

General Description

The 055N06 uses advanced technology to provide excellent RDS (ON) . This device is suitable to be used as the low side FET general purpose.

Features

- Low On-Resistance
- 100% avalanche tested
- Simple Drive Requirements
- RoHS Compliant

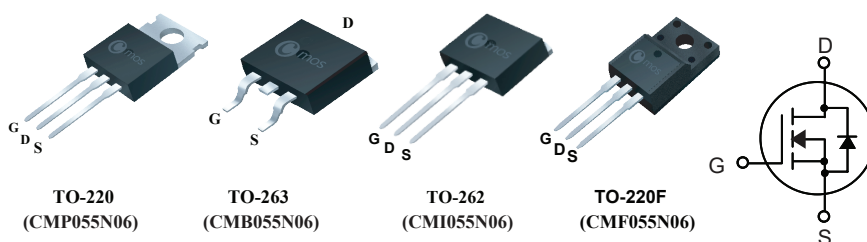
Product Summary

BVDSS	R _{DS(on)} max.	ID
60V	5.5mΩ	90A

Applications

- DC-DC Converter
- Motor Drive
- Powertrain Management

TO-220/263/262/220F Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	220/263/262	220F	Units
V _{DS}	Drain-Source Voltage	60		V
V _{GS}	Gate-Source Voltage	±20		V
I _D @T _C =25°C	Continuous Drain Current	90	90*	A
I _D @T _C =100°C	Continuous Drain Current	66	66*	A
I _{DM}	Pulsed Drain Current	360	360*	A
EAS	Single Pulse Avalanche Energy (Note 1)	189		mJ
P _D @T _C =25°C	Total Power Dissipation	125	35	W
T _{STG}	Storage Temperature Range	-55 to 150		°C
T _J	Operating Junction Temperature Range	150		°C

* Drain current limited by maximum junction temperature.

Thermal Data

Symbol	Parameter	220/263/262	220F	Unit
R _{θJA}	Thermal Resistance Junction-ambient Max.	31.3	31.3	°C/W
R _{θJC}	Thermal Resistance Junction-case Max.	1	3.57	°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 =250μA	60	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V, I _D =28A	---	5.1	5.5	mΩ
		V _{GS} =4.5V, I _D =20A	---	7.4	8.5	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250μA	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} = ±20V, V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =10V, I _D =15A	---	22	---	S
R _g	Gate Resistance	V _{DS} =0V, V _{GS} =0V, f=1MHz	---	1	---	Ω
Q _g	Total Gate Charge	V _{DS} =30V, I _D =21A V _{GS} =10 V	---	26	---	nC
Q _{gs}	Gate-Source Charge		---	8	---	
Q _{gd}	Gate-Drain Charge		---	9	---	
T _{d(on)}	Turn-On Delay Time	V _{DS} =30V, V _{GS} =10V, I _D =10.5A R _{GEN} =4.7Ω	---	16	---	ns
T _r	Rise Time		---	18	---	
T _{d(off)}	Turn-Off Delay Time		---	25	---	
T _f	Fall Time		---	7	---	
C _{iss}	Input Capacitance	V _{DS} =25V, V _{GS} =0V, f=1MHz	---	1550	---	pF
C _{oss}	Output Capacitance		---	750	---	
C _{rss}	Reverse Transfer Capacitance		---	60	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Diode continuous forward current	V _G =V _D =0V, Force Current	---	---	90	A
I _{S,pulse}	Diode pulse current		---	---	360	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V, I _F =30A, T _J =25 °C	---	0.88	1.2	V

Note :

1.The EAS data shows Max. rating .The test condition is V_{DS}=30V, V_{GS}=10V, L=0.5mH, I_{AS}=27.5A.

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

Cmos assumes no liability for customers' product design or applications.

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

Typical Characteristics

