

### General Description

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

### Features

- Low On-Resistance
- 100% avalanche tested
- RoHS 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 <sup>1</sup>	612	mJ
$P_D$	Total Power Dissipation	265	W
$T_{STG}$	Storage Temperature Range	-55 to 150	°C
$T_J$	Operating Junction Temperature Range	-55 to 150	°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	---	0.47	°C/W

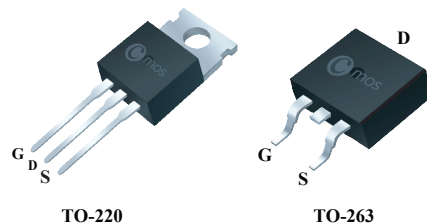
### Product Summary

BVDSS	R <sub>DS(on)</sub> max.	ID
100V	7.0mΩ	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<sub>J</sub>=25°C , unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V , I <sub>D</sub> =250μA	100	---	---	V
R <sub>DS(ON)</sub>	Static Drain-Source On-Resistance	V <sub>GS</sub> =10V , I <sub>D</sub> =20A	---	6.2	7.0	mΩ
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>GS</sub> =V <sub>DS</sub> , I <sub>D</sub> =250uA	2	---	4	V
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =100V , V <sub>GS</sub> =0V	---	---	1	μA
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> =±20V , V <sub>DS</sub> =0V	---	---	±100	nA
g <sub>fs</sub>	Forward Transconductance	V <sub>DS</sub> =10V, I <sub>D</sub> =25A	---	24	---	S
R <sub>g</sub>	Gate Resistance	V <sub>DS</sub> =0V , V <sub>GS</sub> =0V , f=1MHz	---	2.0	---	Ω
Q <sub>g</sub>	Total Gate Charge	I <sub>D</sub> =27.5A	---	45	---	nC
Q <sub>gs</sub>	Gate-Source Charge	V <sub>DS</sub> =50V	---	12	---	
Q <sub>gd</sub>	Gate-Drain Charge	V <sub>GS</sub> =10V	---	9	---	
T <sub>d(on)</sub>	Turn-On Delay Time	V <sub>DS</sub> =50V	---	16	---	ns
T <sub>r</sub>	Rise Time	I <sub>D</sub> =25A	---	11	---	
T <sub>d(off)</sub>	Turn-Off Delay Time	R <sub>G</sub> =1.6Ω	---	30	---	
T <sub>f</sub>	Fall Time	V <sub>GS</sub> =10V	---	9	---	
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> =50V , V <sub>GS</sub> =0V , f=1MHz	---	3500	---	pF
C <sub>oss</sub>	Output Capacitance		---	1250	---	
C <sub>rss</sub>	Reverse Transfer Capacitance		---	80	---	

### Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I <sub>S</sub>	Continuous Source Current	V <sub>G</sub> =V <sub>D</sub> =0V , Force Current	---	---	90	A
I <sub>SM</sub>	Pulsed Source Current		---	---	360	A
V <sub>SD</sub>	Diode Forward Voltage	V <sub>GS</sub> =0V , I <sub>S</sub> =50A , T <sub>J</sub> =25°C	---	---	1.2	V

#### Notes:

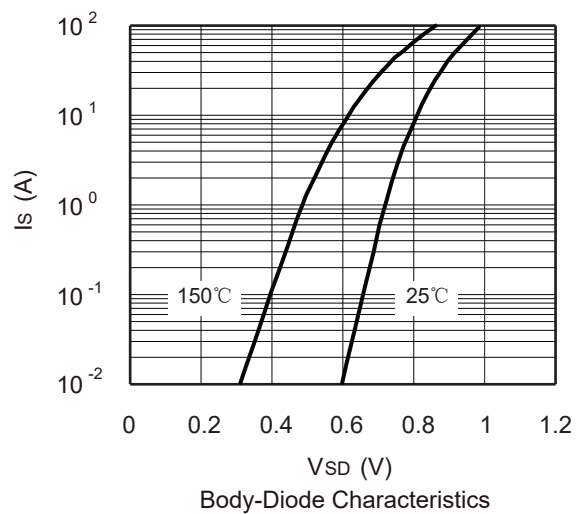
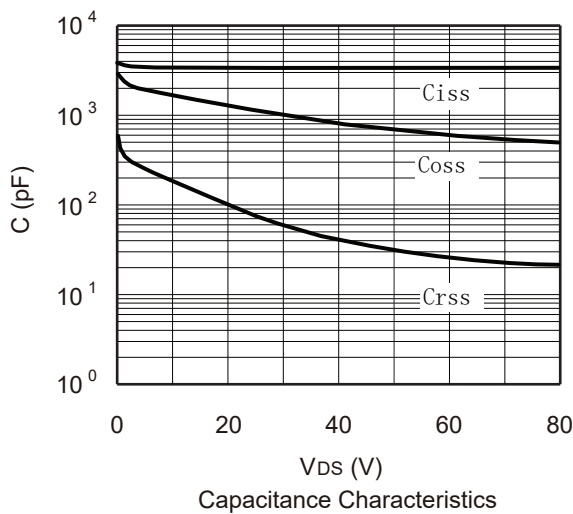
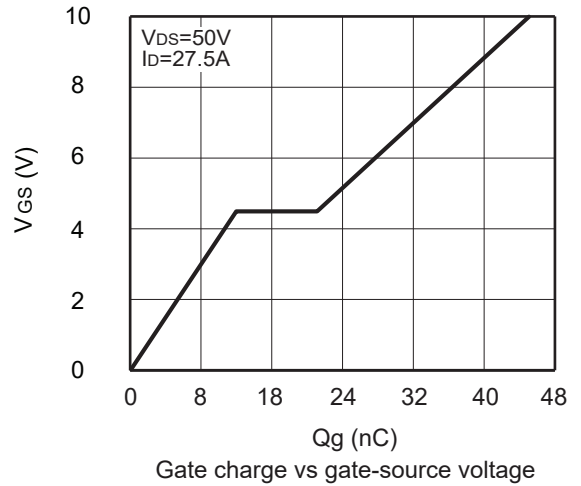
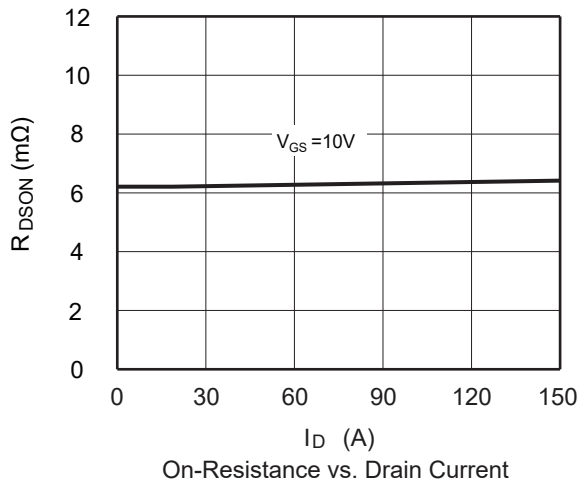
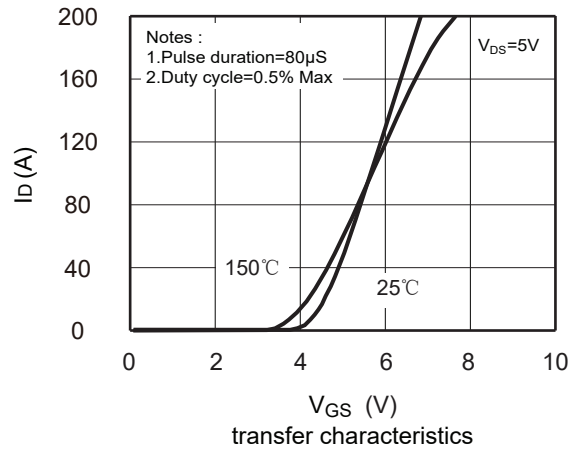
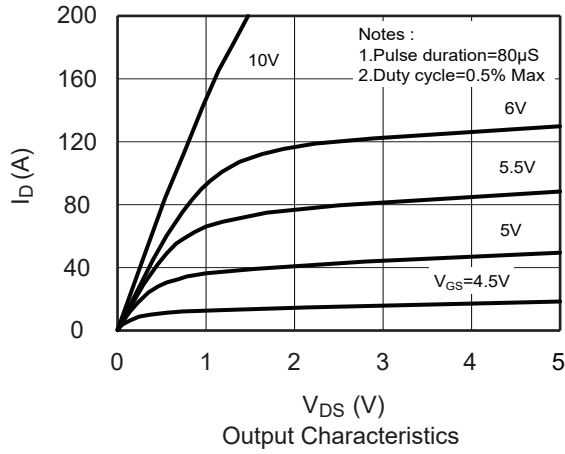
1.The EAS data shows Max. rating . The test condition is V<sub>DD</sub>=40V , V<sub>GS</sub>=10V , L=0.5mH , I<sub>D</sub>=49.5A

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Cmos reserves the right to improve product design ,functions and reliability without notice.Please refer to the latest version of specification.

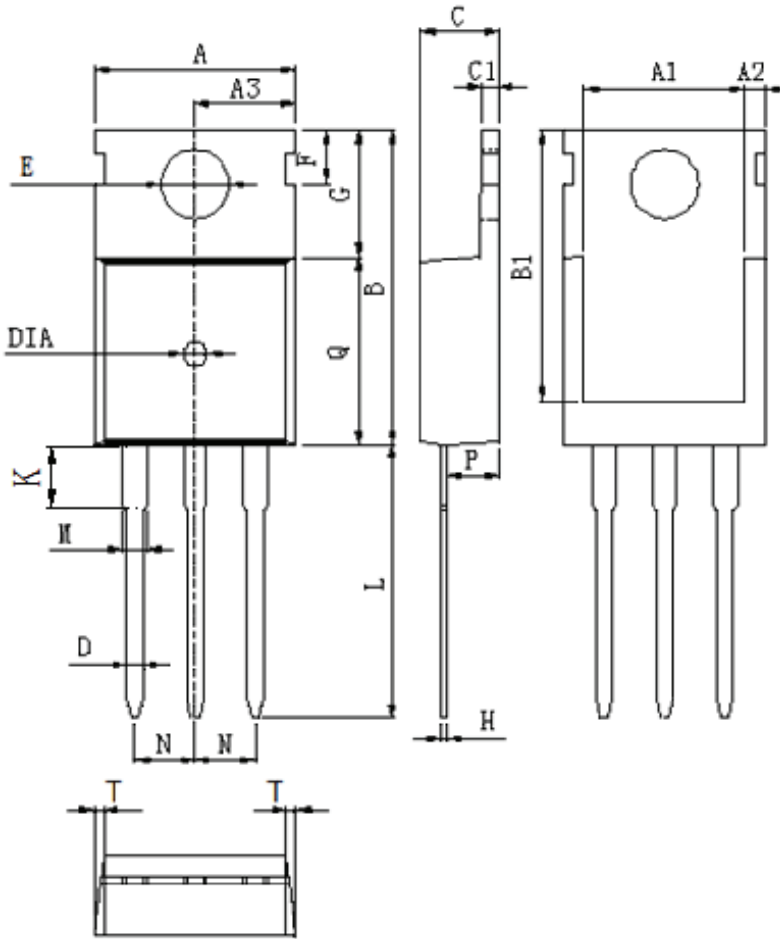
### Typical Characteristics



**Package Dimension**

TO-220

Unit :mm

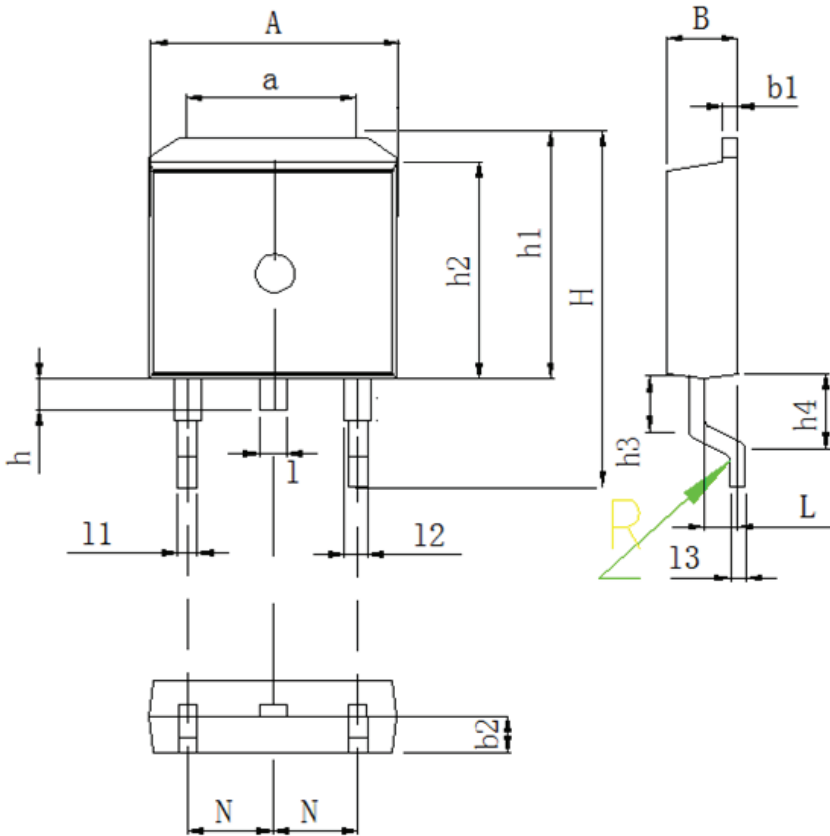


DIM	MILLIMETERS
A	10.0±0.3
A1	8.64±0.2
A2	1.15±0.1
A3	5.0±0.2
B	15.8±0.4
B1	13.2±0.3
C	4.56±0.1
C1	1.3±0.2
D	0.8±0.2
E	3.6±0.2
F	2.95±0.3
G	6.5±0.3
H	0.5±0.1
K	3.1±0.2
L	13.2±0.4
M	1.25±0.1
N	2.54±0.1
P	2.4±0.3
Q	9.0±0.3
T	W:0.35
DIA	⊙1.5 (deep 0.2)

Package Dimension

TO-263

Unit :mm



DIM	MILLIMETERS
A	9.8 ± 0.2
a	7.4 ± 0.4
B	4.5 ± 0.2
b1	1.3 ± 0.05
b2	2.4 ± 0.2
H	15.5 ± 0.3
h	1.54 ± 0.2
h1	10.5 ± 0.2
h2	9.2 ± 0.1
h3	1.54 ± 0.2
h4	2.7 ± 0.2
L	2.4 ± 0.2
1	1.3 ± 0.1
11	0.8 ± 0.1
12	1.3 ± 0.1
13	0.5 ± 0.1
N	2.54 ± 0.1
R	0.5R ± 0.05