

General Description

The 110N08B uses advanced trench 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

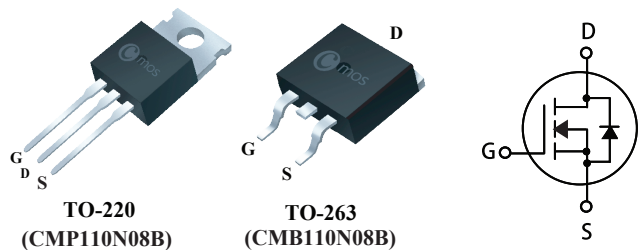
Product Summary

BVDSS	R _{DS(on)} max.	ID
80V	6.5mΩ	110A

Applications

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

TO-220/263 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	80	V
V _{GS}	Gate-Source Voltage	±20	V
I _D @T _C =25°C	Continuous Drain Current	110	A
I _D @T _C =100°C	Continuous Drain Current	75	A
I _{DM}	Pulsed Drain Current ¹	440	A
EAS	Single Pulse Avalanche Energy ²	612	mJ
P _D @T _C =25°C	Total Power Dissipation	250	W
T _{STG}	Storage Temperature Range	-55 to 150	°C
T _J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Rating	Unit
R _{θJA}	Thermal Resistance Junction-ambient	62.5	°C/W
R _{θJC}	Thermal Resistance Junction-case	0.5	°C/W

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	80	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V, I _D =40A	---	4.8	6.5	mΩ
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	2	---	4	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =64V, V _{GS} =0V	---	---	1	uA
		V _{DS} =64V, V _{GS} =0V, T _J =55°C	---	---	5	
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±20V, V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =10V, I _D =25A	---	30	---	S
R _g	Gate Resistance	V _{DS} =0V, V _{GS} =0V, f=1MHz	---	2.5	---	Ω
Q _g	Total Gate Charge	I _D =50A	---	60	---	nC
Q _{gs}	Gate-Source Charge	V _{DS} =40V	---	17	---	
Q _{gd}	Gate-Drain Charge	V _{GS} =10V	---	12	---	
T _{d(on)}	Turn-On Delay Time	V _{DS} =40V	---	20	---	ns
T _r	Rise Time	R _G =3Ω	---	35	---	
T _{d(off)}	Turn-Off Delay Time	I _D =50A	---	25	---	
T _f	Fall Time	V _{GS} =10V	---	15	---	
C _{iss}	Input Capacitance	V _{DS} =25V, V _{GS} =0V, f=1MHz	---	9800	---	pF
C _{oss}	Output Capacitance		---	500	---	
C _{rss}	Reverse Transfer Capacitance		---	480	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V, Force Current	---	---	110	A
I _{SM}	Pulsed Source Current		---	---	440	A
t _{rr}	Reverse Recovery Time	I _F =50A	---	60	---	ns
Q _{rr}	Reverse Recovery Charge	dI/dt=100A/μs	---	150	---	nC
V _{SD}	Diode Forward Voltage	V _{GS} =0V, I _S =80A	---	---	1.2	V

Note :

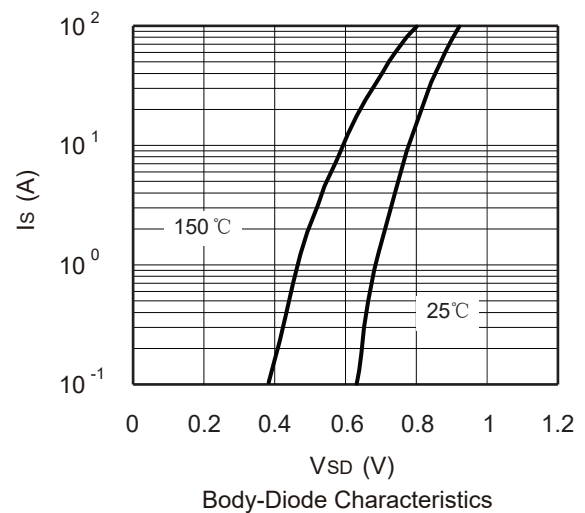
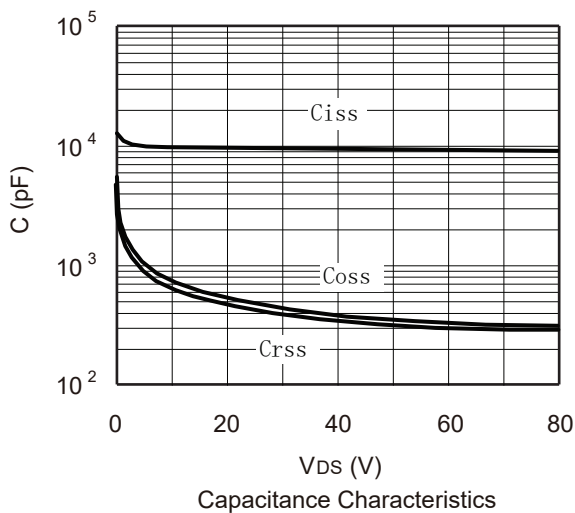
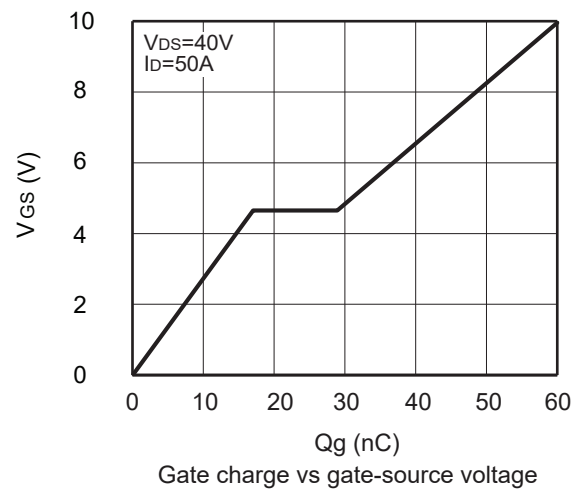
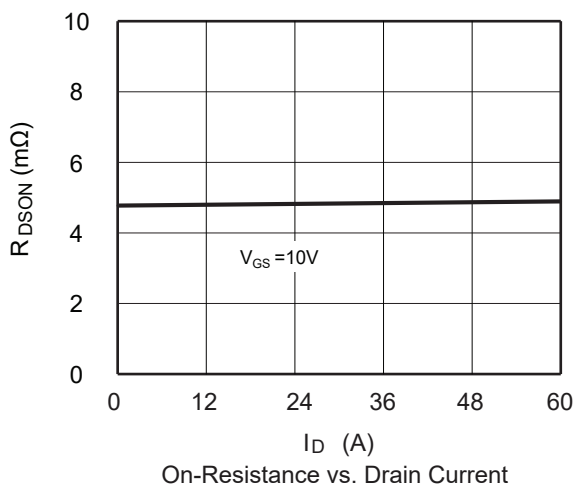
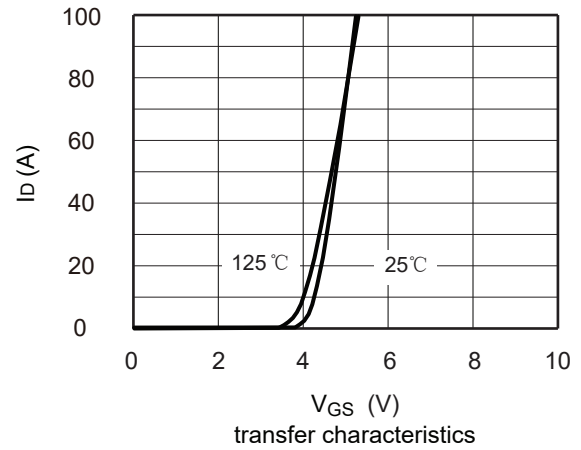
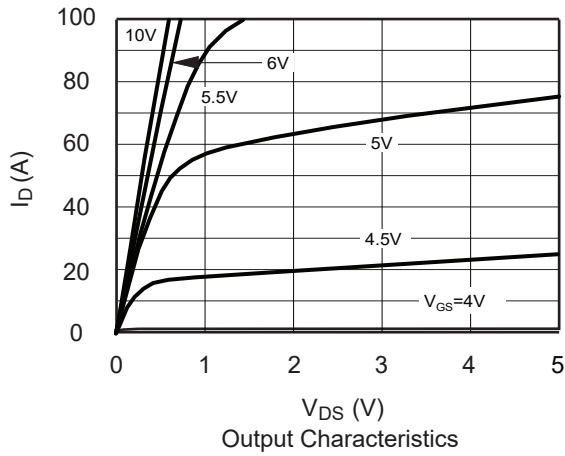
1. Repetitive rating; pulse width limited by max. junction temperature.
2. V_{DD}= 40V, starting T_J=25°C, L=1mH, I_D=35A, V_G=10V.

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. Please refer to the latest version of specification.

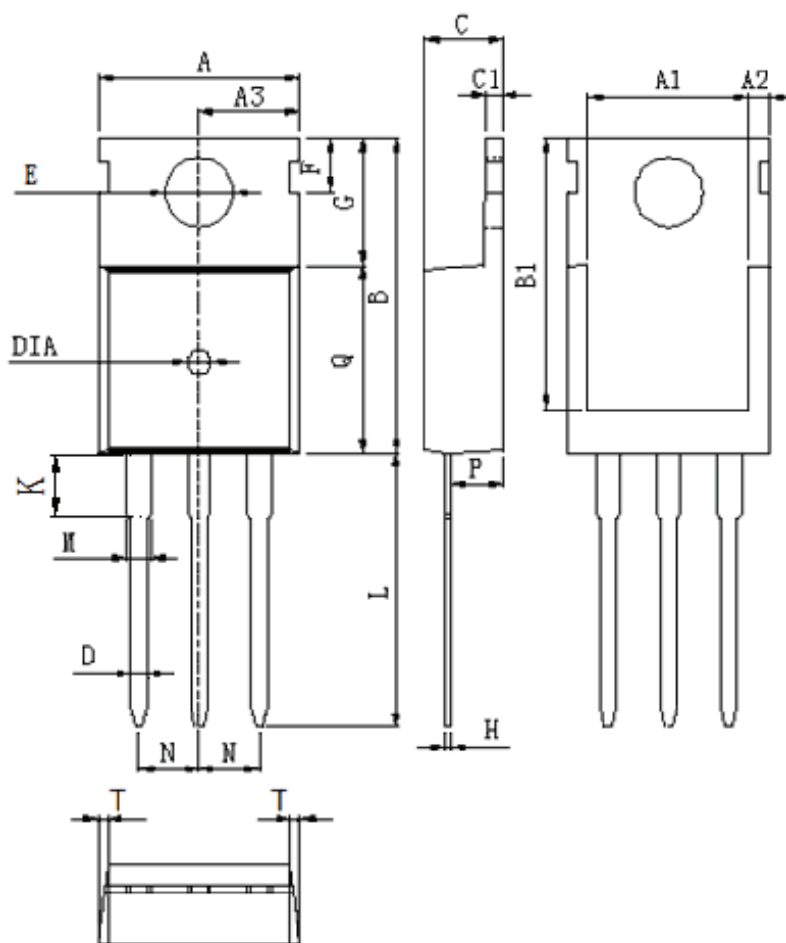
Typical Characteristics



Package Dimension

TO-220

Unit :mm

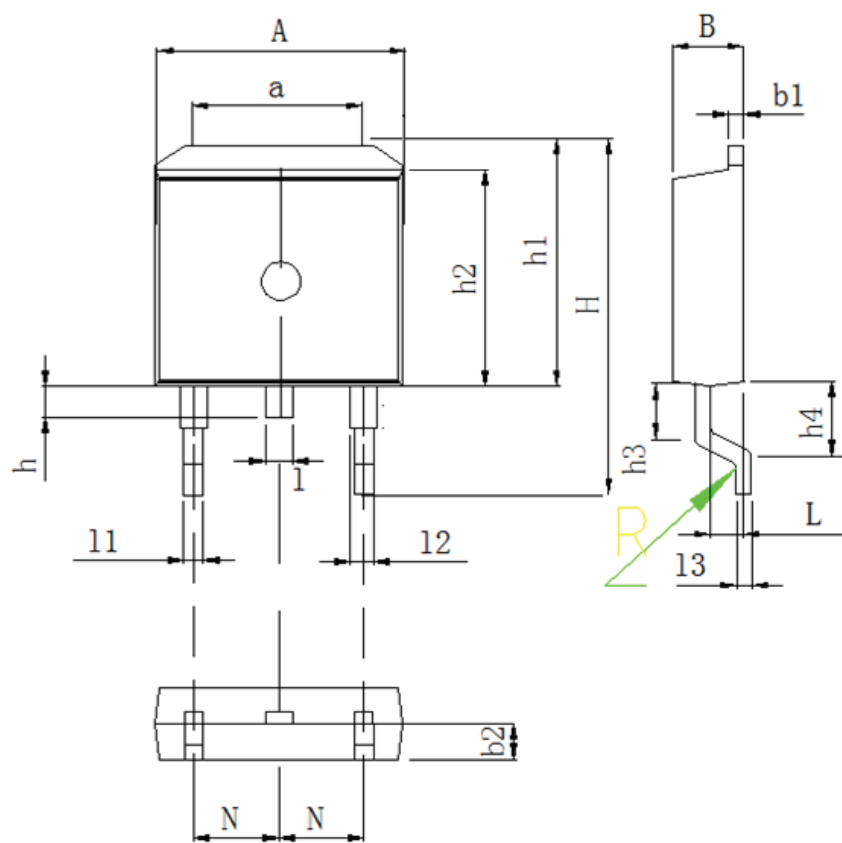


DIM	MILLIMETERS
A	10.0 ± 0.3
A1	8.64 ± 0.2
A2	1.15 ± 0.1
A3	5.0 ± 0.2
B	15.8 ± 0.4
B1	13.2 ± 0.3
C	4.56 ± 0.1
C1	1.3 ± 0.2
D	0.8 ± 0.2
E	3.6 ± 0.2
F	2.95 ± 0.3
G	6.5 ± 0.3
H	0.5 ± 0.1
K	3.1 ± 0.2
L	13.2 ± 0.4
M	1.25 ± 0.1
N	2.54 ± 0.1
P	2.4 ± 0.3
Q	9.0 ± 0.3
T	W:0.35
DIA	$\odot 1.5$ (deep 0.2)

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
l	1.3±0.1
l1	0.8±0.1
l2	1.3±0.1
l3	0.5±0.1
N	2.54±0.1
R	0.5R±0.05