

General Description

The 80N06P uses advanced power innovative design and silicon process technology to provide excellent RDS(ON). It can be used in a wide variety of applications.

Product Summary

BVDSS	RDSON	ID
60V	22mΩ	80A

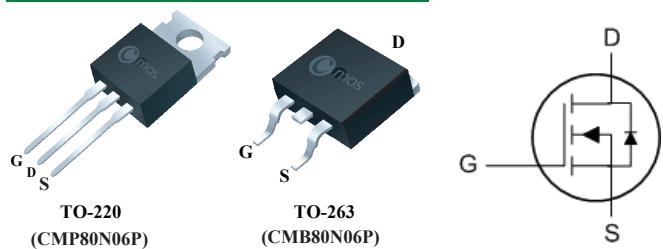
Applications

- DC-DC converters
- LED power controller
- High current, high speed switching
- Motor control, Audio amplifiers

Features

- Fast switching
- Low On-Resistance
- 100% avalanche tested
- RoHS Compliant

TO-220/263 Pin Configuration



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	80	A
$I_D @ T_c = 100^\circ\text{C}$	Continuous Drain Current	50	A
I_{DM}	Pulsed Drain Current ¹	320	A
EAS	Single Pulse Avalanche Energy ²	450	mJ
$P_D @ T_c = 25^\circ\text{C}$	Total Power Dissipation	145	W
T_{STG}	Storage Temperature Range	-55 to 150	°C
T_J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	62	°C/W
$R_{\theta JC}$	Thermal Resistance Junction-case	---	0.8	°C/W

Electrical Characteristics (T_J=25°C , 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 _{DSON}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =25A	---	---	22	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} =60V , V _{GS} =0V	---	---	1	uA
		V _{DS} =48V , V _{GS} =0V@150°C	---	---	10	
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±20V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =10V , I _D =22A	---	24	---	S
Q _g	Total Gate Charge	I _D =40A	---	70	---	nC
Q _{gs}	Gate-Source Charge		---	22	---	
Q _{gd}	Gate-Drain Charge		---	34	---	
T _{d(on)}	Turn-On Delay Time	V _{DS} =30V I _D =40A R _G =25Ω	---	28	---	ns
T _r	Rise Time		---	120	---	
T _{d(off)}	Turn-Off Delay Time		---	70	---	
T _f	Fall Time		---	55	---	
C _{iss}	Input Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz	---	2800	---	pF
C _{oss}	Output Capacitance		---	550	---	
C _{rss}	Reverse Transfer Capacitance		---	200	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _s	Continuous Source Current	V _G =V _D =0V , Force Current	---	---	80	A
I _{SM}	Pulsed Source Current ¹		---	---	320	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =1 A, T _J =25°C	---	---	1.5	V

Note :

1.Repetitive rating; pulse width limited by max. junction temperature.

2.The test condition is V_{DD}=40V , V_{GS}=10V , L=1mH , I_{AS}=30A

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Cmos reserves the right to improve product design ,functions and reliability without notice.