CMP80N06A/CMB80N06A

60V N-Channel MOSFET

General Description

The 80N06Auses advanced trench technology and design to provide excellent RDS(ON) . This device is suitable for PWM, load switching and general purpose applications.

Product Summary

BVDSS	RDSON	ID
60V	6.5mΩ	90A

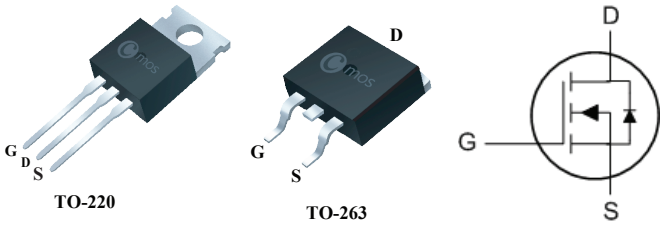
Applications

- Synchronous Rectification for power supply
- Ideal for boost converters

Features

- VDS =60V,ID =90A
  RDS(ON) <6.5mΩ @ VGS=10V
- Very low on-resistance RDS(ON)
- RoHS and Halogen Free Compliant

TO-220/263 Pin Configuration



Type	Package	Marking
CMP80N06A	TO-220	CMP80N06A
CMB80N06A	TO-263	CMB80N06A

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	90	A
I_D@T_C=100℃	Continuous Drain Current	72	A
I_{DM}	Pulsed Drain Current	270	A
EAS	Single Pulse Avalanche Energy	490	mJ
P_D	Total Power Dissipation	170	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	---	60	℃/W
$R_{\theta JC}$	Thermal Resistance Junction -Case	---	0.88	℃/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=250μA	60	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=10V , I_D=20A	---	---	6.5	mΩ
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =250uA	2	---	4	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=68V , V_{GS} =0V	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	V_{GS} =±20V, V_{DS}=0V	---	---	±100	nA
gfs	Forward Transconductance	V_{DS}=10V,I_D=28A	---	22	---	S
R_g	Gate Resistance	V_{DS}=0V , V_{GS}=0V , f=1MHz	---	2.5	---	Ω
Q_g	Total Gate Charge	I_D=30A V_{DS}=30 V V_{GS}=10V	---	86	---	nC
Q_{gs}	Gate-Source Charge		---	19	---	
Q_{gd}	Gate-Drain Charge		---	29	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DD}=30 V I_D=1A R_G =2.5Ω V_{GS}=10V	---	17	---	ns
T_r	Rise Time		---	11	---	
$T_{d(off)}$	Turn-Off Delay Time		---	56	---	
T_f	Fall Time		---	14	---	
C_{iss}	Input Capacitance	V_{DS}=30V , V_{GS}=0V , f=1MHz	---	5300	---	pF
C_{oss}	Output Capacitance		---	345	---	
C_{rss}	Reverse Transfer Capacitance		---	320	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	V_G=V_D=0V , Force Current	---	---	90	A
I_{SM}	Pulsed Source Current		---	---	270	A
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_S=50 A , T_J=25℃	---	---	1.2	V

Notes:

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 wihtout notice.