

CMD11N45/CMU11N45

450V, 570mΩ typ., 11A N-Channel MOSFET

General Description

These Power MOSFETs are produced using Cmos's proprietary, planar stripe, DMOS technology. These devices are well suited for high efficient switching mode power supplies and active power factor correction.

Features

- Fast switching
- 100% avalanche tested
- RoHS compliant

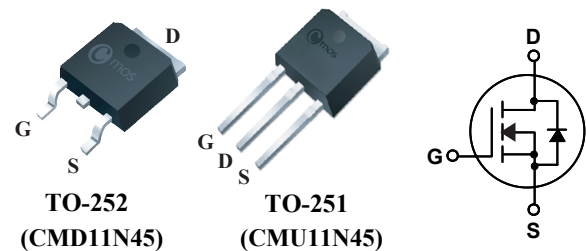
Product Summary

BVDSS	R _{DS(on)} max.	ID
450V	650mΩ	11A

Applications

- Adapter
- Uninterruptible Power Supply
- Switched Mode Power Supplies

TO-252/251 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	450	V
V _{GS}	Gate-Source Voltage	±30	V
I _D @T _C =25°C	Continuous Drain Current	11	A
I _D @T _C =100°C	Continuous Drain Current	7	A
I _{DM}	Pulsed Drain Current	44	A
EAS	Single Pulse Avalanche Energy ¹	490	mJ
P _D @T _C =25°C	Total Power Dissipation	80	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	---	62.5	°C/W
R _{θJC}	Thermal Resistance Junction-case	---	0.96	°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	450	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V, I _D =15A	---	570	650	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} =450V, V _{GS} =0V	---	---	1	μA
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±30V, V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =20V, I _D =5.5A	---	9	---	S
R _g	Gate Resistance	V _{DS} =0V, V _{GS} =0V, f=1MHz	---	1	---	Ω
Q _g	Total Gate Charge	I _D =10A	---	44	---	nC
Q _{gs}	Gate-Source Charge	V _{DS} =250V	---	9	---	
Q _{gd}	Gate-Drain Charge	V _{GS} =10V	---	16	---	
T _{d(on)}	Turn-On Delay Time	V _{DS} =300V	---	15	---	ns
T _r	Rise Time	V _{GS} =10V	---	40	---	
T _{d(off)}	Turn-Off Delay Time	R _G =10Ω	---	70	---	
T _f	Fall Time	I _D =10A	---	60	---	
C _{iss}	Input Capacitance	V _{DS} =25V, V _{GS} =0V, f=1MHz	---	1450	---	pF
C _{oss}	Output Capacitance		---	100	---	
C _{rss}	Reverse Transfer Capacitance		---	6	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V, Force Current	---	---	11	A
I _{SM}	Pulsed Source Current		---	---	44	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V, I _S =11A, T _J =25°C	---	0.88	1.5	V

Note :

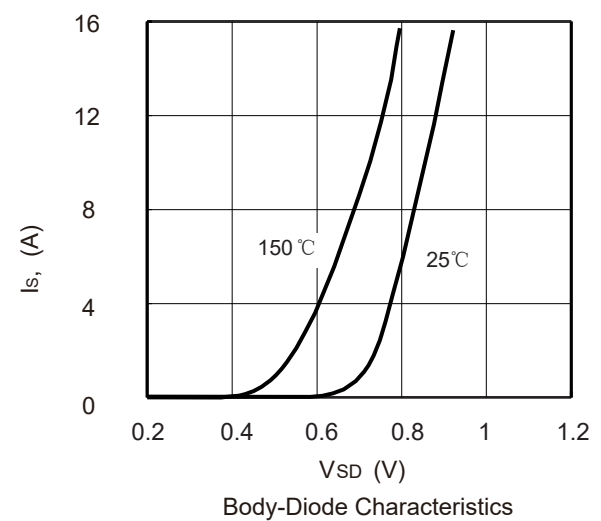
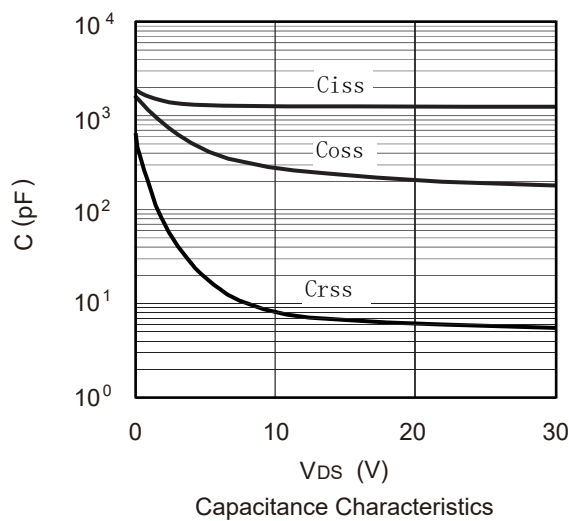
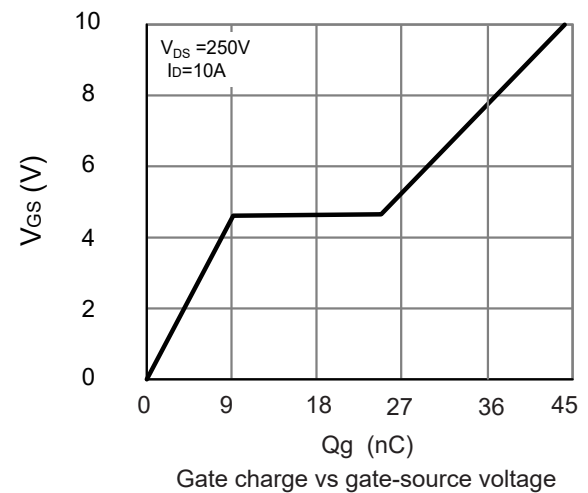
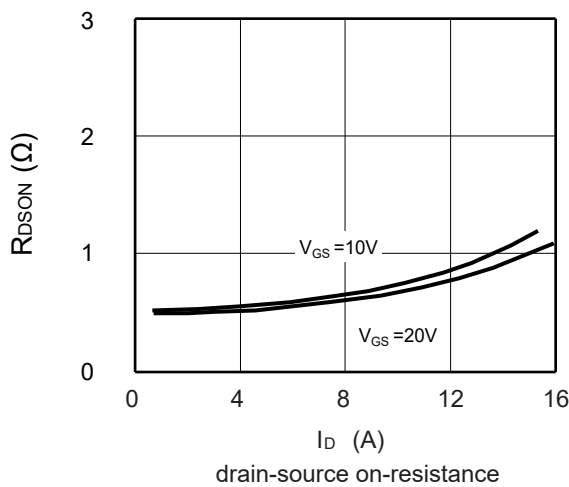
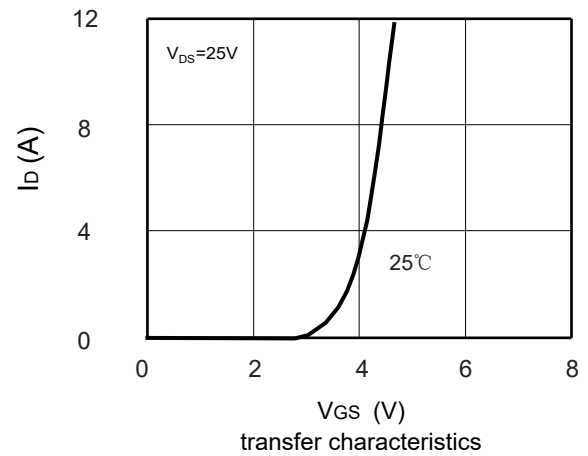
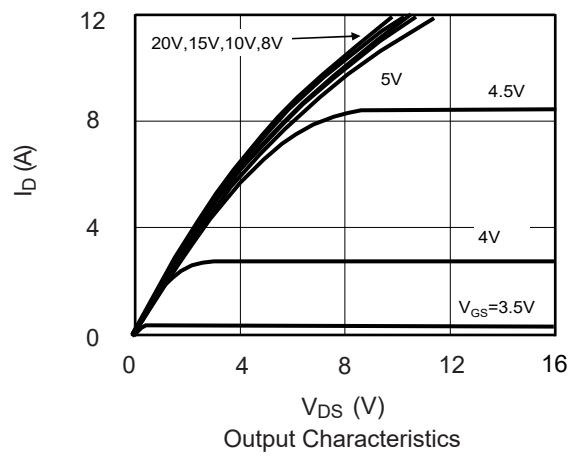
1.The EAS data shows Max. rating . The test condition is V_{DD}=80V, V_{GS}=10V, L=5mH, I_{AS}=14A.

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.

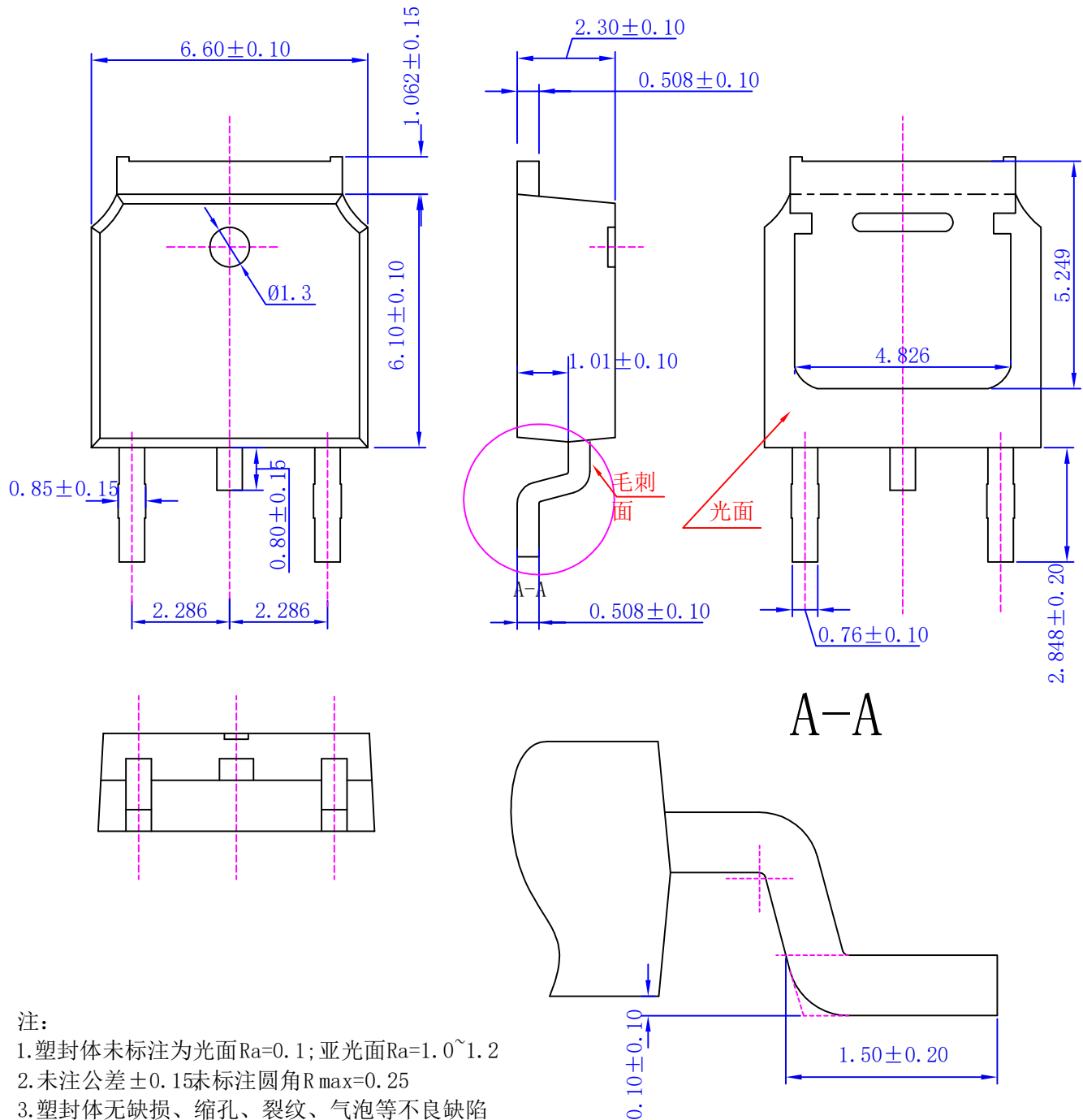
Typical Characteristics



Package Dimension

TO-252

Unit :mm



Package Dimension

TO-251A

Unit :mm

