

General Description

The 162N04P uses advanced planar stripe DMOS technology and design to provide excellent RDS(ON). It can be used in a wide variety of applications.

Features

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

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	40	V
V_{GS}	Gate-Source Voltage	±20	V
$I_D@T_C=25^{\circ}\text{C}$	Continuous Drain Current	160	A
$I_D@T_C=100^{\circ}\text{C}$	Continuous Drain Current	128	A
I_{DM}	Pulsed Drain Current	640	A
EAS	Single Pulse Avalanche Energy	1980	mJ
$P_D@T_C=25^{\circ}\text{C}$	Total Power Dissipation	170	W
T_{STG}	Storage Temperature Range	-55 to 175	°C
T_J	Operating Junction Temperature Range	-55 to 175	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	62.5	°C/W
$R_{\theta JC}$	Thermal Resistance Junction-case	---	0.88	°C/W

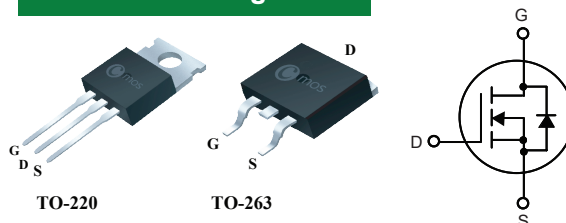
Product Summary

BVDSS	R _{DS(on)} max.	ID
40V	6.2mΩ	160A

Applications

- LED power controller
- DC-DC & DC-AC converters
- High current, high speed switching
- Solenoid and relay drivers
- Motor control, Audio amplifiers

TO-220 Pin Configuration



Type	Package	Marking
CMP162N04P	TO-220	CMP162N04P
CMB162N04P	TO-263	CMB162N04P

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	40	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =28A	---	5.2	6.2	mΩ
		V _{GS} =6V , I _D =25A	---	7.5	9	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	2	---	4	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =40V , V _{GS} =0V	---	---	1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±20V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =5V , I _D = 14A	---	30	---	S
R _g	Gate Resistance	V _{DS} =0V , V _{GS} =0V , f=1MHz	---	1	---	Ω
Q _g	Total Gate Charge	I _D = 160A	---	96	---	nC
Q _{gs}	Gate-Source Charge	V _{DD} =20V	---	19	---	
Q _{gd}	Gate-Drain Charge	V _{GS} = 10V	---	47	---	
T _{d(on)}	Turn-On Delay Time	V _{DD} =20V	---	32	---	ns
T _r	Rise Time	I _D = 160A	---	92	---	
T _{d(off)}	Turn-Off Delay Time	R _G =10Ω	---	101	---	
T _f	Fall Time	V _{GS} = 10V	---	69	---	
C _{iss}	Input Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz	---	3840	---	pF
C _{oss}	Output Capacitance		---	1710	---	
C _{rss}	Reverse Transfer Capacitance		---	470	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V , Force Current	---	---	160	A
I _{SM}	Pulsed Source Current		---	---	640	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =28A , T _J =25°C	---	---	1.3	V

Note :

1.The EAS data shows Max. rating . The test condition is V_{DD}=40V , V_{GS}=10V , L=1mH , I_{AS} =63A.

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

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Cmos reserver the right to improve product design ,functions and reliability wihtout notice.