

General Description

The 600N20 uses advanced SGT technology to provide excellent RDS(ON). This device is ideal for high-frequency switching and synchronous rectification.

Features

- Low On-Resistance
- 100% avalanche tested
- RoHS Compliant

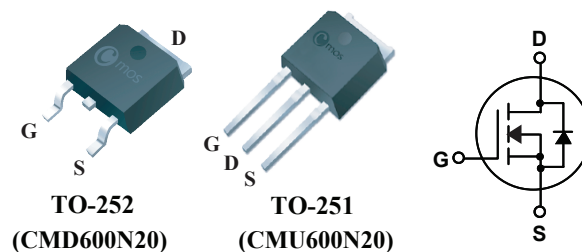
Product Summary

BVDSS	RDS(on) max.	ID
200V	60mΩ	35A

Applications

- High Frequency Switching and Synchronous Rectification

TO-252/251 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	200	V
V _{GS}	Gate-Source Voltage	±20	V
I _D @T _C =25°C	Continuous Drain Current	35	A
I _D @T _C =100°C	Continuous Drain Current	22	A
I _{DM}	Pulsed Drain Current	140	A
EAS	Single Pulse Avalanche Energy ¹	250	mJ
P _D @T _C =25°C	Total Power Dissipation	150	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 _{θJA}	Thermal Resistance Junction-ambient(Steady-State)	---	62.5	°C/W
R _{θJC}	Thermal Resistance Junction-case	---	0.83	°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	200	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V, I _D =10A	---	53	60	mΩ
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	2.0	---	4.0	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =200V, V _{GS} =0V	---	---	1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±20V, V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =20V, I _D =2.5A	---	6.3	---	S
R _g	Gate Resistance	V _{DS} =0V, V _{GS} =0V, f=1MHz	---	0.4	---	Ω
Q _g	Total Gate Charge	I _D =17A	---	20	---	nC
Q _{gs}	Gate-Source Charge	V _{DD} =100V	---	8	---	
Q _{gd}	Gate-Drain Charge	V _{GS} =10V	---	5	---	
T _{d(on)}	Turn-On Delay Time	V _{DD} =100V	---	6	---	ns
T _r	Rise Time	V _{GS} =10V	---	8	---	
T _{d(off)}	Turn-Off Delay Time	R _G =3Ω	---	18	---	
T _f	Fall Time	R _L =8Ω	---	5	---	
C _{iss}	Input Capacitance	V _{DS} =25V, V _{GS} =0V, f=1MHz	---	1050	---	pF
C _{oss}	Output Capacitance		---	700	---	
C _{rss}	Reverse Transfer Capacitance		---	50	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V, Force Current	---	---	35	A
I _{SM}	Pulsed Source Current		---	---	140	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V, I _S =10A, T _J =25°C	---	0.83	1.2	V

Note :

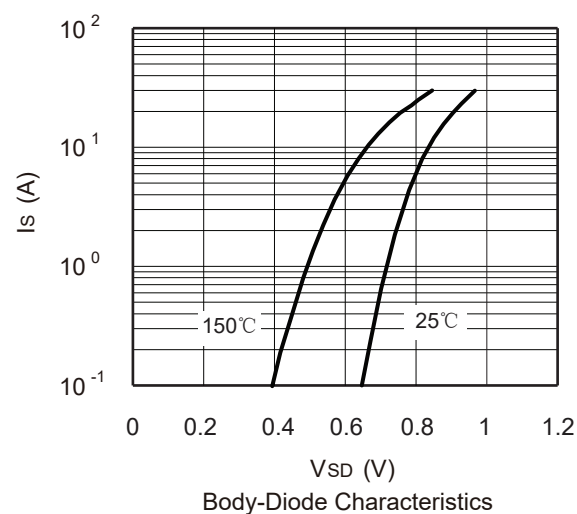
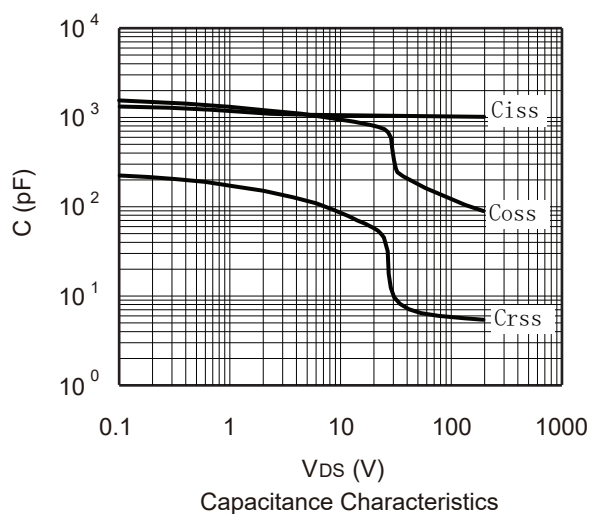
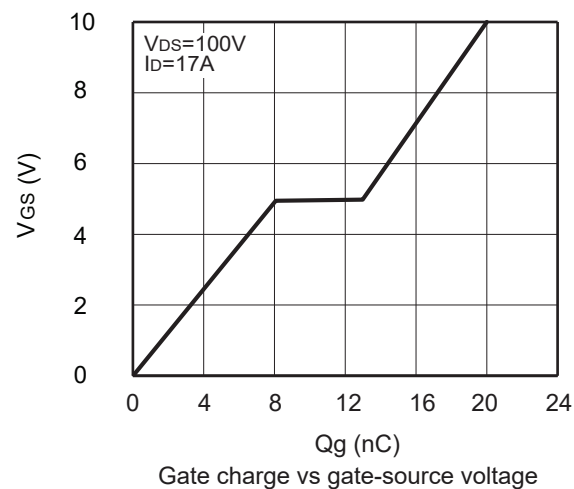
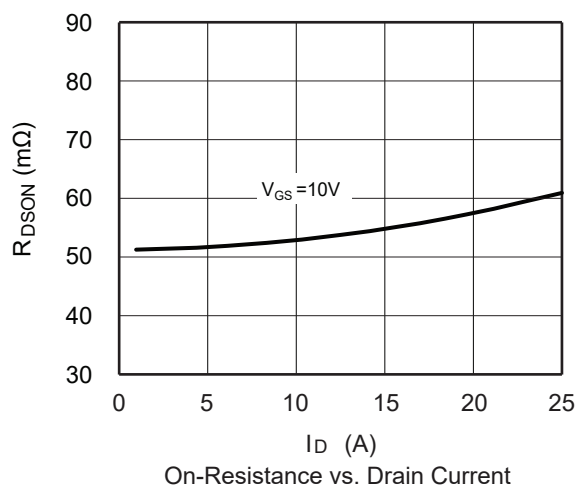
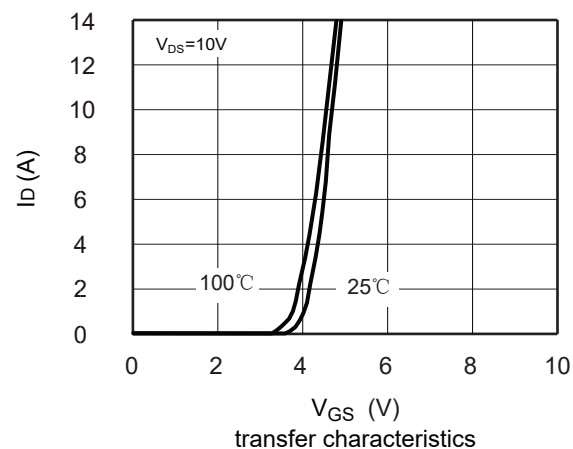
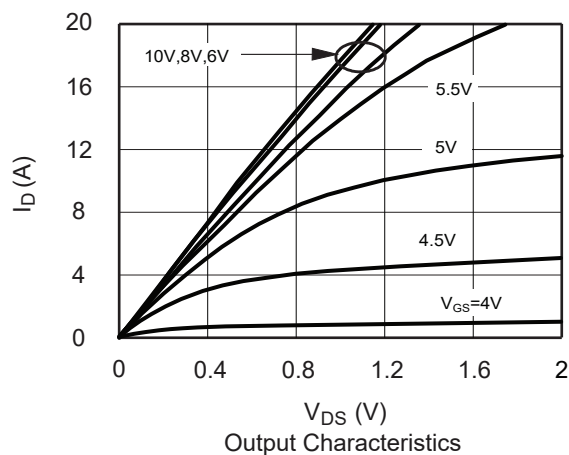
1.The EAS data shows Max. rating . The test condition is V_{DD}=80V, V_{GS}=10V, L=5mH, I_{AS}=10A.

This product has been designed and qualified for the consumer market.

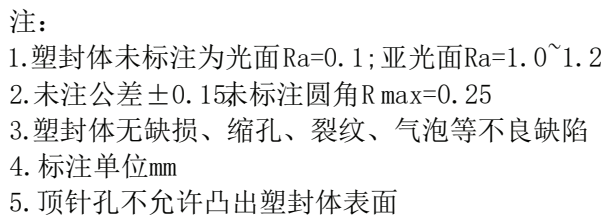
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Cmos reserves the right to improve product design, functions and reliability without notice. Please refer to the latest version of specification.

Typical Characteristics



Unit :mm



Package Dimension

TO-251A

Unit :mm

