CMF60P06

P-Channel Enhancement Mode MOSFET

General Description

The CMF60P06 uses advanced trench technology and design to provide excellent RDS(ON). It can be used in a wide variety of applications.

Product Summary

BVDSS	RDSON	ID
-60V	19.5mΩ	-60A

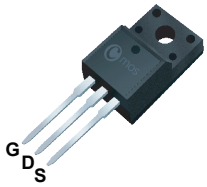
Applications

- Inverters
- Motor drive
- DC / DC converter

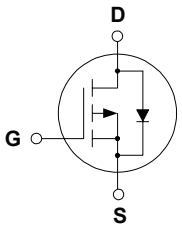
Features

- Fast switching
- 100% avalanche tested
- Lower On-resistance
- RoHS Compliant

TO-220 Pin Configuration



TO-220F



Type	Package	Marking
CMF60P06	TO-220F	CMF60P06

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-60	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_C=25℃	Continuous Drain Current	-60	A
I_D@T_C=100℃	Continuous Drain Current	-48	A
I_{DM}	Pulsed Drain Current	-180	A
EAS	Single Pulse Avalanche Energy	340	mJ
P_D@T_C=25℃	Total Power Dissipation	60	W
T_{STG}	Storage Temperature Range	-55 to 175	℃
T_J	Operating Junction Temperature Range	-55 to 175	℃

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	40	℃/W
$R_{\theta JC}$	Thermal Resistance Junction-case	---	1.2	℃/W

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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	-60	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=-10V , I_D=-20A	---	---	19.5	mΩ
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=-4.5V , I_D=-20A	---	---	22	mΩ
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =-250uA	-1	---	-3	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=-60V, V_{GS}=0V	---	---	1	uA
I_{GSS}	Gate-Source Leakage Current	V_{GS} = ±20V , V_{DS}=0V	---	---	±100	nA
gfs	Forward Transconductance	V_{DS}=-10 V , I_D=-10A	---	32	---	S
R_g	Gate Resistance	V_{DS}=0V , V_{GS}=0V , f=1MHz	---	9	---	Ω
Q_g	Total Gate Charge	I_D=-55A V_{DS} =-30V V_{GS} =-4.5V	---	37	---	nC
Q_{gs}	Gate-Source Charge		---	15	---	
Q_{gd}	Gate-Drain Charge		---	20	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DD} =-2V , I_{DS} =-10A R_L =2Ω R_G=1Ω V_{GEN} =-10V	---	11	---	ns
T_r	Rise Time		---	6	---	
$T_{d(off)}$	Turn-Off Delay Time		---	71	---	
T_f	Fall Time		---	41	---	
C_{iss}	Input Capacitance	V_{DS}=-25V ,V_{GS}=0V , f=1MHz	---	5800	---	pF
C_{oss}	Output Capacitance		---	390	---	
C_{rss}	Reverse Transfer Capacitance		---	290	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	V_G=V_D=0V , Force Current	---	---	-60	A
I_{SM}	Pulsed Source Current		---	---	-180	A
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_S=-20A ,T_J=25℃	---	---	-1.2	V

Note :

This product has been designed and qualified for the counsumer market.
Cmos assumes no liability for customers' product design or applications.
Cmos reserver the right to improve product design ,functions and reliability withtout notice.