

General Description

The 063N15 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.

Features

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

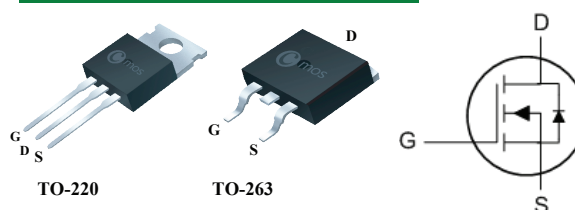
Product Summary

BVDSS	RDSON	ID
150V	6.5mΩ	157A

Applications

- Motor Control
- DC-DC converters
- Switching applications

TO-220/263 Pin Configuration



Type	Package	Marking
CMP063N15	TO-220	CMP063N15
CMB063N15	TO-263	CMB063N15

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	150	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_C=25^\circ\text{C}$	Continuous Drain Current	157	A
$I_D@T_C=100^\circ\text{C}$	Continuous Drain Current	125	A
I_{DM}	Pulsed Drain Current	470	A
EAS	Single Pulse Avalanche Energy	2450	mJ
$P_D@T_C=25^\circ\text{C}$	Total Power Dissipation	375	W
T_{STG}	Storage Temperature Range	-55 to 175	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	-55 to 175	$^\circ\text{C}$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	60	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance Junction-case	---	0.4	$^\circ\text{C}/\text{W}$

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=250\mu A$	150	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=40A$	---	---	6.5	m Ω
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	2.5	---	4.5	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=150V$, $V_{GS}=0V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=10V$, $I_D=40A$	---	42	---	S
R_g	Gate Resistance	$V_{DS}=0V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	4	---	Ω
Q_g	Total Gate Charge	$I_D=20A$	---	96	---	nC
Q_{gs}	Gate-Source Charge	$V_{DS}=75V$	---	22	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=10V$	---	16	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=75V$	---	18	---	ns
T_r	Rise Time	$R_{GEN}=3\Omega$	---	21	---	
$T_{d(off)}$	Turn-Off Delay Time	$R_L=3.75\Omega$	---	67	---	
T_f	Fall Time	$V_{GS}=10V$	---	15	---	
C_{iss}	Input Capacitance	$V_{DS}=25V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	5000	---	pF
C_{oss}	Output Capacitance		---	586	---	
C_{rss}	Reverse Transfer Capacitance		---	22	---	

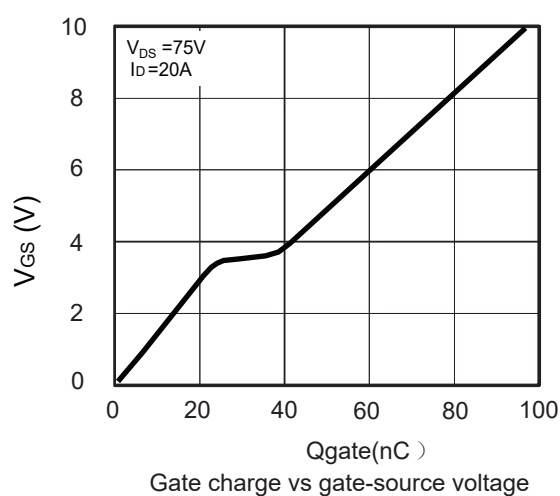
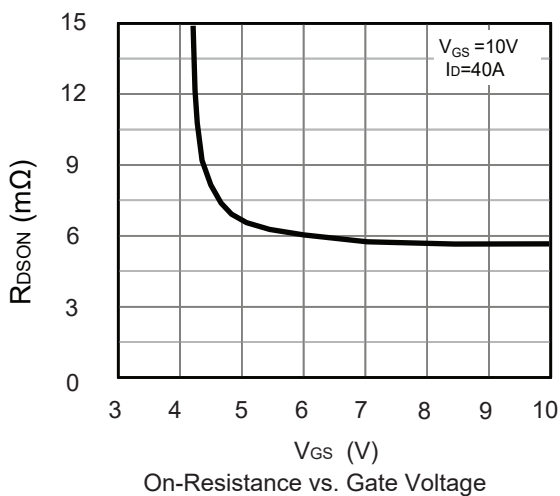
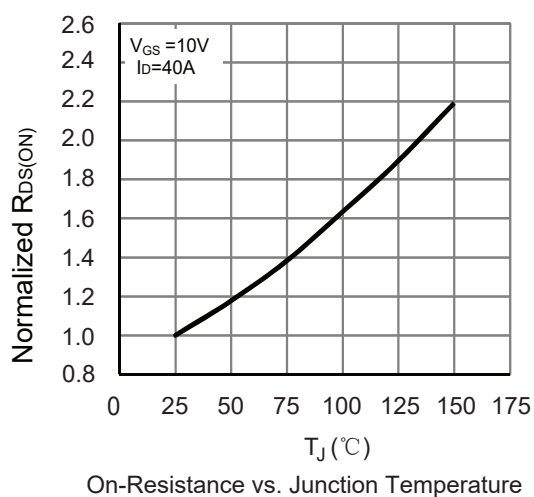
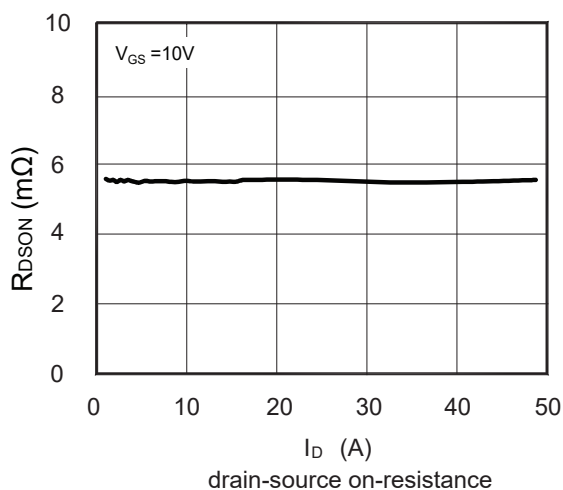
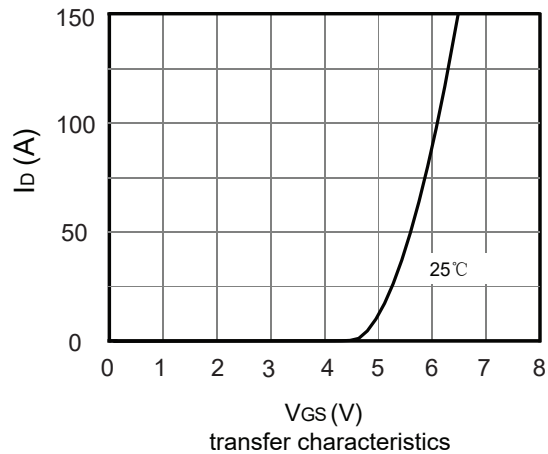
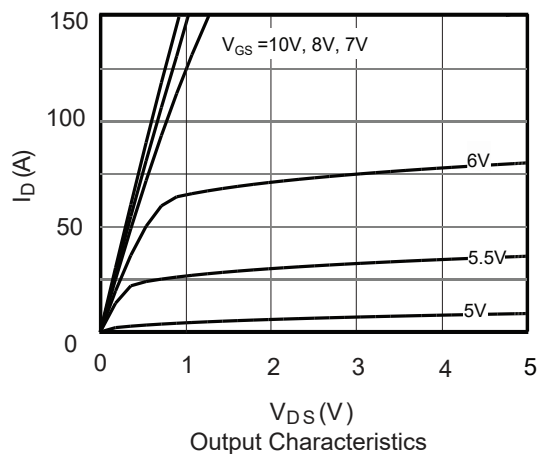
Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	$V_G=V_D=0V$, Force Current	---	---	150	A
I_{SM}	Pulsed Source Current		---	---	470	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=45A$, $T_J=25^{\circ}\text{C}$	---	---	1.2	V

Note :

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



Typical Characteristics

