

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

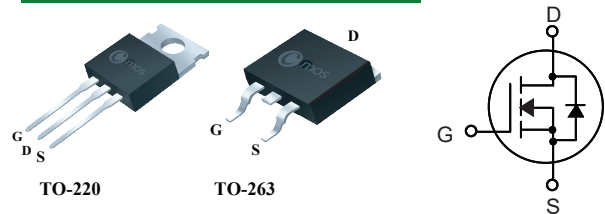
Product Summary

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
$I_D@T_C=25^{\circ}C$	Continuous Drain Current	157	A
$I_D@T_C=100^{\circ}C$	Continuous Drain Current	125	A
I_{DM}	Pulsed Drain Current	628	A
EAS	Single Pulse Avalanche Energy ¹	2450	mJ
$P_D@T_C=25^{\circ}C$	Total Power Dissipation	375	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	---	60	°C/W
$R_{\theta JC}$	Thermal Resistance Junction-case	---	0.4	°C/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	$V_{GS}=10V$, $I_D=40A$	---	5.5	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	$V_{DS}=10V$, $I_D=20A$	---	44	---	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		---	2650	---	
C_{rss}	Reverse Transfer Capacitance		---	190	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	$V_G=V_D=0V$, Force Current	---	---	157	A
I_{SM}	Pulsed Source Current		---	---	628	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=40A$, $T_J=25^{\circ}\text{C}$	---	---	1.2	V

Note :

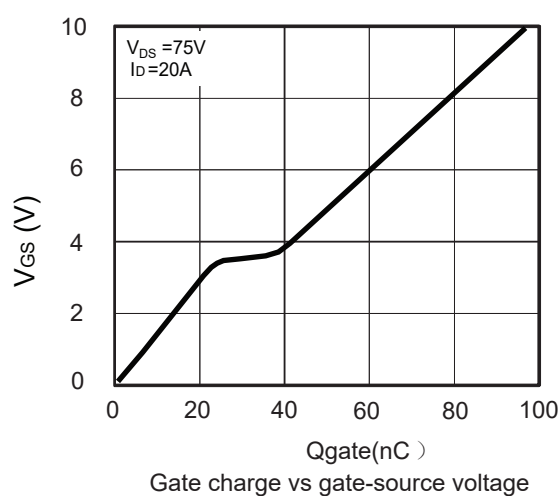
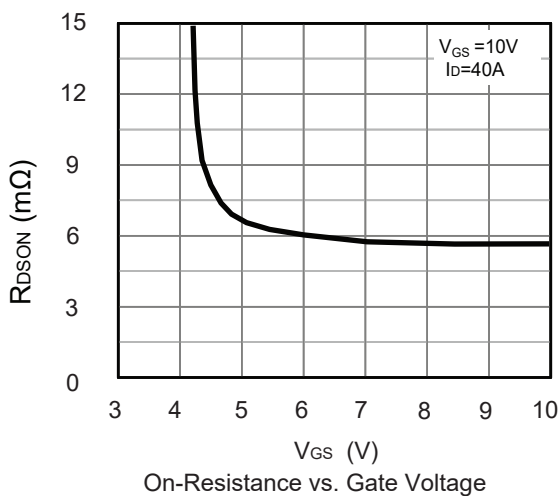
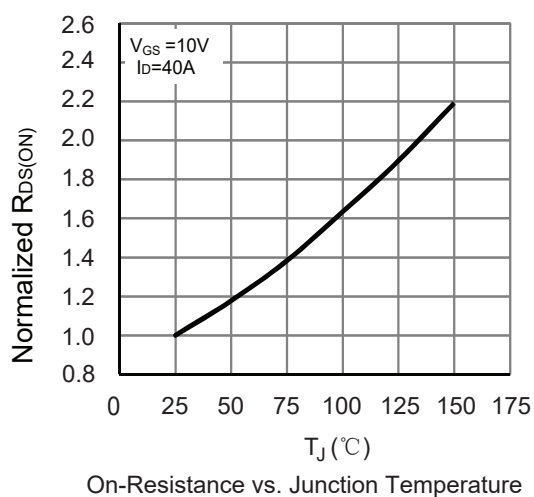
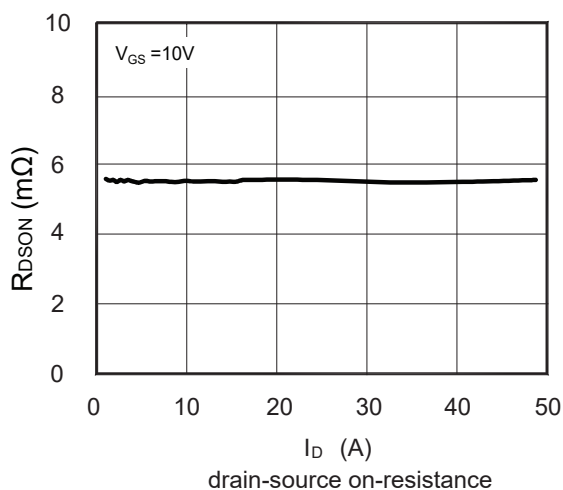
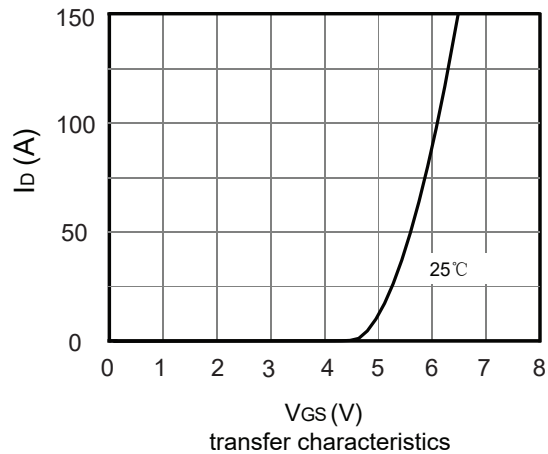
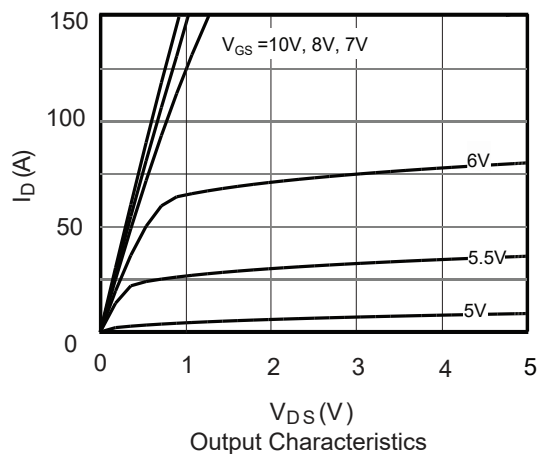
1.The EAS data shows Max. rating . The test condition is $V_{DD}=50V$, $V_{GS}=10V$, $L=1\text{mH}$, $I_{AS}=70A$.

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Typical Characteristics



Typical Characteristics

