

General Description

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

Features

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

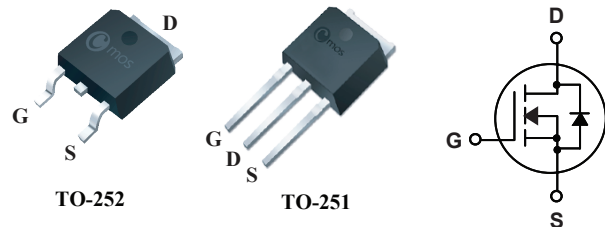
Product Summary

BVDSS	RDS(on) max.	ID
100V	7mΩ	80A

Applications

- DC-DC Converters
- Power switching application

TO-252/251 Pin Configuration



Type	Package	Marking
CMD060N10	TO-252	CMD060N10
CMU060N10	TO-251	CMU060N10

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	60	A
I _{DM}	Pulsed Drain Current	320	A
EAS	Single Pulse Avalanche Energy ¹	612	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	-55 to 150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
R _{θJA}	Thermal Resistance Junction-ambient(min. footprint)	---	62	°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 =250μA	100	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =28A	---	---	7	mΩ
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	2	---	4	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} = 100V, V _{GS} =0V , T _J =25°C	---	---	1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±20V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =10V , I _D =20A	---	20	---	S
R _g	Gate Resistance	V _{DS} =0V , V _{GS} =0V , f=1MHz	---	2	---	Ω
Q _g	Total Gate Charge	V _{DS} =50V , I _D =27.5A V _{GS} =10V	---	45	---	nC
Q _{gs}	Gate-Source Charge		---	12	---	
Q _{gd}	Gate-Drain Charge		---	9	---	
T _{d(on)}	Turn-On Delay Time	V _{DD} =50V , V _{GS} =10V R _{GEN} =1.6Ω , I _D =25A	---	16	---	ns
T _r	Rise Time		---	11	---	
T _{d(off)}	Turn-Off Delay Time		---	30	---	
T _f	Fall Time		---	9	---	
C _{iss}	Input Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz	---	3500	---	pF
C _{oss}	Output Capacitance		---	1250	---	
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 =28A , T _J =25°C	---	---	1.2	V

Notes:

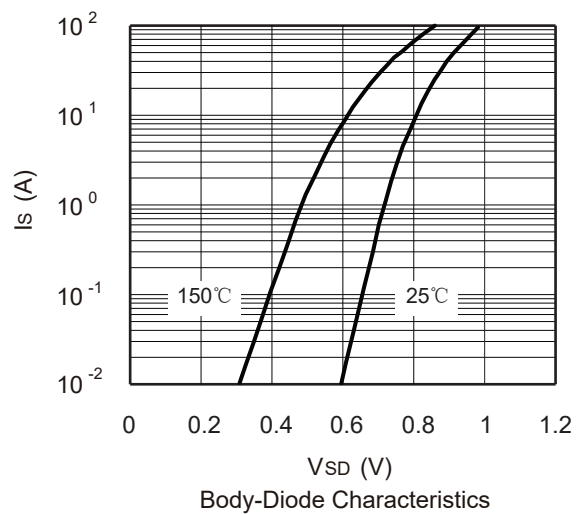
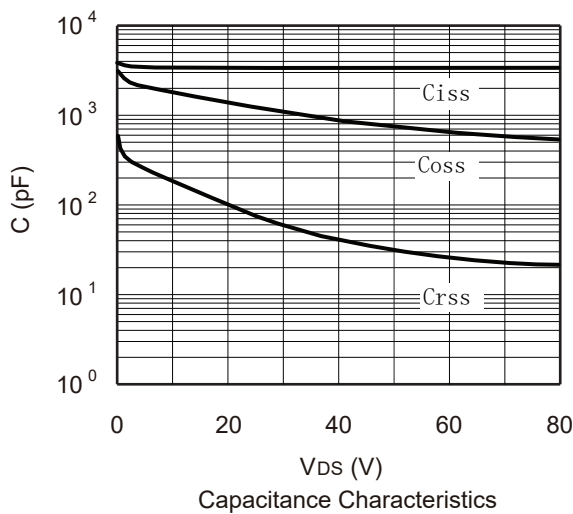
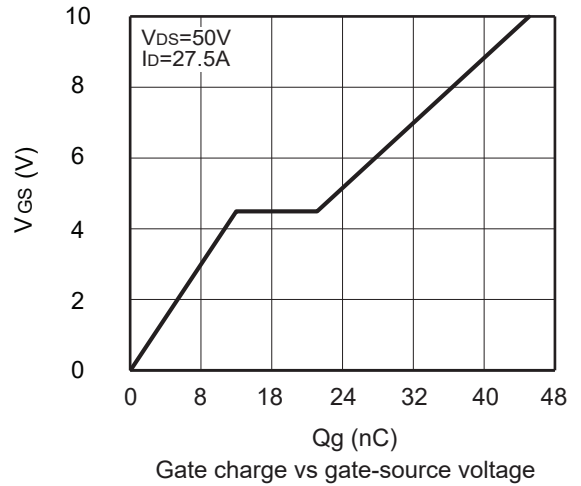
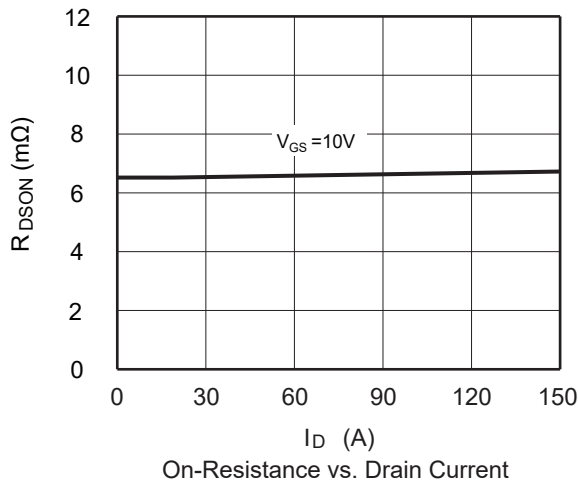
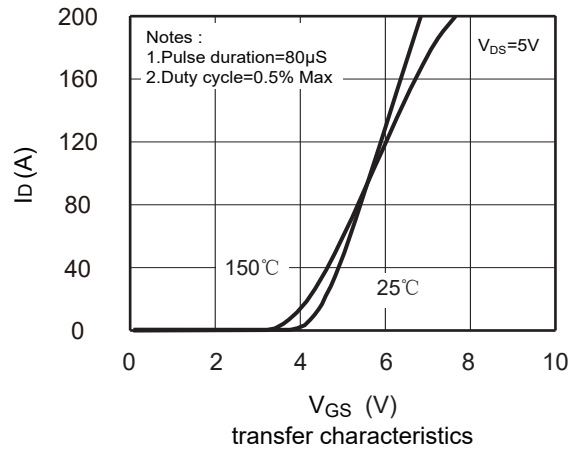
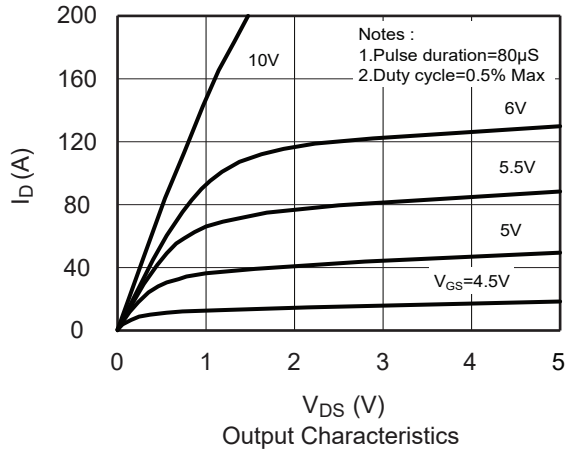
1.The EAS data shows Max. rating . The test condition is V_{DD}=40V , V_{GS}=10V , L=0.5mH , I_D=49.5A

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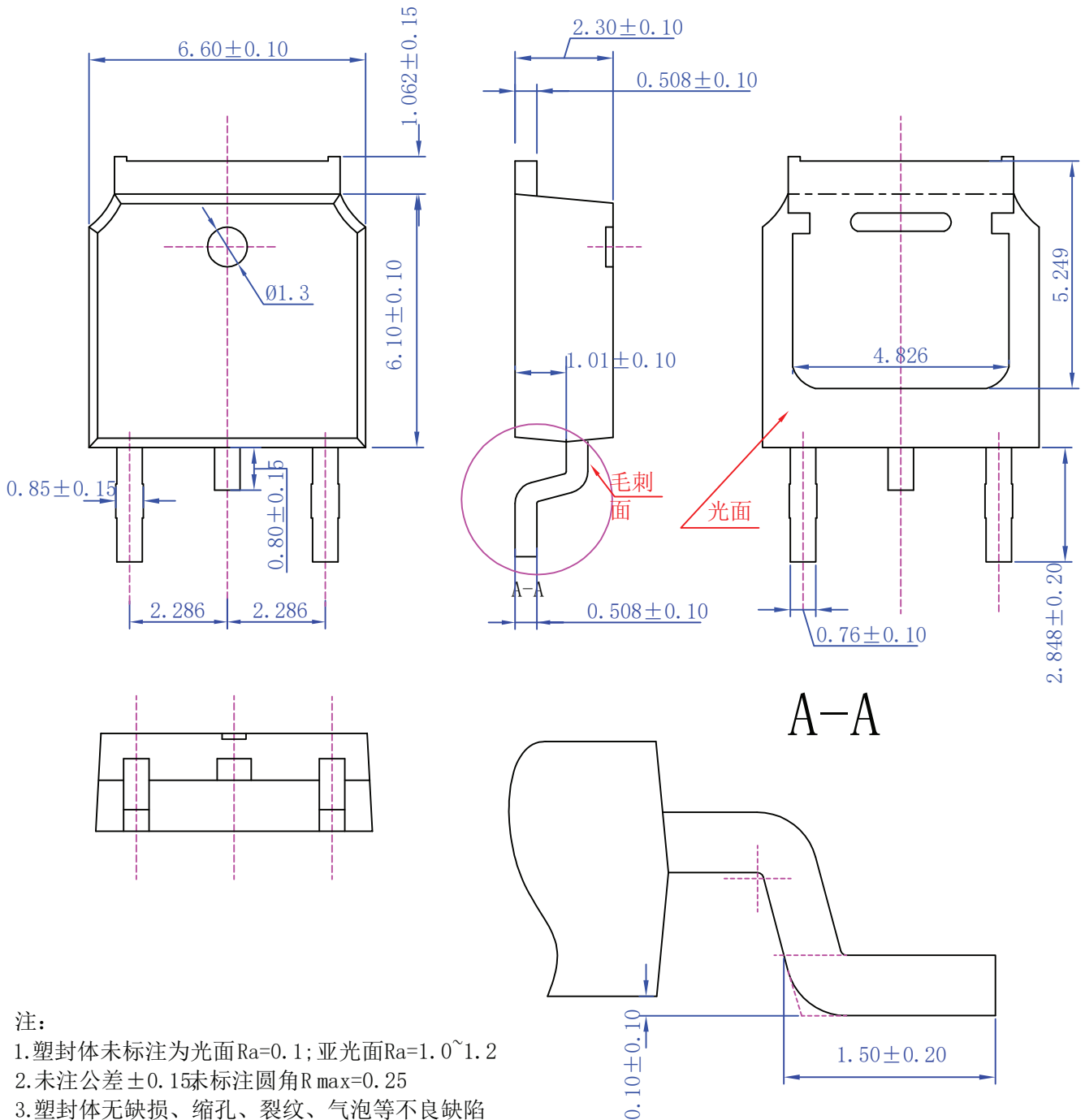
Typical Characteristics



Package Dimension

TO-252

Unit :mm



- 注:
1. 塑封体未标注为光面 $Ra=0.1$; 亚光面 $Ra=1.0 \sim 1.2$
 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

