

General Description

The 060N10 uses advanced technology and design to provide excellent $R_{DS(ON)}$. This device is suitable for PWM, load switching and general purpose applications.

Features

- $V_{DS} = 100V, I_D = 90A$
 $R_{DS(ON)} < 7.0m\Omega$ @ $V_{GS} = 10V$
- Very low on-resistance $R_{DS(ON)}$
- RoHS and Halogen Free Compliant

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	100	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D @ T_C = 25^\circ C$	Continuous Drain Current	90	A
$I_D @ T_C = 100^\circ C$	Continuous Drain Current	72	A
I_{DM}	Pulsed Drain Current	360	A
EAS	Single Pulse Avalanche Energy ¹	612	mJ
P_D	Total Power Dissipation	265	W
T_{STG}	Storage Temperature Range	-55 to 175	$^\circ C$
T_J	Operating Junction Temperature Range	-55 to 175	$^\circ C$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	60	$^\circ C/W$
$R_{\theta JC}$	Thermal Resistance Junction -Case	---	0.56	$^\circ C/W$

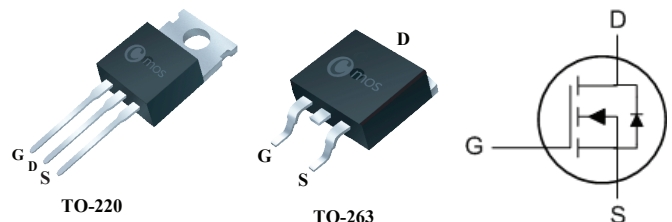
Product Summary

BVDSS	$R_{DS(ON)}$	I_D
100V	7.0m Ω	90A

Applications

- Synchronous Rectification for power supply
- Ideal for boost converters

TO-220/263 Pin Configuration



Type	Package	Marking
CMP060N10	TO-220	CMP060N10
CMB060N10	TO-263	CMB060N10

Electrical Characteristics ($T_J=25^{\circ}\text{C}$, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=250\mu A$	100	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=20A$	---	---	7.0	m Ω
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	2	---	4	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=50V$, $V_{GS}=0V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=10V$, $I_D=25A$	---	24	---	S
R_g	Gate Resistance	$V_{DS}=0V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	2.0	---	Ω
Q_g	Total Gate Charge	$I_D=20A$	---	39	---	nC
Q_{gs}	Gate-Source Charge	$V_{DS}=50V$	---	13	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=10V$	---	13	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=50V$	---	18	---	ns
T_r	Rise Time	$R_L=2.5\Omega$	---	25	---	
$T_{d(off)}$	Turn-Off Delay Time	$R_G=3.0\Omega$	---	31	---	
T_f	Fall Time	$V_{GS}=10V$	---	25	---	
C_{iss}	Input Capacitance	$V_{DS}=50V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	3500	---	pF
C_{oss}	Output Capacitance		---	1250	---	
C_{rss}	Reverse Transfer Capacitance		---	80	---	

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		---	---	360	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=50A$, $T_J=25^{\circ}\text{C}$	---	---	1.2	V

Notes:

1.The EAS data shows Max. rating . The test condition is $V_{DD}=40V$, $V_{GS}=10V$, $L=0.5\text{mH}$, $I_D=49.5A$

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