

General Description

The CMS4443 uses advanced trench technology to provide excellent $R_{DS(ON)}$. This device is suitable for use as a load switch or in PWM applications.

Features

- P-Channel MOSFET
- Low ON-resistance
- Surface Mount Package
- RoHS Compliant

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-40	V
V_{GS}	Gate-Source Voltage	±20	V
$I_D@T_A=25^\circ\text{C}$	Continuous Drain Current	-6	A
$I_D@T_A=70^\circ\text{C}$	Continuous Drain Current	-4.5	A
I_{DM}	Pulsed Drain Current	-24	A
EAS	Single Pulse Avalanche Energy ¹	64	mJ
$P_D@T_A=25^\circ\text{C}$	Total Power Dissipation	3.0	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
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	42	°C/W

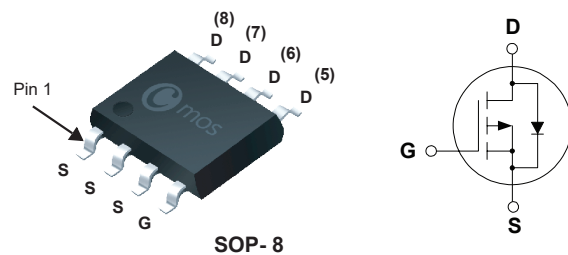
Product Summary

BVDSS	$R_{DS(on)}$ max.	ID
-40V	45mΩ	-6A

Applications

- DC/DC Converter
- notebook computer power management

SOP-8 Pin Configuration



Type	Package	Marking
CMS4443	SOP- 8	CMS4443

Electrical Characteristics (T_J=25°C , unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V , I _D =-250uA	-40	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =-10V , I _D = -6A	---	40	45	mΩ
		V _{GS} =-4.5V , I _D = -4A	---	50	57	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =-250uA	-1	---	-3	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =-40V , V _{GS} =0V , T _J =25°C	---	---	-1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±20V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =-5V , I _D =-5A	---	11	---	S
R _g	Gate Resistance	V _{DS} =0V , V _{GS} =0V , f=1MHz	---	75	---	Ω
Q _g	Total Gate Charge	V _{DS} =-28V , I _D =-6A V _{GS} =-10V	---	20	---	nC
Q _{gs}	Gate-Source Charge		---	3.1	---	
Q _{gd}	Gate-Drain Charge		---	4.4	---	
T _{d(on)}	Turn-On Delay Time	V _{DD} =-20V , R _{GEN} =3.3Ω I _D =-1A , V _{GS} =-10V	---	11	---	ns
T _r	Rise Time		---	21.5	---	
T _{d(off)}	Turn-Off Delay Time		---	32.5	---	
T _f	Fall Time		---	15	---	
C _{iss}	Input Capacitance	V _{DS} =-25V, V _{GS} =0V , f=1MHz	---	1050	---	pF
C _{oss}	Output Capacitance		---	90	---	
C _{riss}	Reverse Transfer Capacitance		---	35	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V , Force Current	---	---	-6	A
I _{SM}	Pulsed Source Current		---	---	-24	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _F =-6A	---	-0.85	-1.2	V

Note :

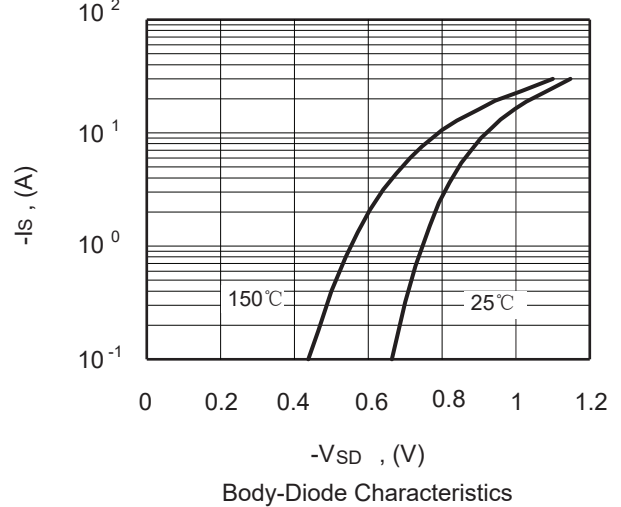
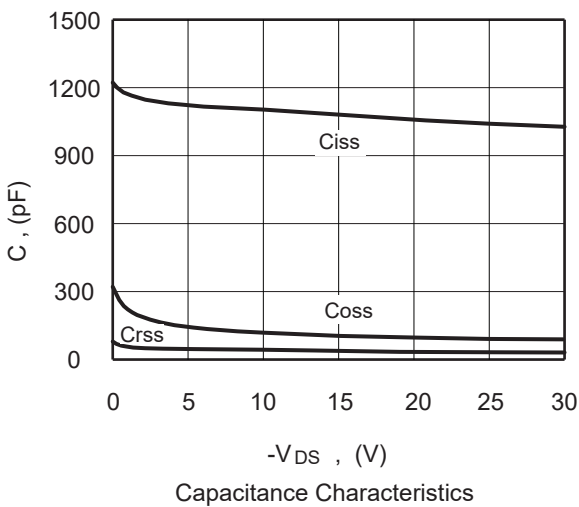
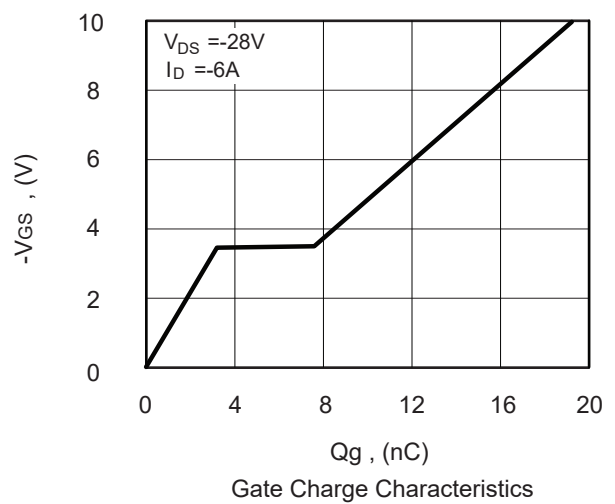
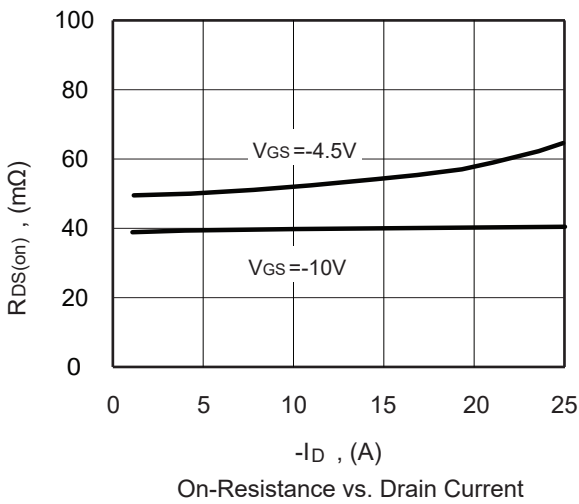
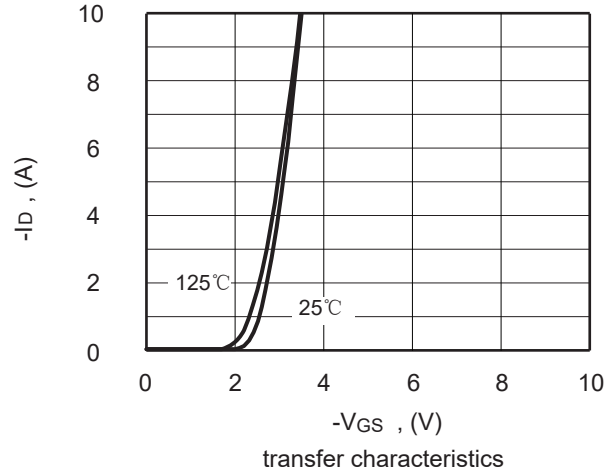
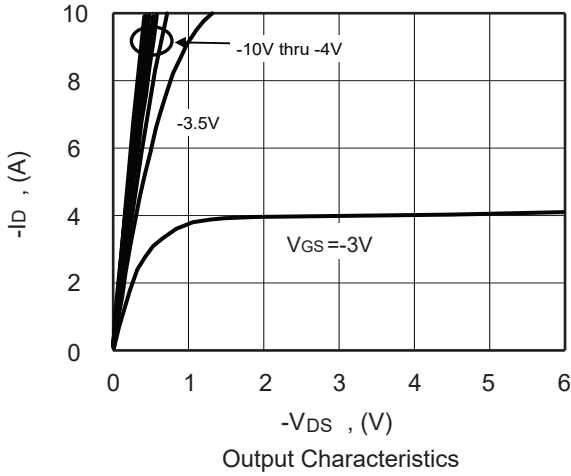
1.The EAS data shows Max. rating . The test condition is V_{DD}=-30V , V_{GS}=-10V , L=0.5mH , I_{AS}=-16A.

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.

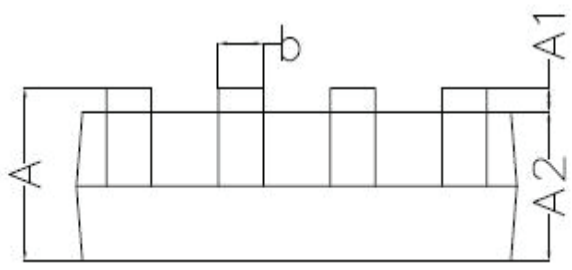
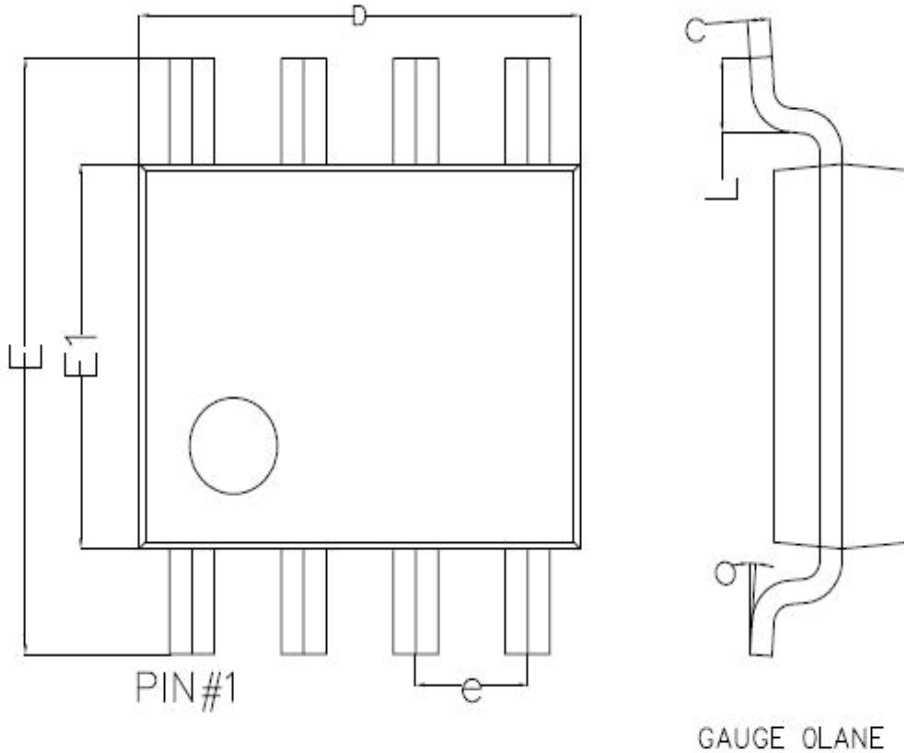
Typical Characteristics



Package Dimension

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°