

General Description

The 046N08 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

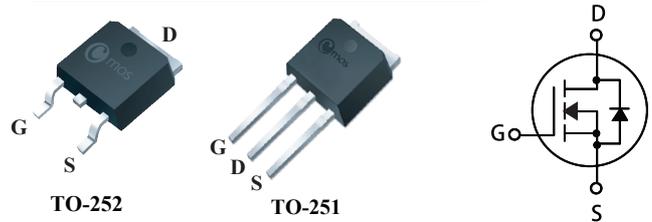
Product Summary

BVDSS	RDS(on) max.	ID
80V	4.4mΩ	90A

Applications

- Power switching application
- Hard switched and high frequency circuits
- Uninterruptible power supply

TO-252/251 Pin Configuration



Type	Package	Marking
CMD046N08	TO-252	CMD046N08
CMU046N08	TO-251	CMU046N08

Absolute Maximum Ratings

Symbol	Parameter	Value	Units
V _{DS}	Drain-Source Voltage	80	V
V _{GS}	Gate-Source Voltage	±20	V
I _D @T _C =25°C	Continuous Drain Current	90	A
I _D @T _C =100°C	Continuous Drain Current	63	A
I _{DM}	Pulsed Drain Current	360	A
E _{AS}	Drain-Source Avalanche Energy ¹	840	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(6 cm ² cooling area) ²	---	50	°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 =250μA	80	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =28A	---	3.6	4.4	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} =80V , V _{GS} =0V	---	---	1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±20V , V _{DS} =0V	---	---	±100	nA
R _g	Gate Resistance	V _{DS} =10V , V _{GS} =0V , f=1MHz	---	1.5	---	Ω
Q _g	Total Gate Charge	I _D =45A	---	42	---	nC
Q _{gs}	Gate-Source Charge	V _{DD} =40V	---	14	---	
Q _{gd}	Gate-Drain Charge	V _{GS} =0 to 10V	---	9	---	
T _{d(on)}	Turn-On Delay Time	V _{DD} =40V	---	15	---	ns
T _r	Rise Time	R _G =1.6Ω	---	10	---	
T _{d(off)}	Turn-Off Delay Time	V _{GS} =10V	---	30	---	
T _f	Fall Time	I _D =45A	---	10	---	
C _{iss}	Input Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz	---	4000	---	pF
C _{oss}	Output Capacitance		---	2700	---	
C _{rss}	Reverse Transfer Capacitance		---	200	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V , Force Current	---	---	90	A
I _{SM}	Pulsed Source Current		---	---	360	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =28A , T _J =25°C	---	---	1.2	V

Notes:

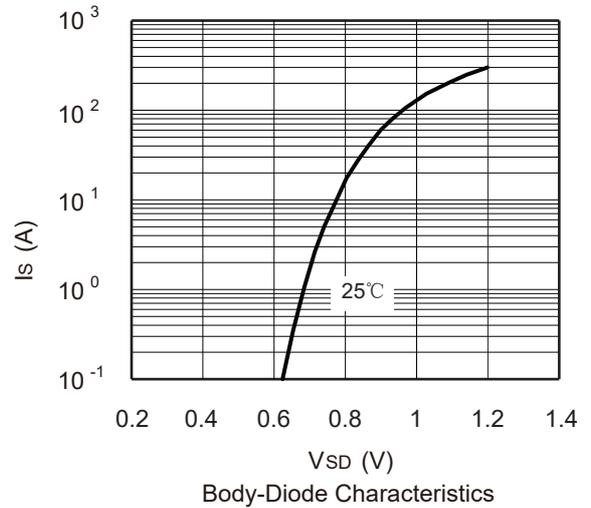
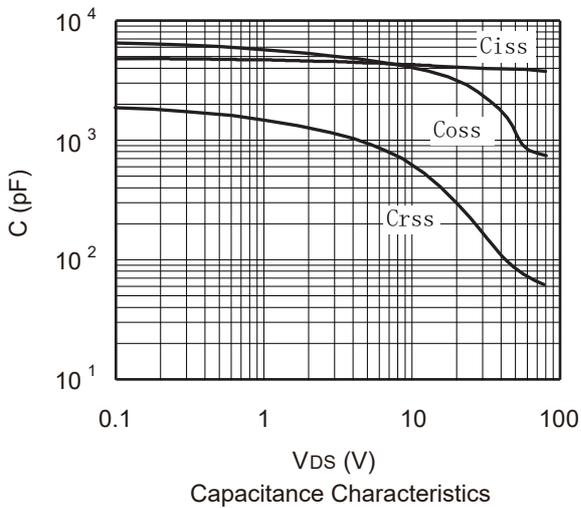
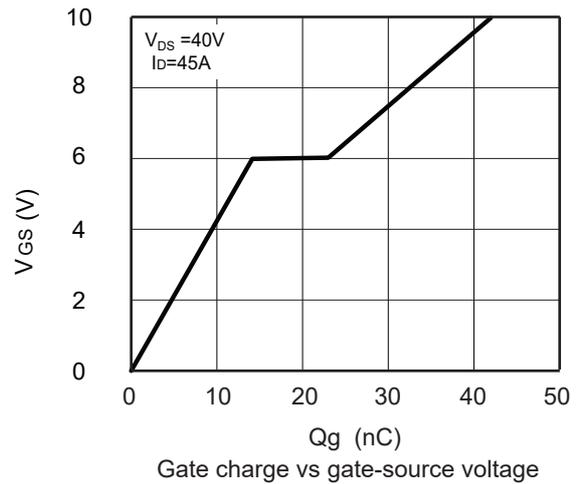
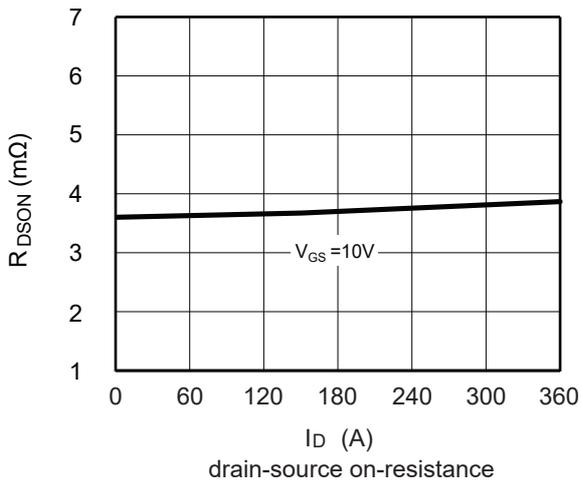
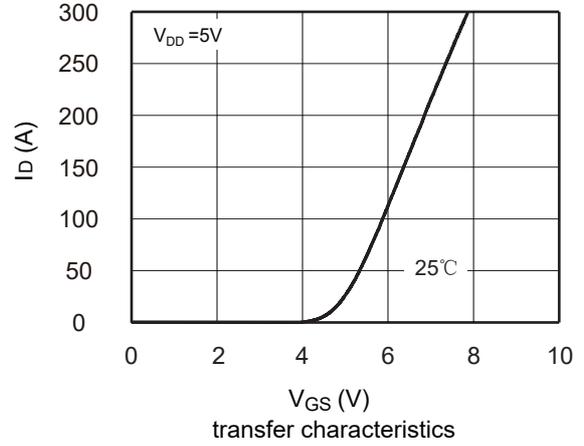
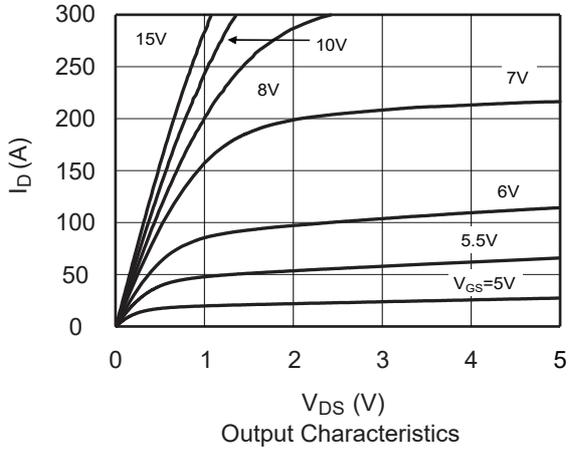
- The EAS data shows Max. rating .The test condition is V_{DS}=40V , V_{GS}=10V , L=1mH , I_{AS}=41A.
- Device on 40 mm x 40 mm x 1.5 mm epoxy PCB FR4 with 6 cm² (one layer, 70 μm thick) copper area for drain connection. PCB is vertical in still air.

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.

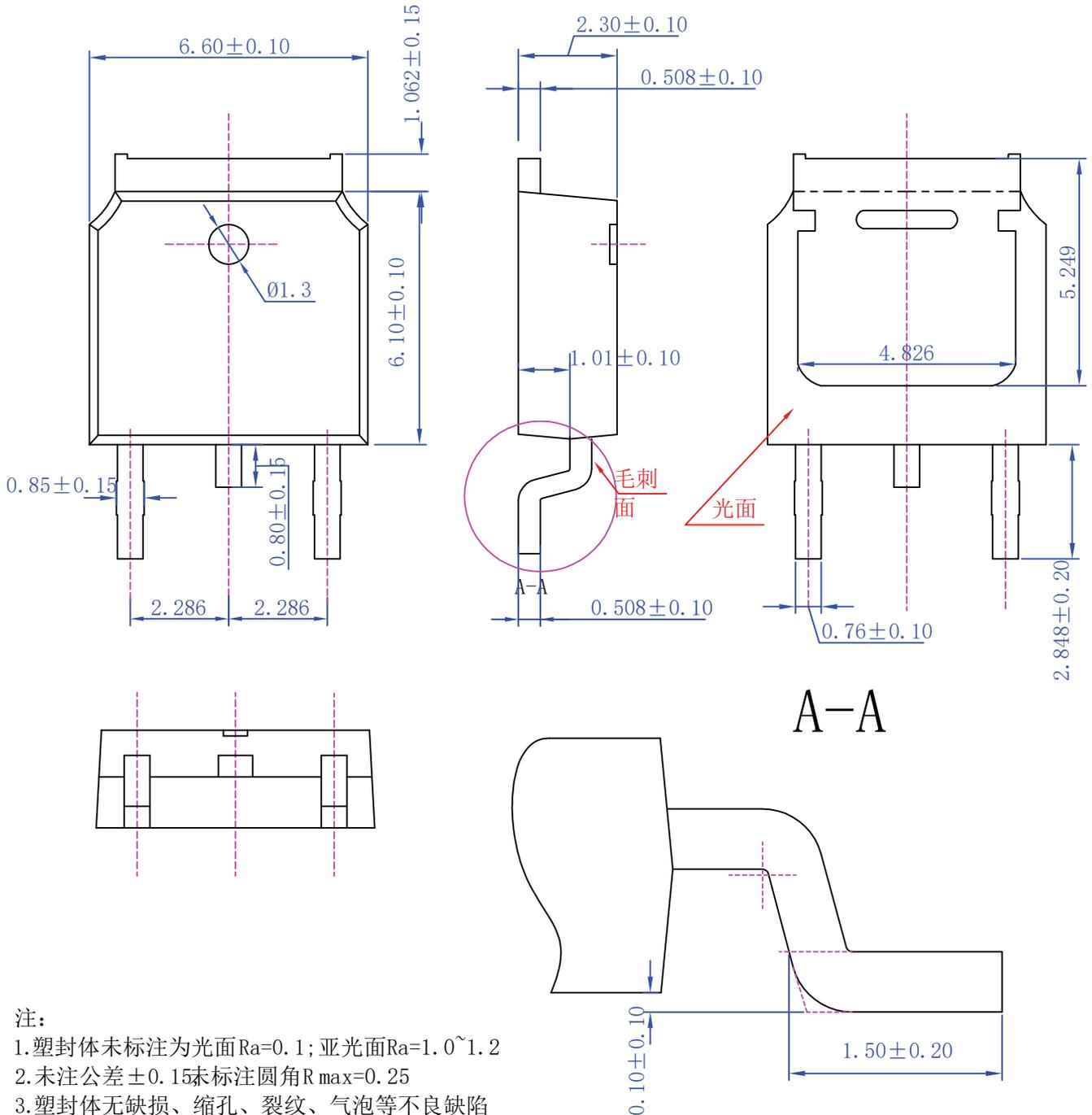
Typical Characteristics



Package Dimension

TO-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

