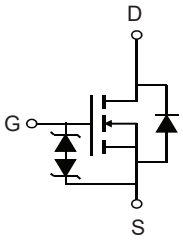
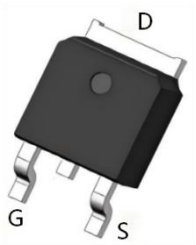
N-Channel Super Junction MOSFET

Parameter	Value	Unit
V_{DS}	800	V
$R_{DS(max)}$	1.2	Ω
I_D	4.5	A





TO-252

Features

- Multi-layer Epitaxial Chip Technology
- Low On-Resistance
- Excellent ESD robustness
- 100% avalanche tested

Applications

- Adapter
- PFC Power Supply Stages
- Switching Applications

Absolute Maximum Ratings (T_C=25℃,unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	800	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_C=25℃	Continuous Drain Current	4.5	A
I_D@T_C=100℃	Continuous Drain Current	2.9	A
I_{DM}	Pulsed Drain Current	18	A
E_{AS}	Single Pulse Avalanche Energy (Note 1)	60	mJ
P_D@T_C=25℃	Total Power Dissipation	39	W
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	150	℃

Thermal Data

Symbol	Parameter	Value	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient Max.	62.5	℃/W
$R_{\theta JC}$	Thermal Resistance Junction-case Max.	3.2	℃/W

Electrical Characteristics(T_J=25℃,unless otherwise noted)

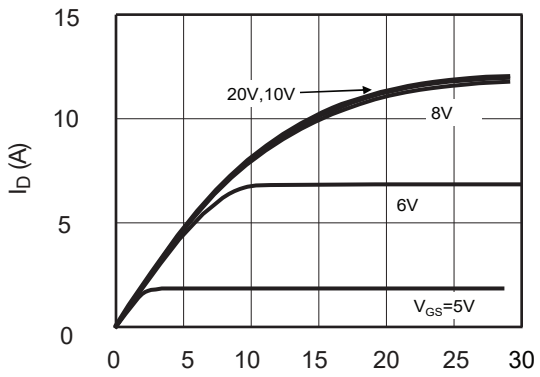
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V , I_D=250uA	800	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=10V , I_D=2.5A	---	1.05	1.2	Ω
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D=250uA	2	---	4	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=800V, V_{GS}=0V, T_j=25℃	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	V_{GS}= ±20V , V_{DS}=0V	---	---	±10	μA
g_{fs}	Forward Transconductance	V_{DS}=20V , I_D=2A	---	3.2	---	S
R_g	Gate Resistance	V_{DS}=0V , V_{GS}=0V , f=1MHz	---	21	---	Ω
Q_g	Total Gate Charge	I_D=4.5A V_{DS}=640V V_{GS}=10V	---	11	---	nC
Q_{gs}	Gate-Source Charge		---	3.3	---	
Q_{gd}	Gate-Drain Charge		---	4.5	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DS}=400V V_{GS}=10V I_D=4.5A R_G=25Ω	---	16	---	ns
T_r	Rise Time		---	24	---	
$T_{d(off)}$	Turn-Off Delay Time		---	59	---	
T_f	Fall Time		---	19	---	
C_{iss}	Input Capacitance	V_{DS}=100V V_{GS}=0V f=1MHz	---	390	---	pF
C_{oss}	Output Capacitance		---	27	---	
C_{rss}	Reverse Transfer Capacitance		---	7	---	

Diode Characteristics

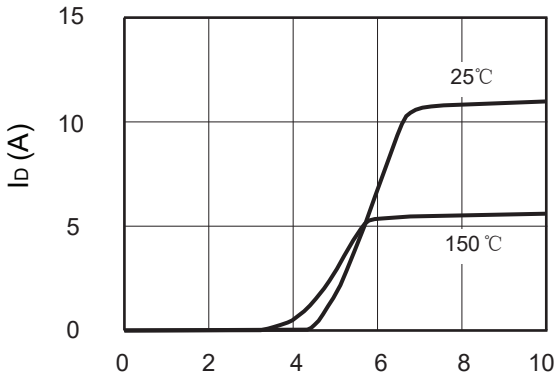
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	V_{GS}=V_{DS}=0V , Force Current	---	---	4.5	A
I_{SM}	Pulsed Source Current		---	---	18	A
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_{SD}=11A , T_j=25℃	---	0.96	1.4	V
t_{rr}	Reverse Recovery Time	V_{DD}=100V I_F=4.5A , dI/dt=100A/μs	---	380	---	ns
Q_{rr}	Reverse Recovery Charge		---	2	---	uC

Note :
1.The EAS data shows Max. rating .The test condition is VDS=80V , VGS=10V , L=30mH , IAS=2A.

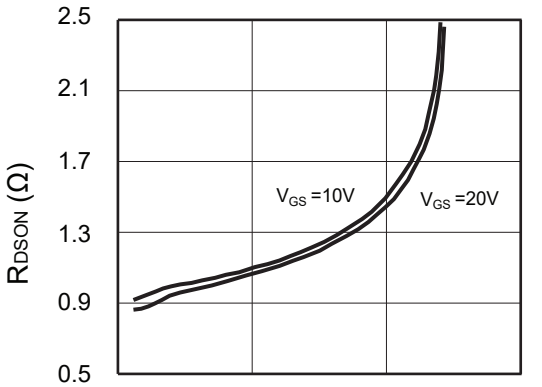
Typical Characteristics



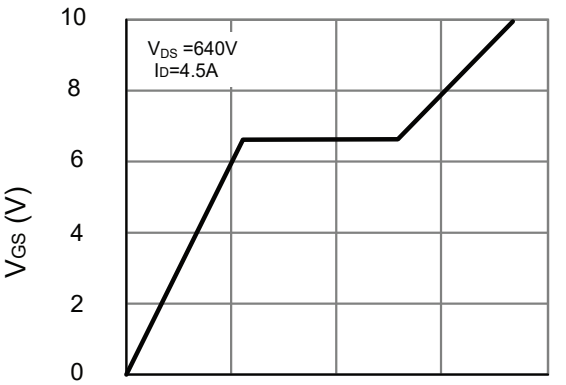
Output Characteristics



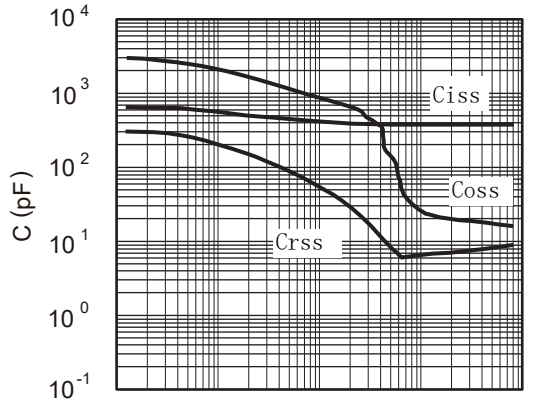
transfer characteristics



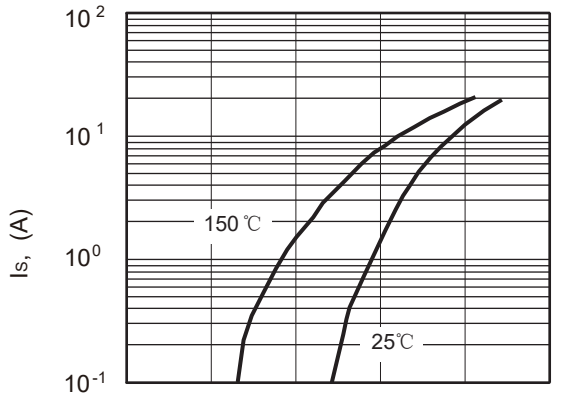
drain-source on-resistance



Gate charge vs gate-source voltage



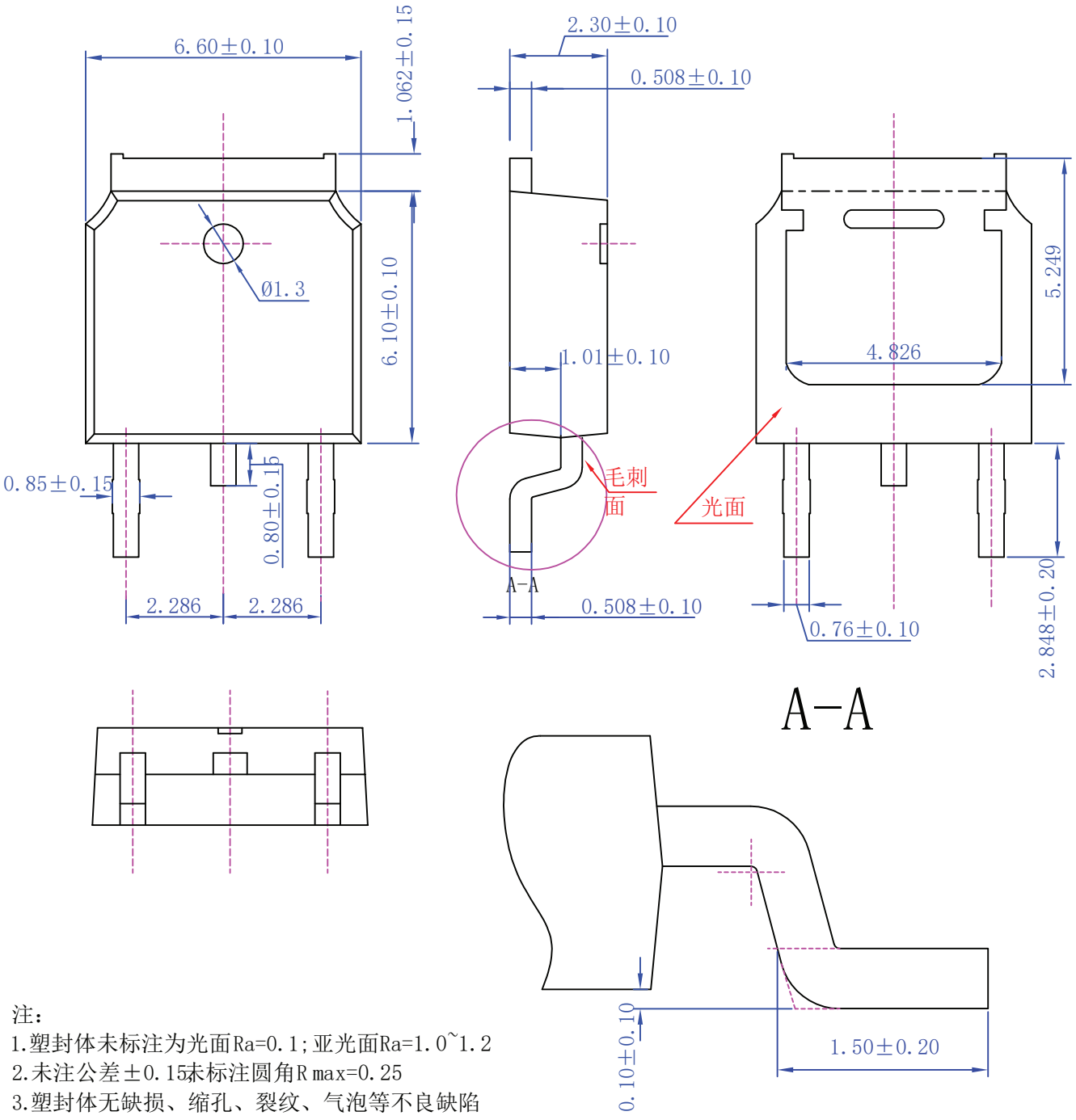
Capacitance Characteristics



Body-Diode Characteristics

Package Outline(Unit :mm)

TO-252



注：
1.塑封体未标注为光面Ra=0.1;亚光面Ra=1.0~1.2
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

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