

General Description

The CMS9926A uses advanced trench technology to provide excellent RDS(ON). This device is suitable for use as a unidirectional or bi-directional load switch.

Features

- RDS(ON)=19mΩ @ VGS=4.5V
- RDS(ON)=25mΩ @ VGS=2.5V
- Dual MOSFET in surface mount package.
- High Density Cell Design For Ultra Low On-Resistance

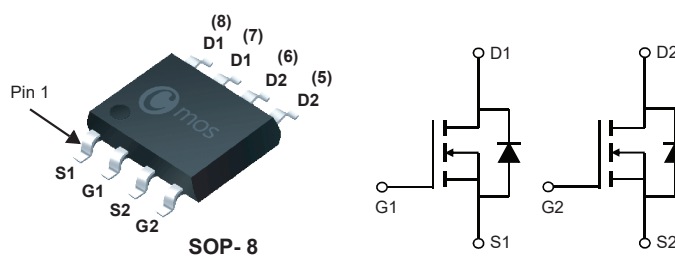
Product Summary

BVDSS	RDS(on) max.	ID
20V	19mΩ	6.5A

Applications

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

SOP- 8 Pin Configuration



Type	Package	Marking
CMS9926A	SOP- 8	CMS9926A

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 @T _A =25°C	Continuous Drain Current	6.5	A
I _D @T _A =70°C	Continuous Drain Current	5	A
I _{DM}	Pulsed Drain Current	30	A
EAS	Single Pulse Avalanche Energy ¹	16	mJ
P _D @T _A =25°C	Total Power Dissipation	2	W
T _{STG}	Storage Temperature Range	-55 to 150	°C
T _J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
R _{θJA}	Thermal Resistance Junction-ambient(t≤10sec)	---	62.5	°C/W

20V, 15mΩ typ., 6.5A Dual N-Channel MOSFET

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	$V_{GS}=4.5V$, $I_D=6A$	---	15	19	mΩ
		$V_{GS}=2.5V$, $I_D=5.2A$	---	19	25	
$V_{GS(th)}$	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
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 10V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=5V$, $I_D=3.5A$	---	7.5	---	S
Q_g	Total Gate Charge	$V_{DS}=10V$, $V_{GS}=4.5V$, $I_D=6A$	---	13	---	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	$V_{DS}=10V$, $V_{GS}=0V$, $f=1MHz$	---	480	---	pF
C_{oss}	Output Capacitance		---	65	---	
C_{rss}	Reverse Transfer Capacitance		---	55	---	

Diode Characteristics

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

Note :

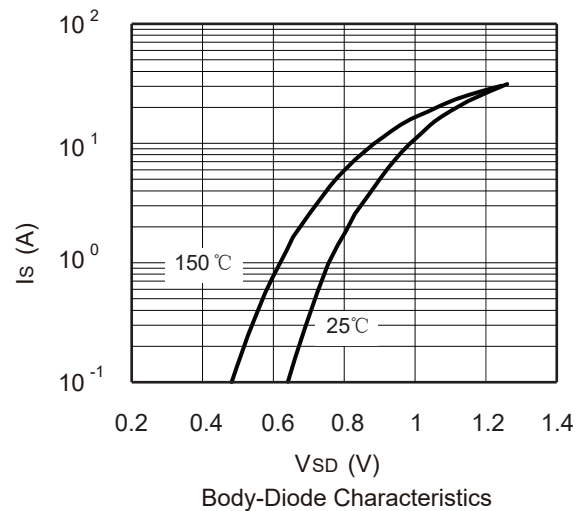
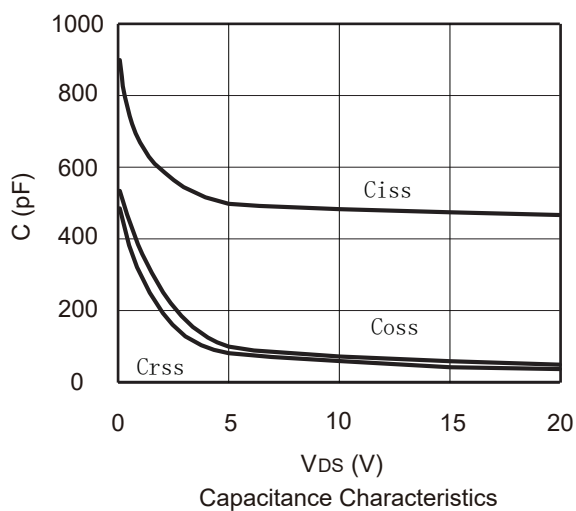
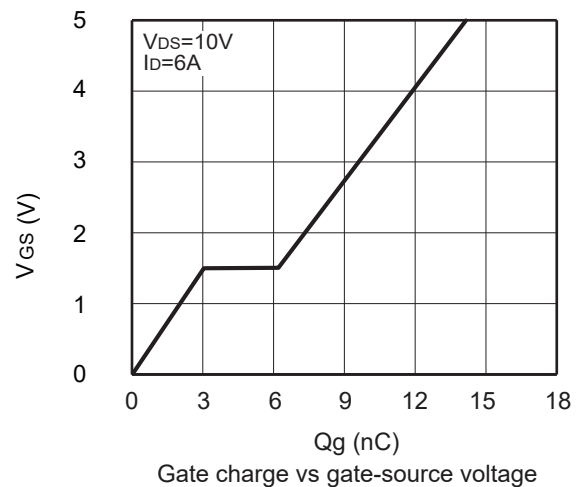
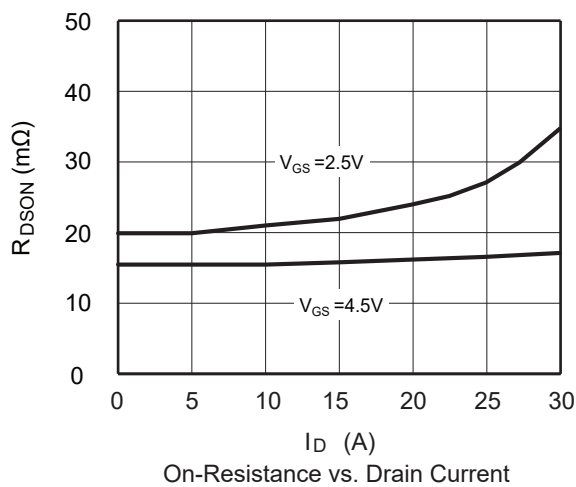
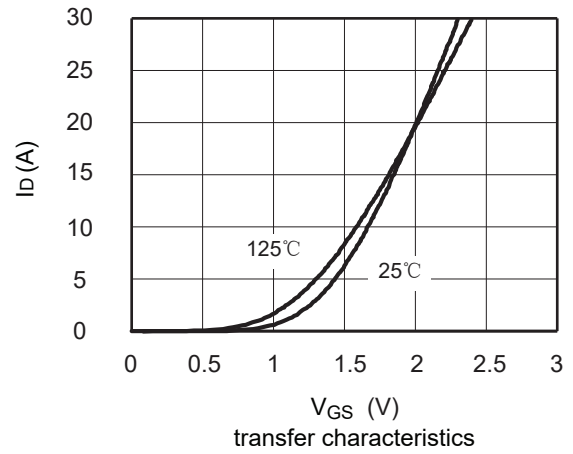
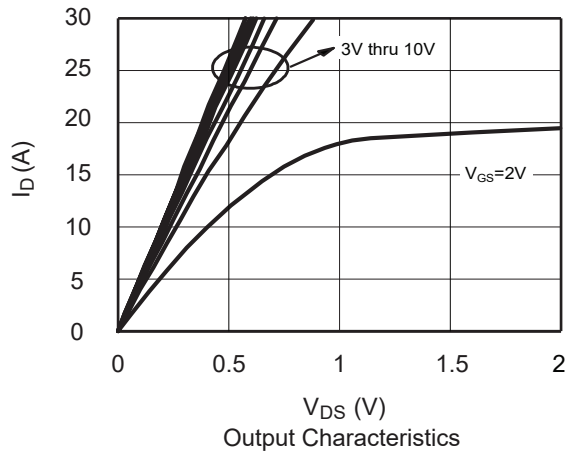
1.The EAS data shows Max. rating . The test condition is $V_{DD}=15V$, $V_{GS}=10V$, $L=0.5mH$, $I_{AS}=8A$.

This product has been designed and qualified for the consumer market.

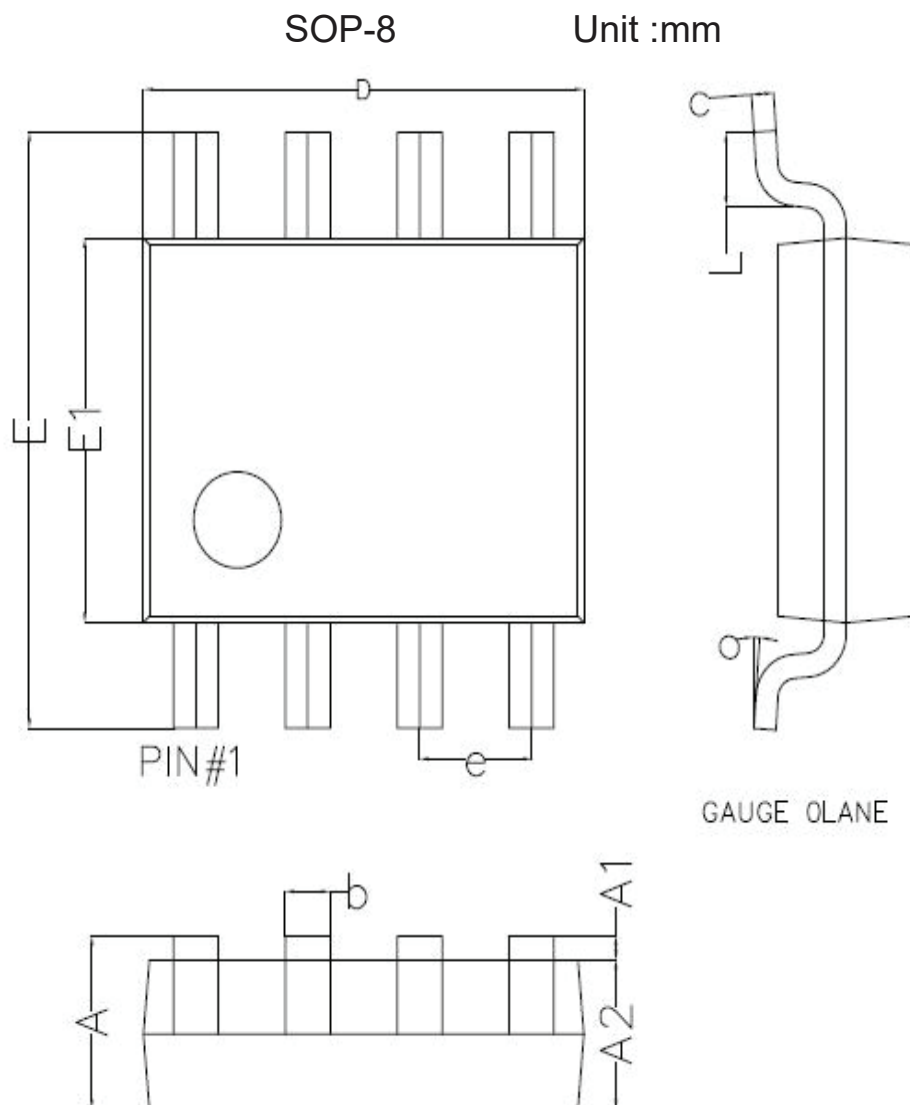
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Cmos reserves the right to improve product design , functions and reliability without notice.Please refer to the latest version of specification.

Typical Characteristics



Package Dimension



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°