

General Description

The CMS6679S uses advanced trench technology to provide excellent $R_{DS(ON)}$ and ultra-low low gate charge. This device is suitable for use as a load switch or in PWM applications.

Features

- $R_{DS(ON)}=22m\Omega$ @ $V_{GS}=-10V$
- $R_{DS(ON)}=38m\Omega$ @ $V_{GS}=-4.5V$
- Ultra low On-Resistance.
- Surface mount package.

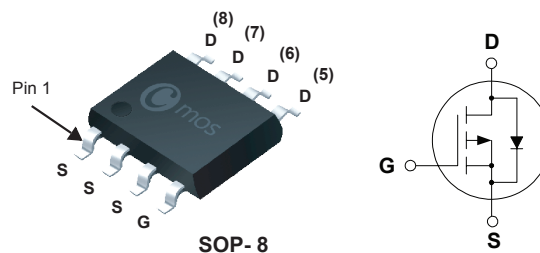
Product Summary

BVDSS	$R_{DS(ON)}$	ID
-30V	22m Ω	-18A

Applications

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

SOP-8 Pin Configuration



Type	Package	Marking
CMS6679S	SOP- 8	CMS6679S

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

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-30	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Continuous Drain Current	-18	A
I_{DM}	Pulsed Drain Current	-60	A
$P_D@T_A=25^{\circ}C$	Total Power Dissipation	3	W
T_{STG}	Storage Temperature Range	-55 to 150	$^{\circ}C$
T_J	Operating Junction Temperature Range	150	$^{\circ}C$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	---	150	$^{\circ}C/W$

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=-250\mu A$	-30	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=-10V$, $I_D=-10A$	---	---	22	$m\Omega$
		$V_{GS}=-4.5V$, $I_D=-10A$	---	---	38	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D = -250\mu A$	-1	---	-3	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=-24V$, $V_{GS}=0V$	---	---	-1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS} = \pm 20V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=-5V$, $I_D=-10A$	---	22	---	S
Q_g	Total Gate Charge	$V_{DS}=-15V$, $V_{GS}=-10V$, $I_D=-18A$	---	25	---	nC
Q_{gs}	Gate-Source Charge		---	5	---	
Q_{gd}	Gate-Drain Charge		---	8	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=-15V$, $V_{GS}=-10V$, $R_L=1.25\Omega$ $R_{GEN}=3\Omega$	---	10	---	ns
T_r	Rise Time		---	9	---	
$T_{d(off)}$	Turn-Off Delay Time		---	30	---	
T_f	Fall Time		---	10	---	
C_{iss}	Input Capacitance	$V_{DS}=-15V$, $V_{GS}=0V$, $f=1MHz$	---	2500	---	pF
C_{oss}	Output Capacitance		---	500	---	
C_{rss}	Reverse Transfer Capacitance		---	300	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_{SD}=-1A$	---	---	-1.3	V

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