

General Description

The 079N10 uses advanced SGT technology to provide excellent RDS(ON). It can be used in a wide variety of applications.

Features

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

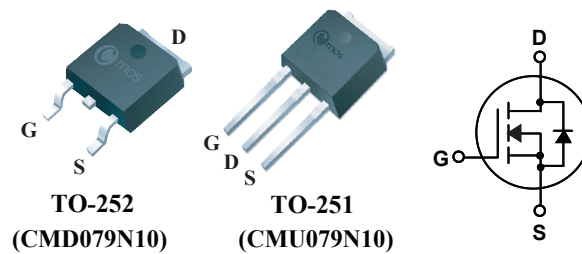
Product Summary

BVDSS	RDS(on) max.	ID
100V	7.4mΩ	80A

Applications

- High Frequency Switching and Synchronous Rectification

TO-252/251 Pin Configuration



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°C	Continuous Drain Current	80	A
I _D @T _C =100°C	Continuous Drain Current	56	A
I _{DM}	Pulsed Drain Current	320	A
EAS	Single Pulse Avalanche Energy ¹	162	mJ
P _D @T _C =25°C	Total Power Dissipation	100	W
T _{STG}	Storage Temperature Range	-55 to 150	°C
T _J	Operating Junction Temperature Range	150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
R _{θJA}	Thermal Resistance Junction-ambient(min. footprint)	---	50	°C/W
R _{θJC}	Thermal Resistance Junction-case	---	1.25	°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	100	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =28A	---	6.5	7.4	mΩ
		V _{GS} =4.5V , I _D =25A	---	8.5	9.8	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	1.0	---	3.0	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =100V , V _{GS} =0V	---	---	1	μA
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±20V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =10V , I _D =20A	---	26	---	S
R _g	Gate Resistance	V _{DS} =0V , V _{GS} =0V , f=1MHz	---	1.3	---	Ω
Q _g	Total Gate Charge	I _D =30A	---	41	---	nC
Q _{gs}	Gate-Source Charge	V _{DD} =50V	---	10.3	---	
Q _{gd}	Gate-Drain Charge	V _{GS} =10V	---	7.5	---	
T _{d(on)}	Turn-On Delay Time	V _{DD} =50V V _{GS} =10V R _{G_ext} = 2.7Ω	---	11	---	ns
T _r	Rise Time		---	36	---	
T _{d(off)}	Turn-Off Delay Time		---	33	---	
T _f	Fall Time		---	10.3	---	
C _{iss}	Input Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz	---	2000	---	pF
C _{oss}	Output Capacitance		---	990	---	
C _{rss}	Reverse Transfer Capacitance		---	60	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V , Force Current	---	---	80	A
I _{SM}	Pulsed Source Current		---	---	320	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =25A , T _J =25°C	---	0.87	1.4	V

Note :

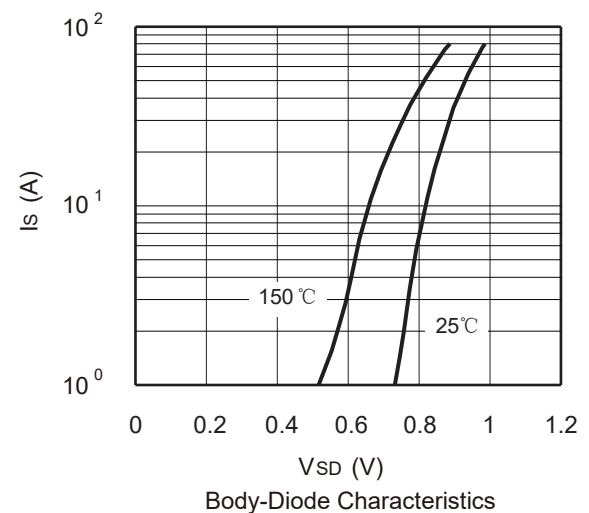
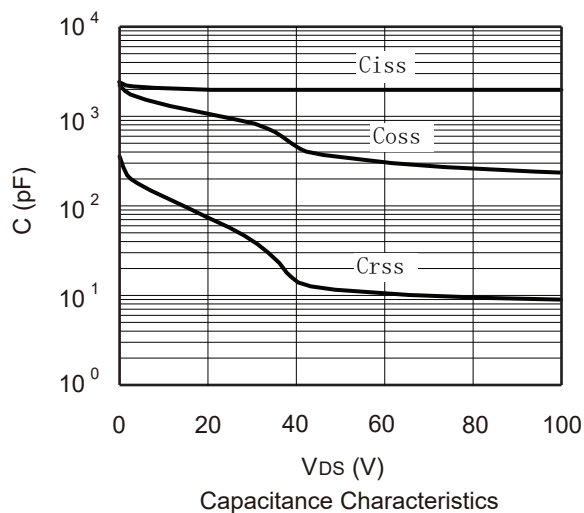
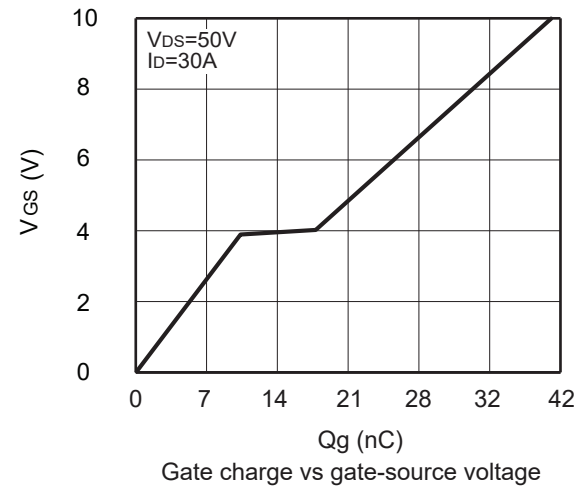
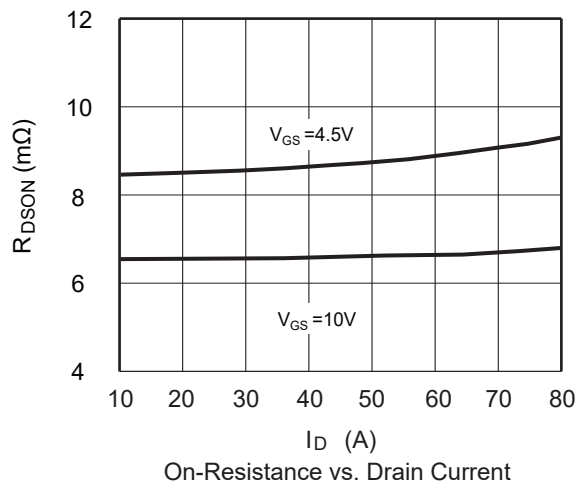
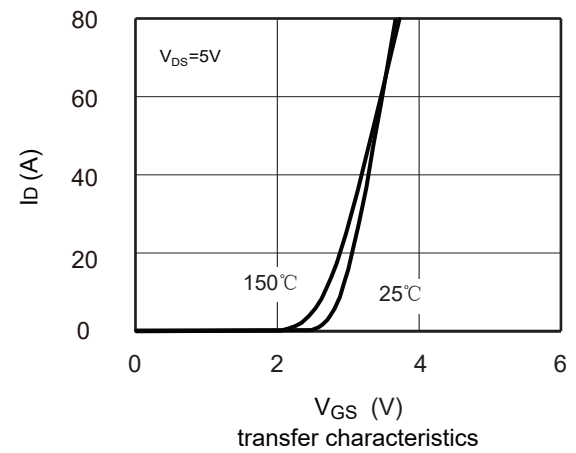
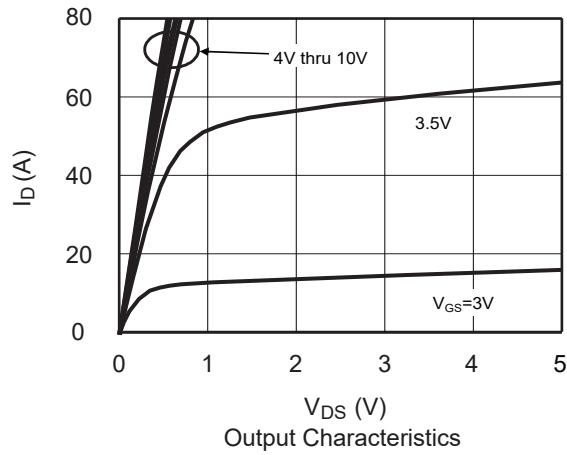
1.The EAS data shows Max. rating . The test condition is V_{DD}=50V , V_{GS}=10V , L=1mH , I_{AS} =18A.

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.

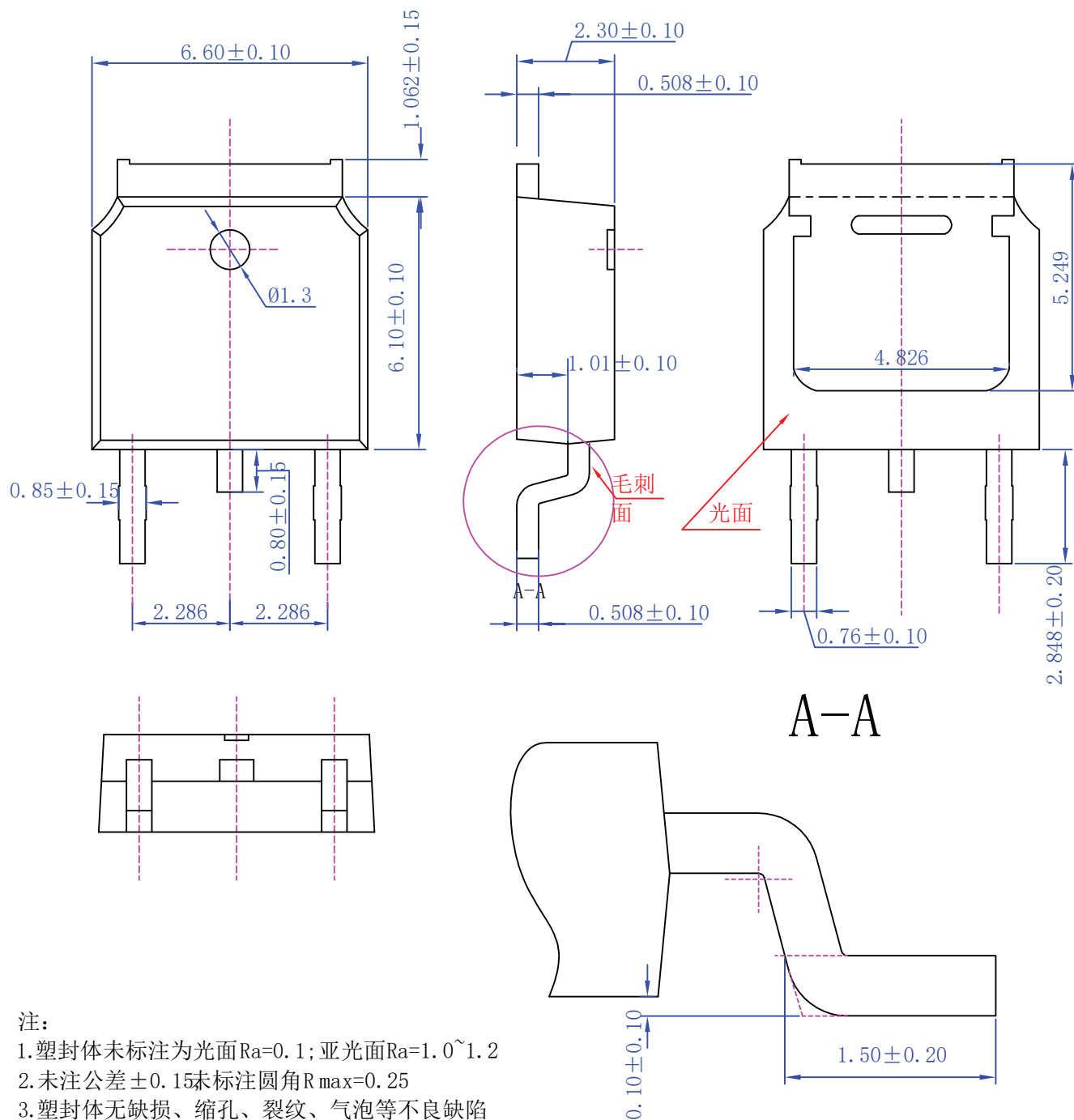
Typical Characteristics



Package Dimension

TO-252

Unit :mm



Package Dimension

TO-251A

Unit :mm

