

P-Channel Enhancement Mode MOSFET

General Description

The 60P06 uses advanced trench technology and design to provide excellent RDS(ON). It can be used in a wide variety of applications.

Features

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

Absolute Maximum Ratings

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

Thermal Data

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

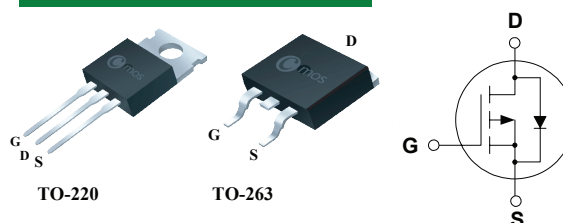
Product Summary

BVDSS	RDSON	ID
-60V	19.5m Ω	-60A

Applications

- Inverters
- Motor drive
- DC / DC converter

TO-220 Pin Configuration



Type	Package	Marking
CMP60P06	TO-220	CMP60P06
CMB60P06	TO-263	CMB60P06

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=-250\mu A$	-60	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=-10V$, $I_D=-20A$	---	---	19.5	m Ω
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=-4.5V$, $I_D=-20A$	---	---	22	m Ω
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=-250\mu A$	-1	---	-3	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=-60V$, $V_{GS}=0V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=-10V$, $I_D=-10A$	---	32	---	S
R_g	Gate Resistance	$V_{DS}=0V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	9	---	Ω
Q_g	Total Gate Charge	$I_D=-55A$	---	37	---	nC
Q_{gs}	Gate-Source Charge	$V_{DS}=-30V$	---	15	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=-4.5V$	---	20	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=-2V$, $I_{DS}=-10A$	---	11	---	ns
T_r	Rise Time	$R_L=2\Omega$	---	6	---	
$T_{d(off)}$	Turn-Off Delay Time	$R_G=1\Omega$	---	71	---	
T_f	Fall Time	$V_{GEN}=-10V$	---	41	---	
C_{iss}	Input Capacitance	$V_{DS}=-25V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	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	$V_{GS}=0V$, $I_S=-20A$, $T_J=25^{\circ}\text{C}$	---	---	-1.2	V

Note :

This product has been designed and qualified for the consumer market.
 Cmos assumes no liability for customers' product design or applications.
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