CMP130N07/CMB130N07

N-Channel Enhancement Mode Field Effect Transistor

General Description

The 130N07 is N-Channel MOSFET, It has specifically been designed to minimize input capacitance and gate charge. The device is therefore suitable in advanced high-efficiency switching applications.

Product Summary

BVDSS	RDSON	ID
70V	6.0mΩ	130A

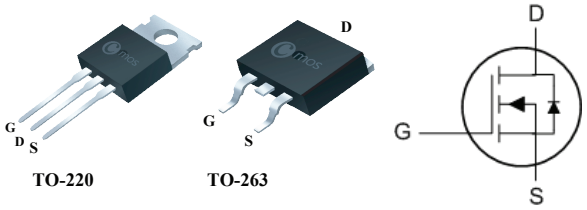
Applications

- Motor Control
- DC-DC converters
- Switching applications

Features

- Minimize input capacitance and gate charge
- 100% avalanche tested
- Low On-Resistance

TO-220/263 Pin Configuration



Type	Package	Marking
CMP130N07	TO-220	CMP130N07
CMB130N07	TO-263	CMB130N07

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	70	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_C=25℃	Continuous Drain Current	130	A
I_D@T_C=100℃	Continuous Drain Current	100	A
I_{DM}	Pulsed Drain Current	390	A
EAS	Single Pulse Avalanche Energy	600	mJ
P_D@T_C=25℃	Total Power Dissipation	200	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	---	62	℃/W
$R_{\theta JC}$	Thermal Resistance Junction-case	---	0.75	℃/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	70	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=10V , I_D=30A	---	---	6	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}=70V, 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=32A	---	28	---	S
R_g	Gate Resistance	V_{DS}=0V , V_{GS}=0V , f=1MHz	---	2.2	---	Ω
Q_g	Total Gate Charge	I_D=30A V_{DD}=35V V_{GS}=10 V	---	126	---	nC
Q_{gs}	Gate-Source Charge		---	25	---	
Q_{gd}	Gate-Drain Charge		---	50	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DD}=35V I_D=2A R_G=2.5Ω V_{GS}=10V	---	21	---	ns
T_r	Rise Time		---	20	---	
$T_{d(off)}$	Turn-Off Delay Time		---	71	---	
T_f	Fall Time		---	50	---	
C_{iss}	Input Capacitance	V_{DS}=25V , V_{GS}=0V , f=1MHz	---	5900	---	pF
C_{oss}	Output Capacitance		---	411	---	
C_{rss}	Reverse Transfer Capacitance		---	316	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	V_G=V_D=0V , Force Current	---	---	130	A
I_{SM}	Pulsed Source Current		---	---	390	A
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_S=50A , T_J=25℃	---	---	1.2	V

Note :

This product has been designed and qualified for the counsumer market.
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