

Dual P-Channel Enhancement Mode MOSFET

General Description

The CMS4207 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

- Low On-Resistance
- 100% avalanche tested
- Surface Mount Package
- RoHS Compliant

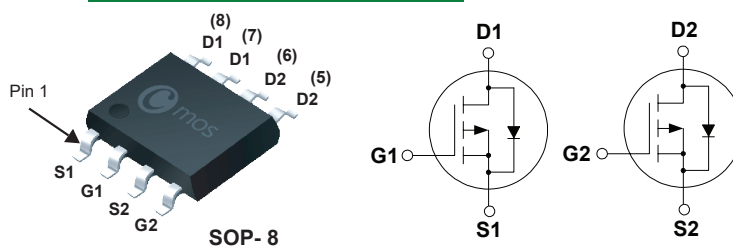
Product Summary

BVDSS	$R_{DS(on)}$ max.	ID
-40V	45mΩ	-7A

Applications

- Inverter Switch
- Synchronous Rectifier
- Load Switch
- DC/DC Converter

SOP-8 Pin Configuration



Type	Package	Marking
CMS4207	SOP- 8	CMS4207

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-30	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D @ T_A = 25^\circ\text{C}$	Continuous Drain Current	-7	A
$I_D @ T_A = 70^\circ\text{C}$	Continuous Drain Current	-4.5	A
I_{DM}	Pulsed Drain Current	-28	A
$P_D @ T_A = 25^\circ\text{C}$	Total Power Dissipation	2	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	150	$^\circ\text{C}$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	62.5	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance Junction-case	---	30	$^\circ\text{C}/\text{W}$

Dual P-Channel Enhancement Mode MOSFET

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=-250\mu A$	-40	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=-10V$, $I_D=-6A$	---	---	45	$m\Omega$
		$V_{GS}=-4.5V$, $I_D=-4A$	---	---	60	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D = -250\mu A$	-1	---	-3	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=-40V$, $V_{GS}=0V$	---	---	-1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS} = \pm 20V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=-10V$, $I_D=-5A$	---	6	---	S
Q_g	Total Gate Charge	$V_{DS}=-28V$, $V_{GS}=-10V$, $I_D=-6A$	---	18	---	nC
Q_{gs}	Gate-Source Charge		---	3.1	---	
Q_{gd}	Gate-Drain Charge		---	4.4	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=-15V$, $V_{GS}=-10V$ $R_{GEN}=6\Omega$, $I_D=-1A$	---	16	---	ns
T_r	Rise Time		---	5	---	
$T_{d(off)}$	Turn-Off Delay Time		---	60	---	
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_{rss}	Reverse Transfer Capacitance		---	35	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_{SD}=-4A$	---	---	-1.2	V

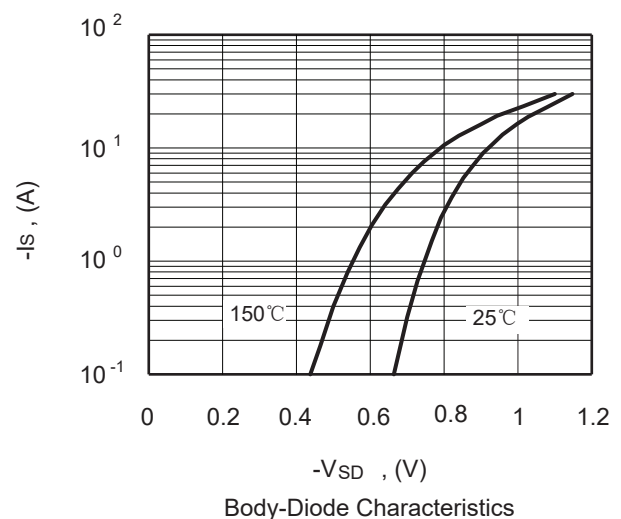
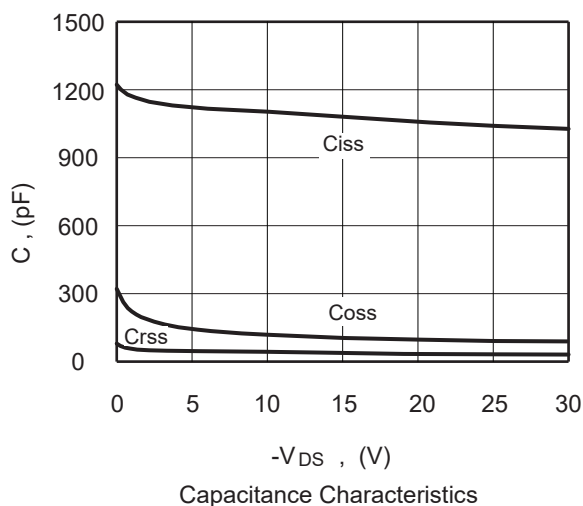
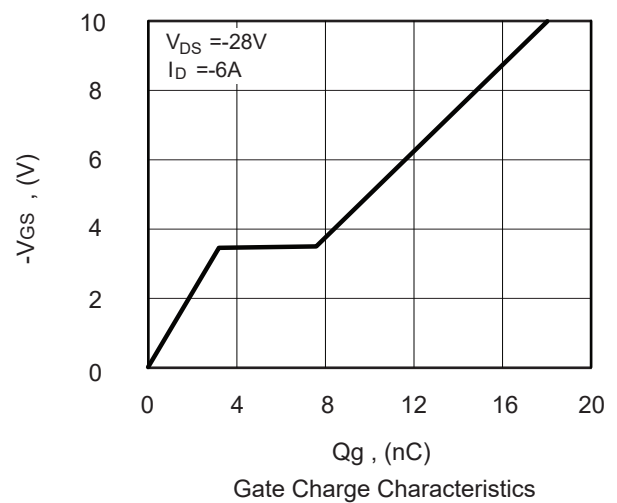
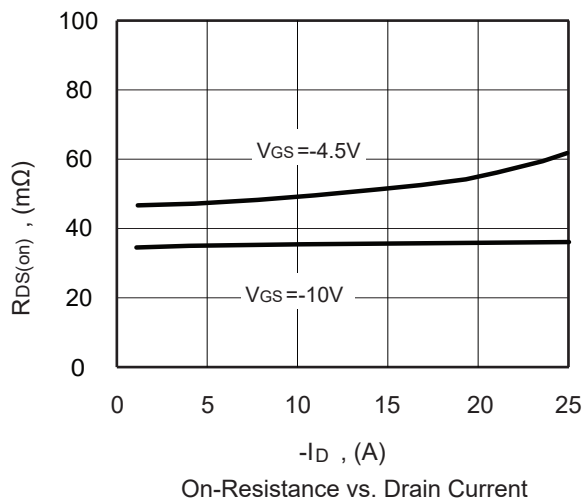
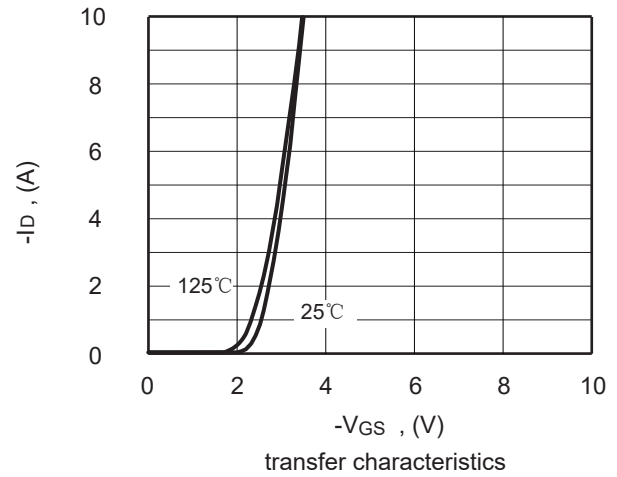
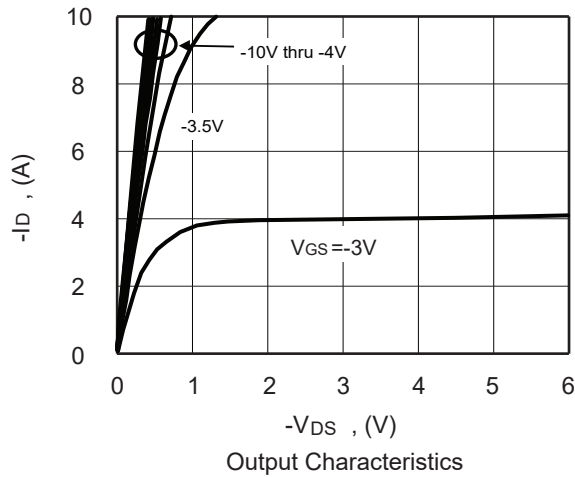
This product has been designed and qualified for the consumer market.

Cmos assumes no liability for customers' product design or applications.

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

Dual P-Channel Enhancement Mode MOSFET

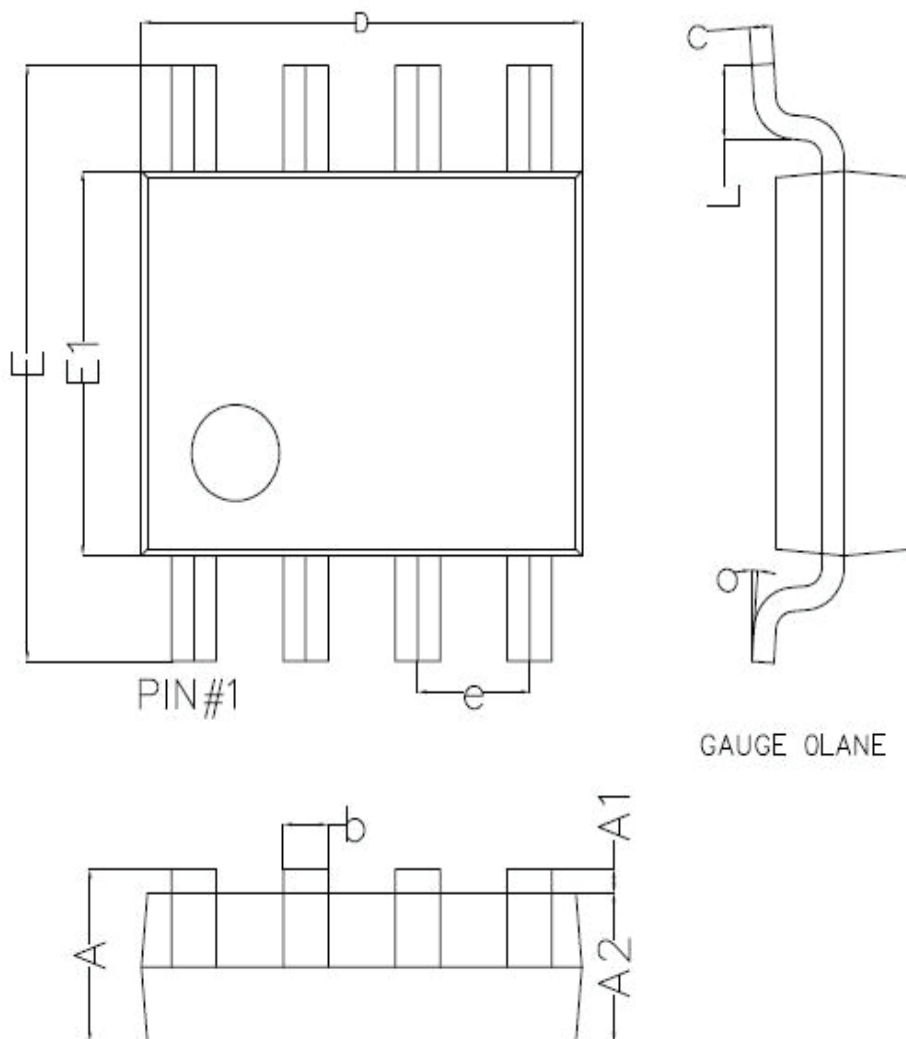
Typical Characteristics



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°