

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

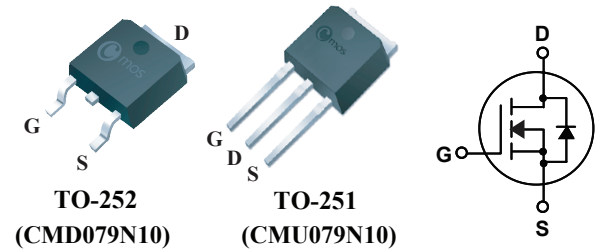
Product Summary

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
$I_D@T_C=25^{\circ}C$	Continuous Drain Current	80	A
$I_D@T_C=100^{\circ}C$	Continuous Drain Current	56	A
I_{DM}	Pulsed Drain Current	320	A
EAS	Single Pulse Avalanche Energy ¹	162	mJ
$P_D@T_C=25^{\circ}C$	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
$R_{\theta JA}$	Thermal Resistance Junction-ambient(min. footprint)	---	50	°C/W
$R_{\theta JC}$	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

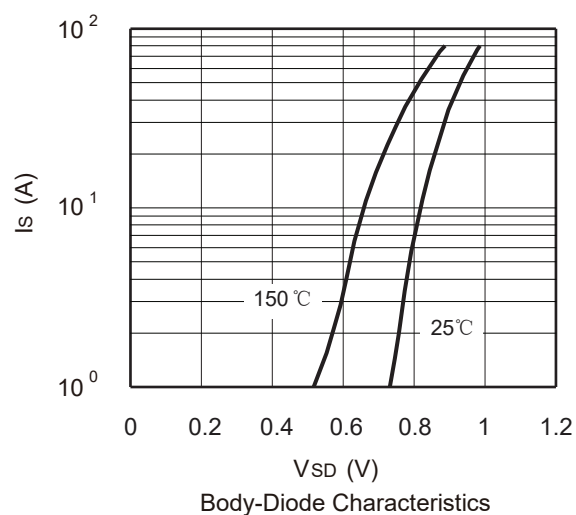
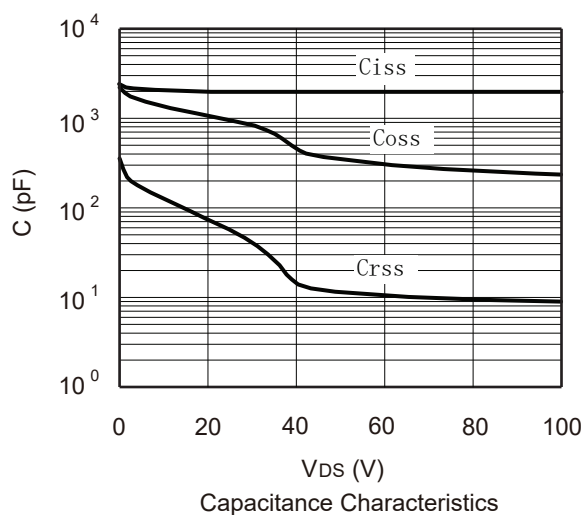
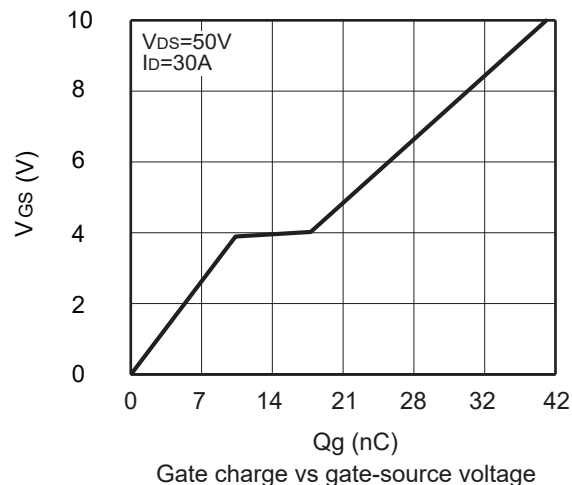
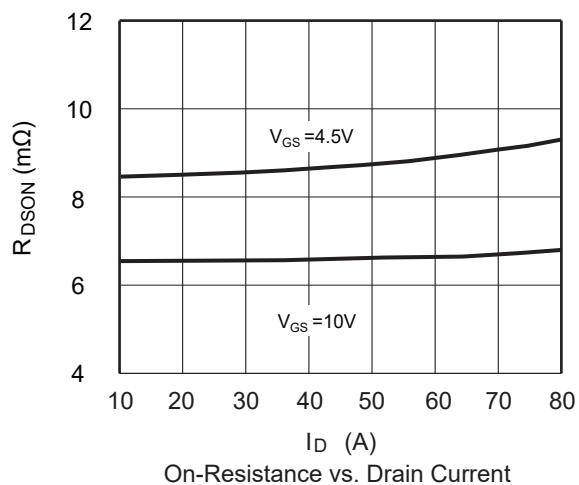
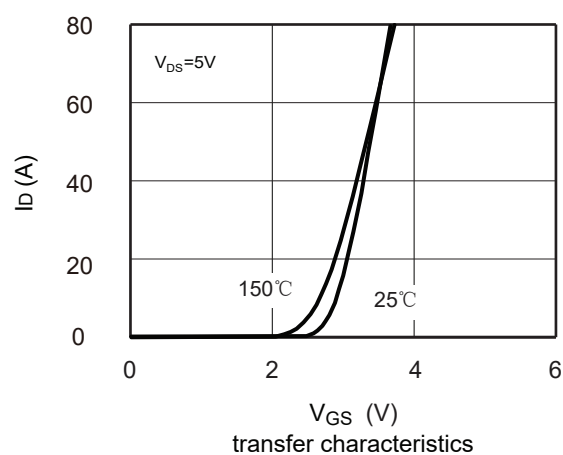
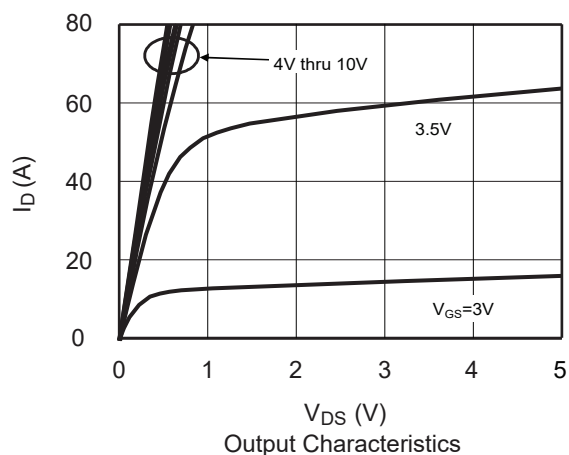
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V, Force Current	---	---	80	A
I _{SM}	Pulsed Source Current		---	---	320	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V, I _S =25A, T _J =25°C	---	0.87	1.4	V

Note :

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

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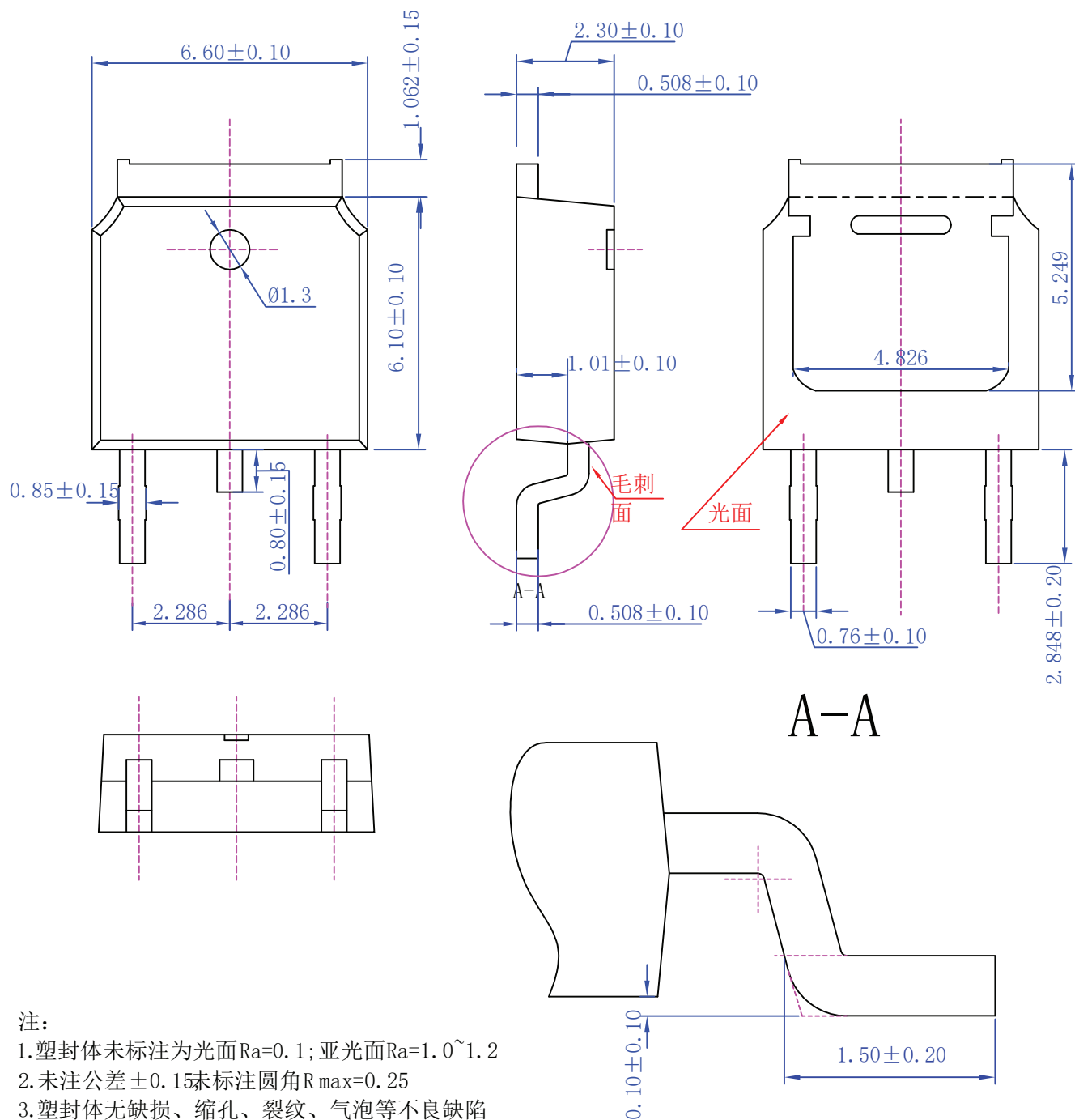
Typical Characteristics



Package Dimension

TO-252

Unit :mm



注:

1. 塑封体未标注为光面 $R_a=0.1$; 亚光面 $R_a=1.0 \sim 1.2$
2. 未注公差 ± 0.15 未标注圆角 $R_{max}=0.25$
3. 塑封体无缺损、缩孔、裂纹、气泡等不良缺陷
4. 标注单位mm
5. 顶针孔不允许凸出塑封体表面

Package Dimension

TO-251A

Unit :mm

