

CMD35N04A/CMU35N04A

40V, 23mΩ typ., 35A N-Channel MOSFET

General Description

The 35N04A uses advanced trench technology to provide excellent RDS(ON). This device is suitable for use as a load switch and PWM applications.

Features

- Low On-Resistance
- Simple Drive Requirements
- RoHS Compliant

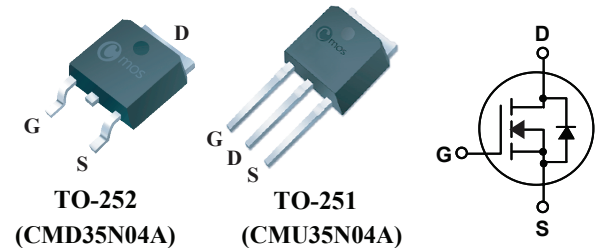
Product Summary

BVDSS	RDS(on) max.	ID
40V	26mΩ	35A

Applications

- DC/DC converter
- Backlight inverter

TO-252/251 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	40	V
V _{GS}	Gate-Source Voltage	±20	V
I _D @T _C =25°C	Continuous Drain Current	35	A
I _D @T _C =100°C	Continuous Drain Current	23	A
I _{DM}	Pulsed Drain Current	140	A
EAS	Single Pulse Avalanche Energy ¹	40	mJ
P _D @T _C =25°C	Total Power Dissipation	50	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	---	64	°C/W
R _{θJC}	Thermal Resistance Junction-case	---	2.50	°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	40	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =15A	---	23	26	mΩ
		V _{GS} =4.5V , I _D =10A	---	28	33	
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} =40V , 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} =5V , I _D =10A	---	10	---	S
R _g	Gate Resistance	V _{DS} =0V , V _{GS} =0V , f=1MHz	---	1.9	---	Ω
Q _g	Total Gate Charge	I _D =12A	---	15	---	nC
Q _{gs}	Gate-Source Charge	V _{DD} =20V	---	2.1	---	
Q _{gd}	Gate-Drain Charge	V _{GS} =10V	---	3.5	---	
T _{d(on)}	Turn-On Delay Time	V _{DD} =20V	---	8.4	---	ns
T _r	Rise Time	V _{GS} =10V	---	3	---	
T _{d(off)}	Turn-Off Delay Time	R _G =3Ω	---	27.7	---	
T _f	Fall Time	I _D =12A	---	3.8	---	
C _{iss}	Input Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz	---	620	---	pF
C _{oss}	Output Capacitance		---	40	---	
C _{rss}	Reverse Transfer Capacitance		---	32	---	

Diode Characteristics

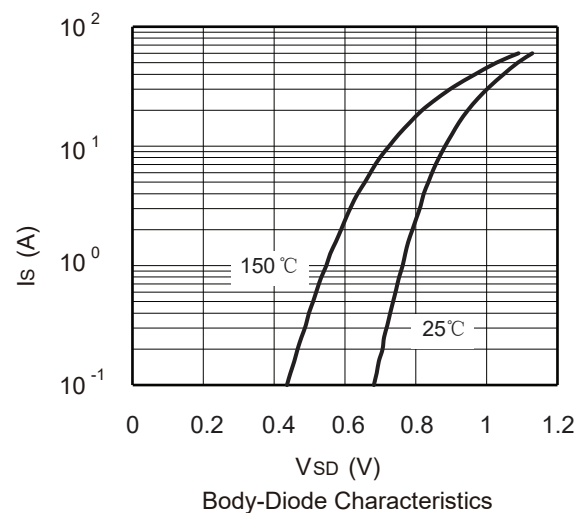
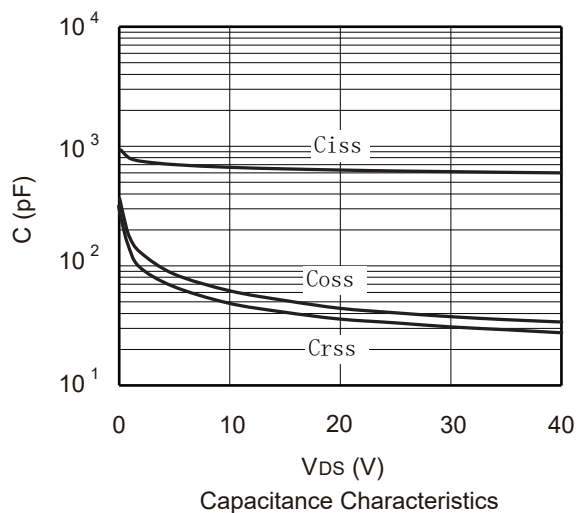
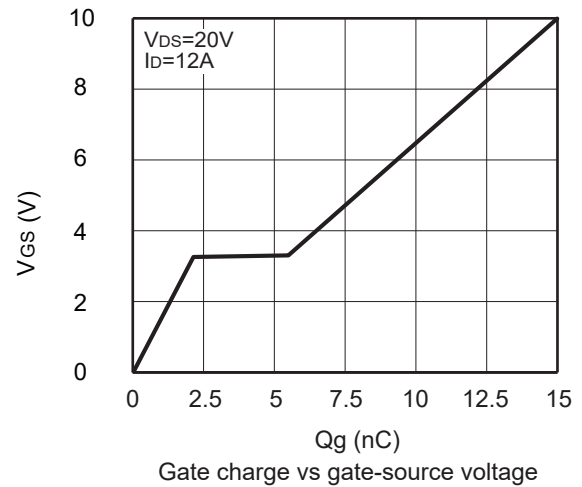
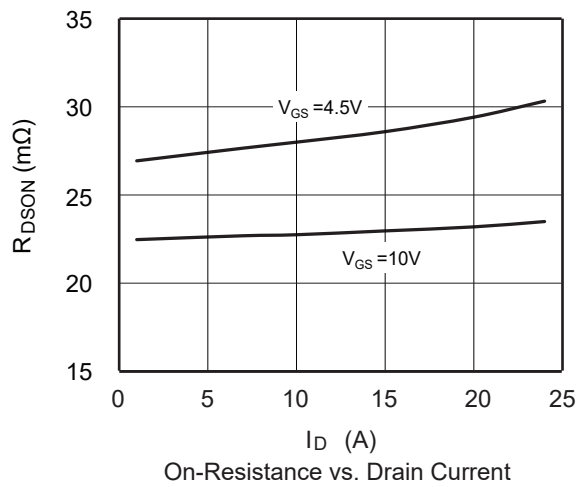
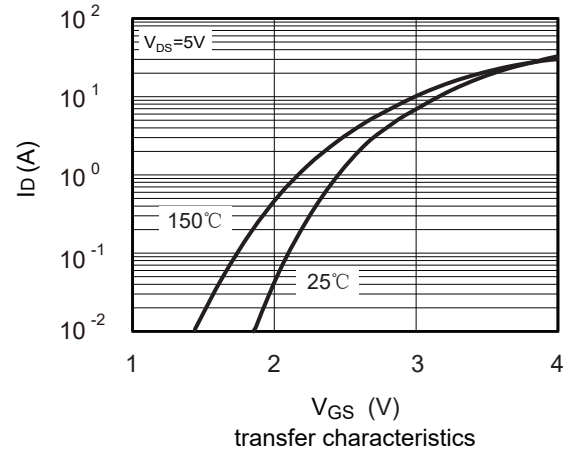
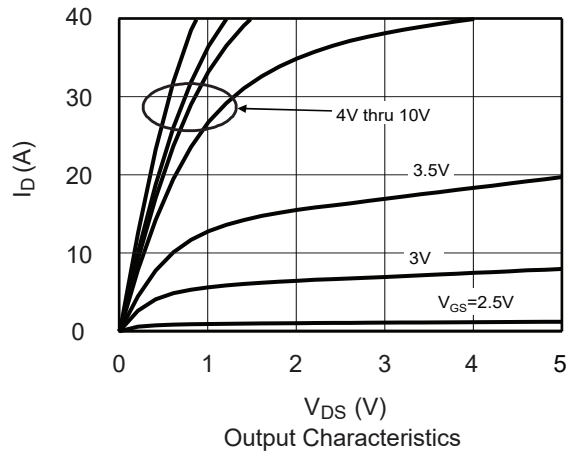
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V , Force Current	---	---	35	A
I _{SM}	Pulsed Source Current		---	---	140	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =10A , T _J =25°C	---	0.89	1.2	V

Note :

1.The EAS data shows Max. rating . The test condition is V_{DD}=30V , V_{GS}=10V , L=1mH , I_{AS}=9A.

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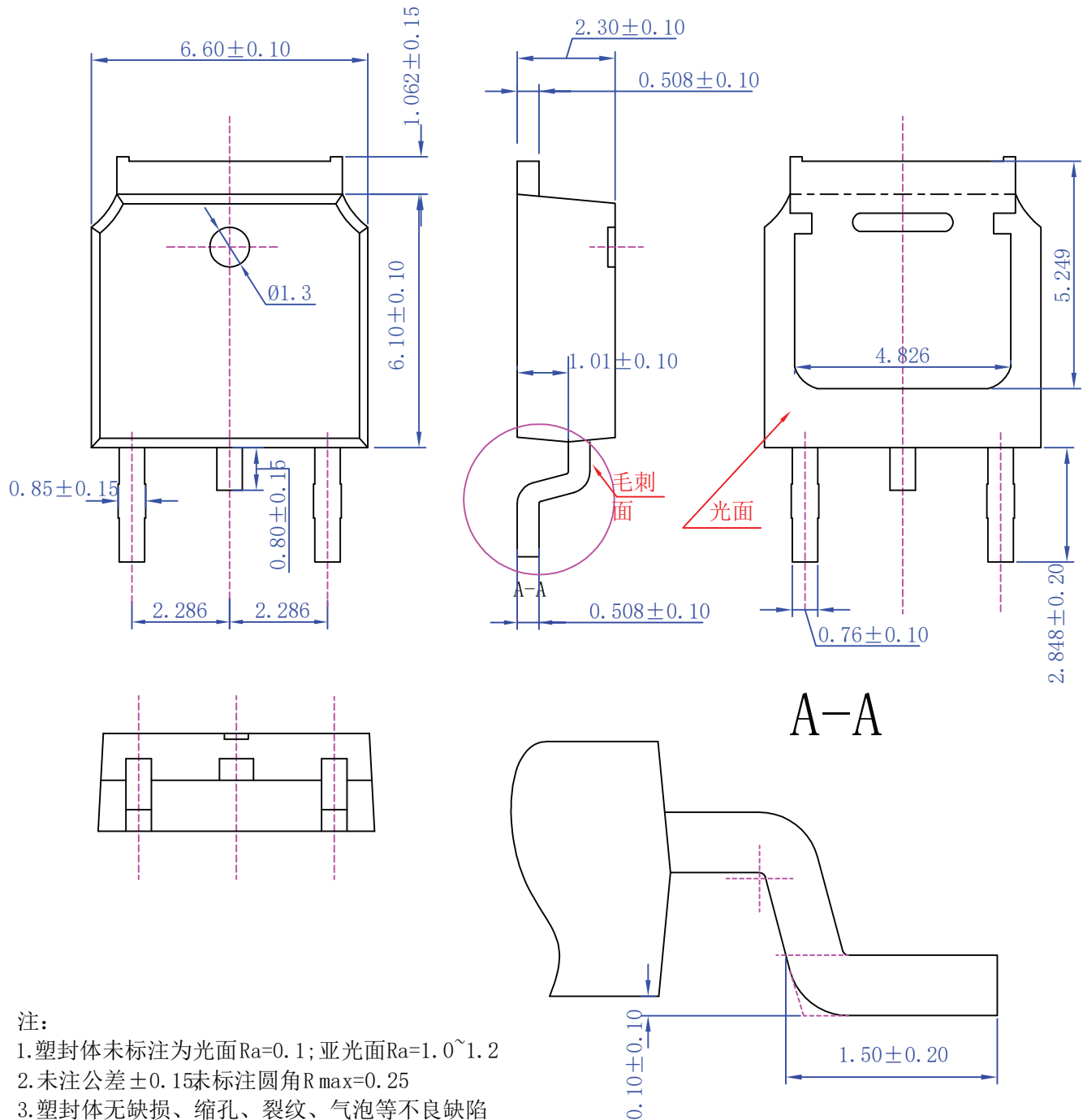
Typical Characteristics



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

