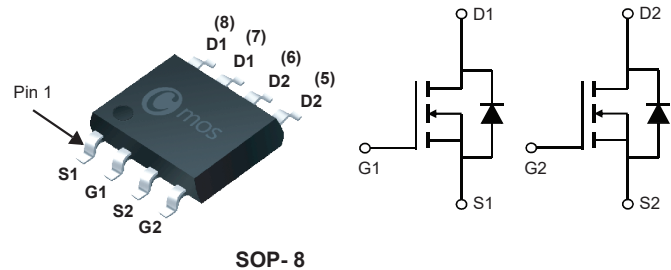
### Product Summary

BVDSS	R <sub>DS(on)</sub> max.	ID
20V	15mΩ	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 <sub>DS</sub>	Drain-Source Voltage	20	V
V <sub>GS</sub>	Gate-Source Voltage	±10	V
I <sub>D@T<sub>A</sub>=25°C</sub>	Continuous Drain Current	6.5	A
I <sub>D@T<sub>A</sub>=70°C</sub>	Continuous Drain Current	5	A
I <sub>DM</sub>	Pulsed Drain Current	30	A
EAS	Single Pulse Avalanche Energy <sup>1</sup>	32	mJ
P <sub>D@T<sub>A</sub>=25°C</sub>	Total Power Dissipation	2	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 (t≤10sec)	---	62.5	°C/W

**Electrical Characteristics (T<sub>J</sub>=25°C , unless otherwise noted)**

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V , I <sub>D</sub> =250μA	20	---	---	V
R <sub>DS(ON)</sub>	Static Drain-Source On-Resistance	V <sub>GS</sub> =4.5V , I <sub>D</sub> =6.5A	---	12	15	mΩ
		V <sub>GS</sub> =2.5V , I <sub>D</sub> =5.5A	---	17	25	
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>GS</sub> =V <sub>DS</sub> , I <sub>D</sub> =250μA	0.5	---	1.0	V
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =16V , V <sub>GS</sub> =0V	---	---	1	uA
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±10V , V <sub>DS</sub> =0V	---	---	±100	nA
g <sub>fs</sub>	Forward Transconductance	V <sub>DS</sub> =5V , I <sub>D</sub> =6.5A	---	11	---	S
Q <sub>g</sub>	Total Gate Charge	V <sub>DS</sub> =10V , V <sub>GS</sub> =4.5V , I <sub>D</sub> =6A	---	13	---	nC
Q <sub>gs</sub>	Gate-Source Charge		---	3	---	
Q <sub>gd</sub>	Gate-Drain Charge		---	3.3	---	
T <sub>d(on)</sub>	Turn-On Delay Time	V <sub>DD</sub> =10V , V <sub>GS</sub> =4.5V R <sub>G</sub> =6Ω , I <sub>D</sub> =1A	---	25	---	ns
T <sub>r</sub>	Rise Time		---	40	---	
T <sub>d(off)</sub>	Turn-Off Delay Time		---	50	---	
T <sub>f</sub>	Fall Time		---	20	---	
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> =10V , V <sub>GS</sub> =0V , f=1MHz	---	640	---	pF
C <sub>oss</sub>	Output Capacitance		---	140	---	
C <sub>rss</sub>	Reverse Transfer Capacitance		---	110	---	

**Diode Characteristics**

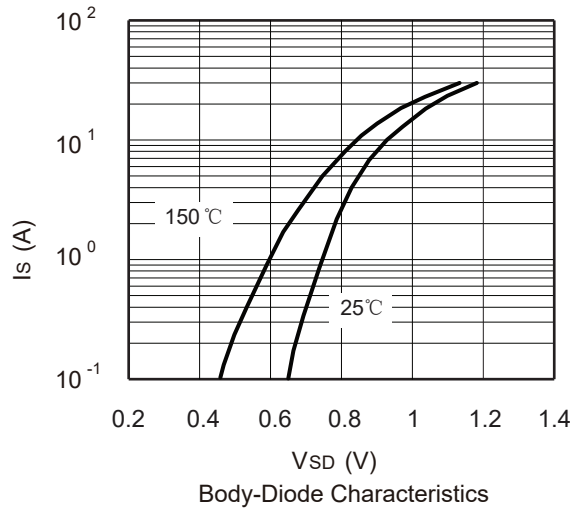
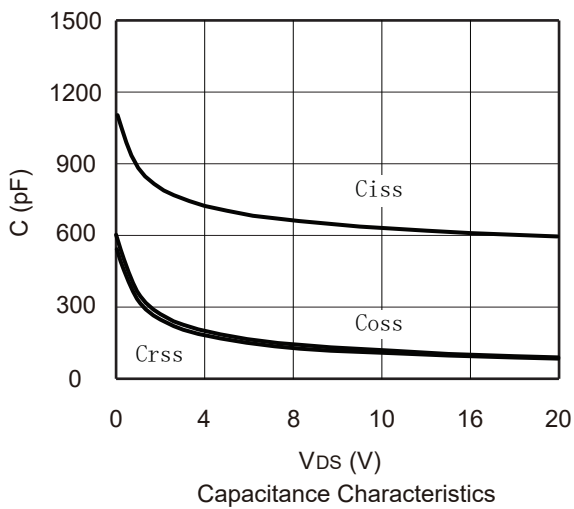
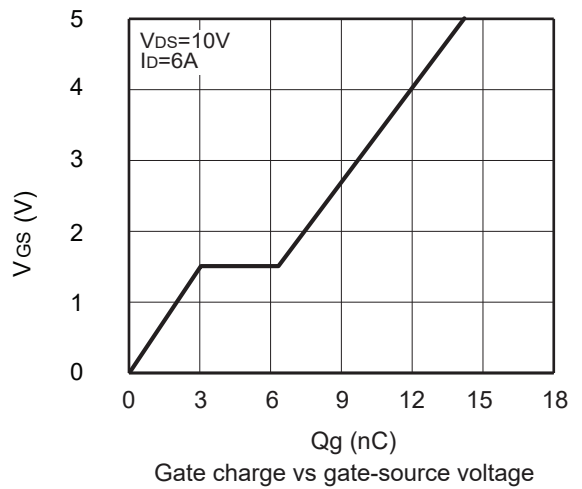
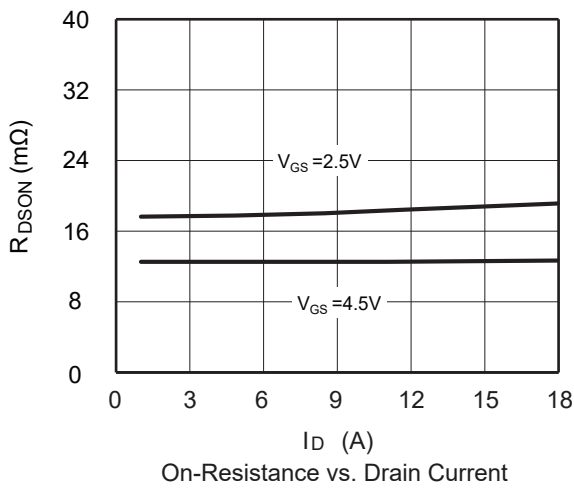
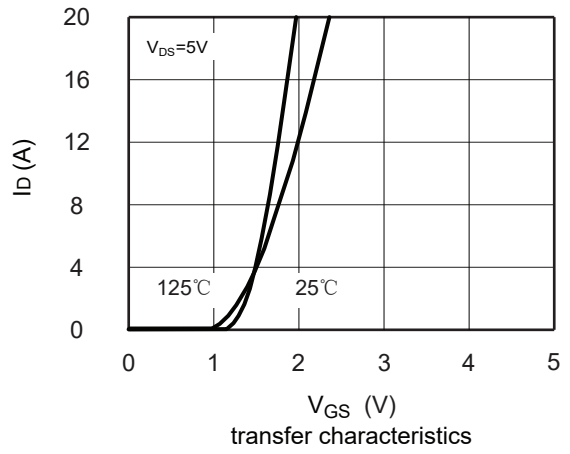
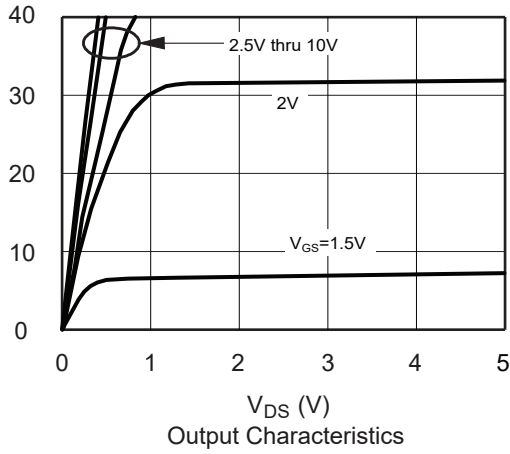
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I <sub>S</sub>	Continuous Source Current	V <sub>G</sub> =V <sub>D</sub> =0V , Force Current	---	---	6.5	A
I <sub>SM</sub>	Pulsed Source Current		---	---	80	A
V <sub>SD</sub>	Diode Forward Voltage	V <sub>GS</sub> =0V , I <sub>S</sub> =1A , T <sub>J</sub> =25°C	---	0.74	1.2	V

Note :

1.The EAS data shows Max. rating . The test condition is V<sub>DD</sub>=15V , V<sub>GS</sub>=10V , L=1mH , I<sub>AS</sub>=8A.

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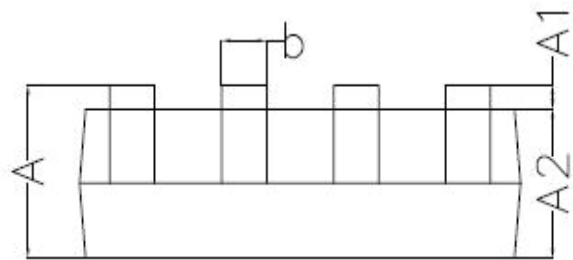
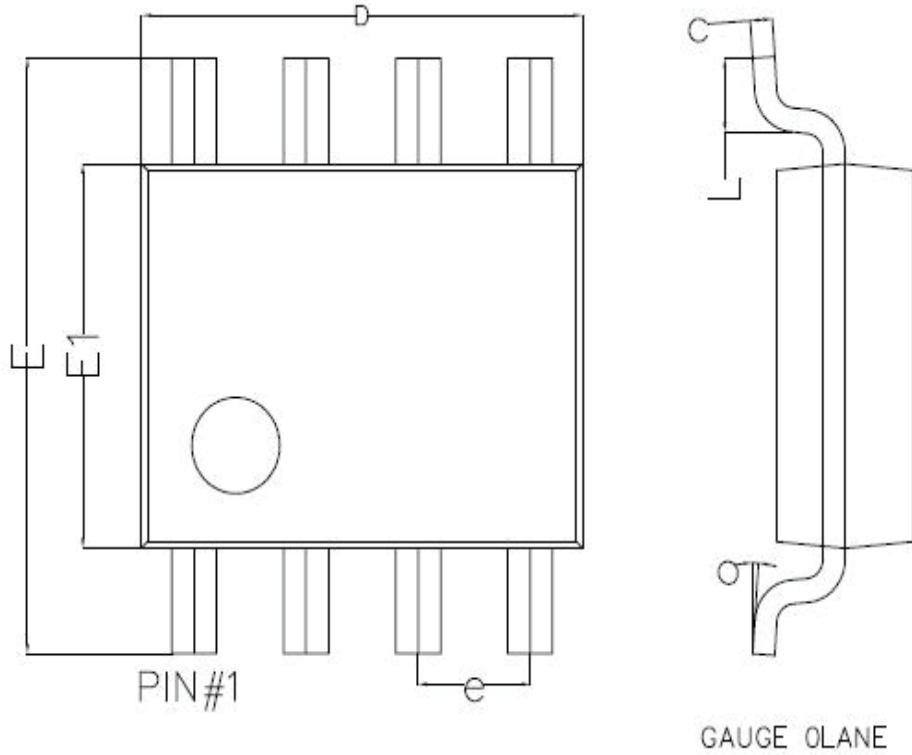
Typical Characteristics



Package Dimension

SOP-8

Unit :mm



Symbol	Dim in mm		
	Min	Nor	Max
A	1.35	1.55	1.75
A1	0.02	0.065	0.10
A2	1.35	1.45	1.55
b	0.33	0.42	0.51
c	0.17	0.21	0.25
D	4.80	4.90	5.00
e	1.270 (BSC)		
E	5.80	6.00	6.20
E1	3.80	3.90	4.00
L	0.4	0.835	1.27
θ	0°	4°	8°