CMS8447B

40V N-Channel MOSFET

General Description

The CMS8447B uses advanced trench technology to provide excellent RDS(ON). This is an all purpose device that is suitable for use in a wide range of power conversion applications.

Product Summary

BVDSS	RDSON	ID
40V	23mΩ	11A

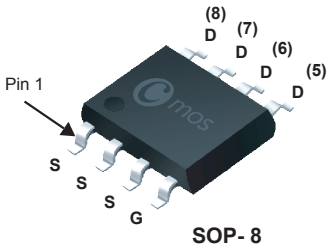
Applications

- DC/DC converter
- Portable Equipment

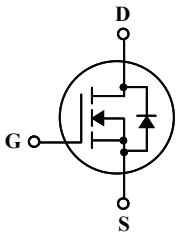
Features

- Max $r_{DS(on)}$ = 23mΩ at V_{GS} = 10V
- Max $r_{DS(on)}$ = 27mΩ at V_{GS} = 4.5V
- Fast Switching
- RoHS Compliant

SOP-8 Pin Configuration



SOP- 8



Type	Package	Marking
CMS8447B	SOP- 8	CMS8447B

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	40	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_C=25℃	Continuous Drain Current	11	A
I_{DM}	Pulsed Drain Current	33	A
P_D@T_C=25℃	Total Power Dissipation	2.5	W
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	-55 to 150	℃

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	50	℃/W
$R_{\theta JL}$	Thermal Resistance Junction-Lead	---	20	℃/W

Electrical Characteristics (T_J=25℃ , 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=11A	---	---	23	mΩ
		V_{GS}=4.5V , I_D=8A	---	---	27	
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =250 uA	1	---	3	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=32V , V_{GS}=0V	---	---	1	uA
I_{GSS}	Gate-Source Leakage Current	V_{GS} =±20V , V_{DS}=0V	---	---	±100	nA
gfs	Forward Transconductance	V_{DS}=5V , I_D=11A	---	12.8	---	S
Q_g	Total Gate Charge	I_D=11A V_{DS} =20V V_{GS} =10V	---	15	---	nC
Q_{gs}	Gate-Source Charge		---	2.5	---	
Q_{gd}	Gate-Drain Charge		---	4	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DS} =20V I_D=11A R_{GEN} =6Ω V_{GS} =10 V	---	7	---	ns
T_r	Rise Time		---	13	---	
$T_{d(off)}$	Turn-Off Delay Time		---	29	---	
T_f	Fall Time		---	6	---	
C_{iss}	Input Capacitance	V_{DS}=20V , V_{GS}=0V , f=1MHz	---	1150	---	pF
C_{oss}	Output Capacitance		---	185	---	
C_{rss}	Reverse Transfer Capacitance		---	90	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_S=3A	---	0.79	1.2	V

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