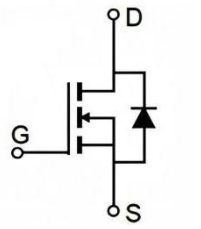
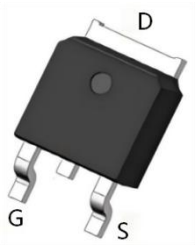
N-Channel Super Junction MOSFET

Parameter	Value	Unit
V_{DS}	800	V
$R_{DS(max)}$	900	mΩ
I_D	6	A





TO-252

Features

- Multi-layer Epitaxial Chip Technology
- Low On-Resistance
- 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	±30	V
I_D@T_C=25℃	Continuous Drain Current	6	A
I_D@T_C=100℃	Continuous Drain Current	3.6	A
I_{DM}	Pulsed Drain Current (Note 1)	18	A
E_{AS}	Single Pulse Avalanche Energy (Note 2)	62	mJ
I_{AR}	Avalanche Current (Note 2)	1.3	A
P_D@T_C=25℃	Total Power Dissipation	63	W
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	-55 to 150	℃

Thermal Data

Symbol	Parameter	Value	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient Max.	62	℃/W
$R_{\theta JC}$	Thermal Resistance Junction-case Max.	2.0	℃/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=3A	---	0.79	0.9	Ω
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D=250uA	2.5	3.0	4.5	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}= ±30V , V_{DS}=0V	---	---	±10	μA
R_g	Gate Resistance	V_{DS}=0V , V_{GS}=0V , f=1MHz	---	7.8	---	Ω
Q_g	Total Gate Charge	I_D=6A V_{DS}=640V V_{GS}=10V	---	13	---	nC
Q_{gs}	Gate-Source Charge		---	2.8	---	
Q_{gd}	Gate-Drain Charge		---	5.6	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DS}=400V I_D=6A R_G=25Ω	---	41	---	ns
T_r	Rise Time		---	11	---	
$T_{d(off)}$	Turn-Off Delay Time		---	75	---	
T_f	Fall Time		---	37	---	
C_{iss}	Input Capacitance	V_{DS}=100V V_{GS}=0V f=1MHz	---	528.6	---	pF
C_{oss}	Output Capacitance		---	16	---	
C_{rss}	Reverse Transfer Capacitance		---	0.31	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	V_{GS}=V_{DS}=0V , Force Current	---	---	6	A
I_{SM}	Pulsed Source Current		---	---	11.7	A
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_{SD}=3A , T_j=25℃	---	0.9	1.2	V
t_{rr}	Reverse Recovery Time	V_{DD}=400V I_F=6A , dI/dt=100A/μs	---	345	---	ns
Q_{rr}	Reverse Recovery Charge		---	2.5	---	uC

Note :
1.The test condition is L=10mH, RG = 25Ω, starting TJ = 25℃ .

Typical Characteristics

Figure 1. On-Region Characteristics

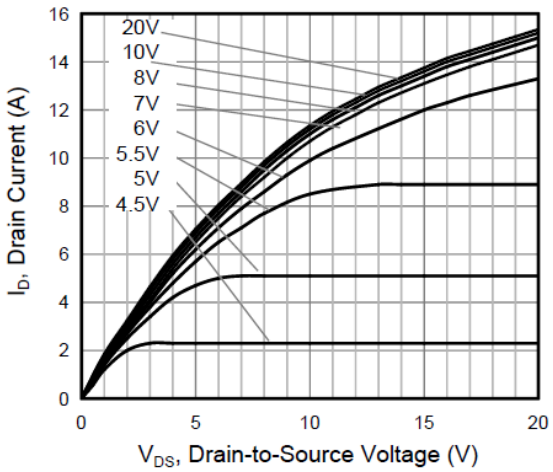


Figure 2. Transfer Characteristics

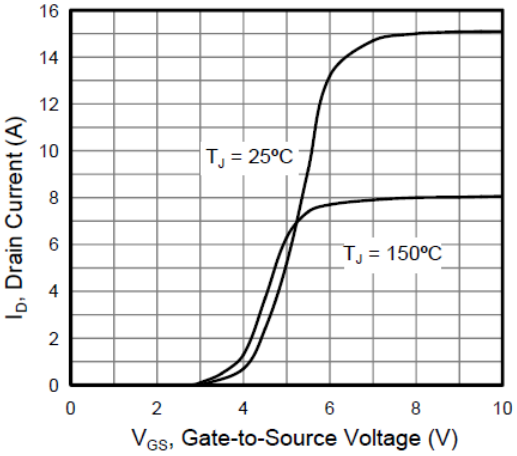


Figure 3. On-Resistance vs. Drain Current

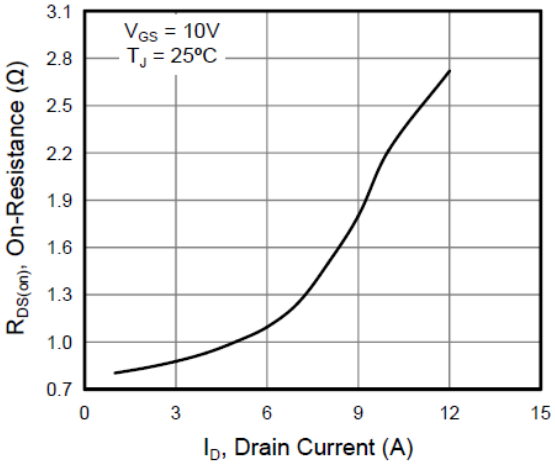


Figure 4. Capacitance

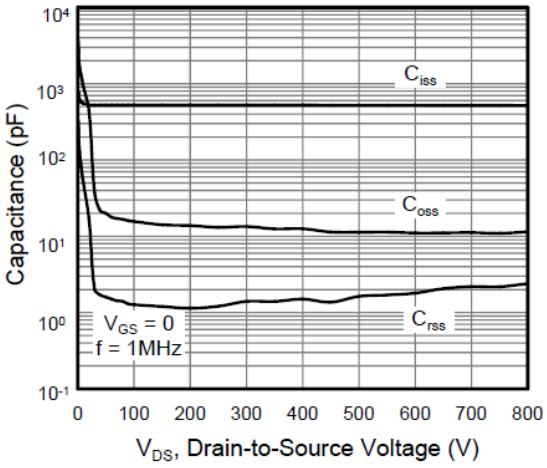


Figure 5. Gate Charge

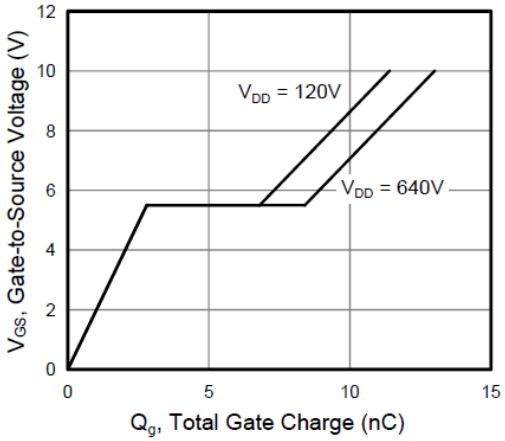


Figure 6. Body Diode Forward Voltage

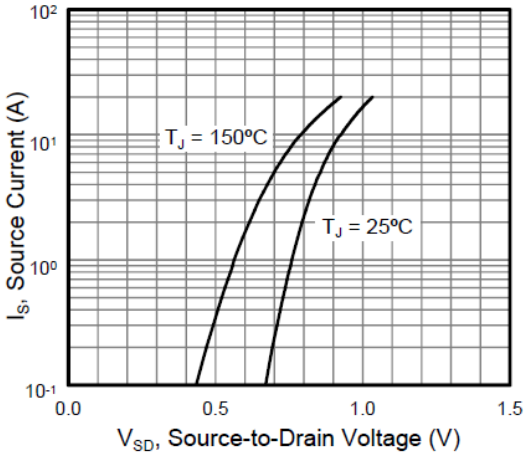


Figure 7. On-Resistance vs.Temperature

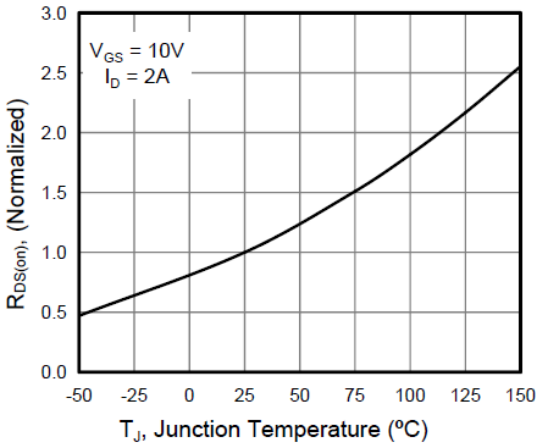


Figure 8. Breakdown Voltage vs.Junction Temperature

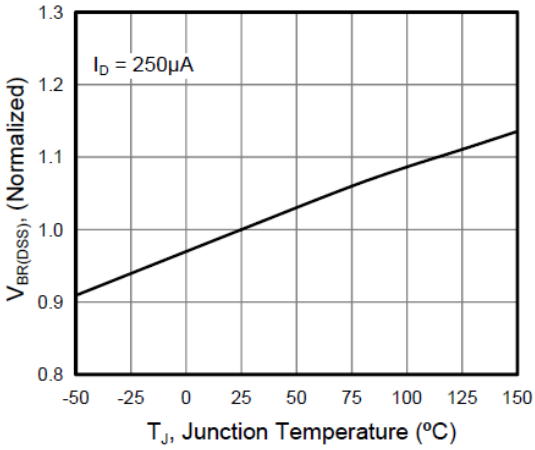


Figure 9. Transient Thermal Impedance

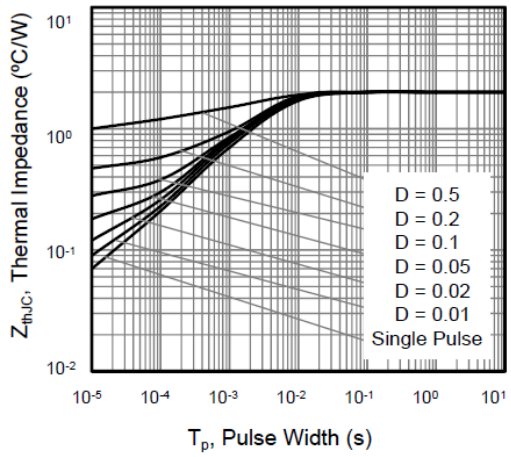


Figure 10. Safe Operation Area

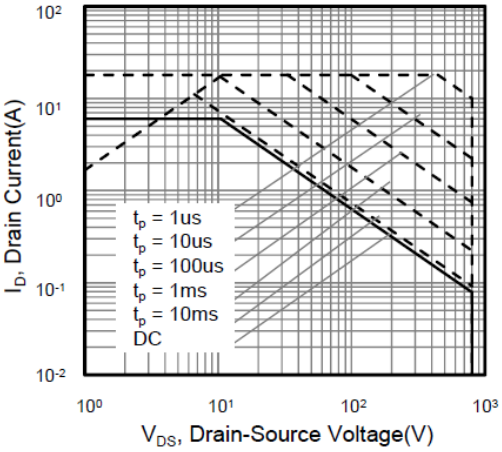
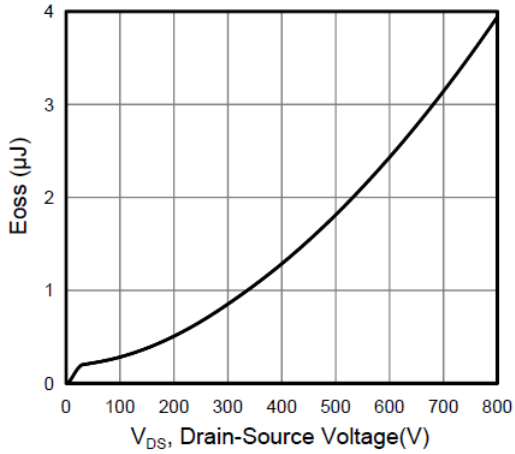
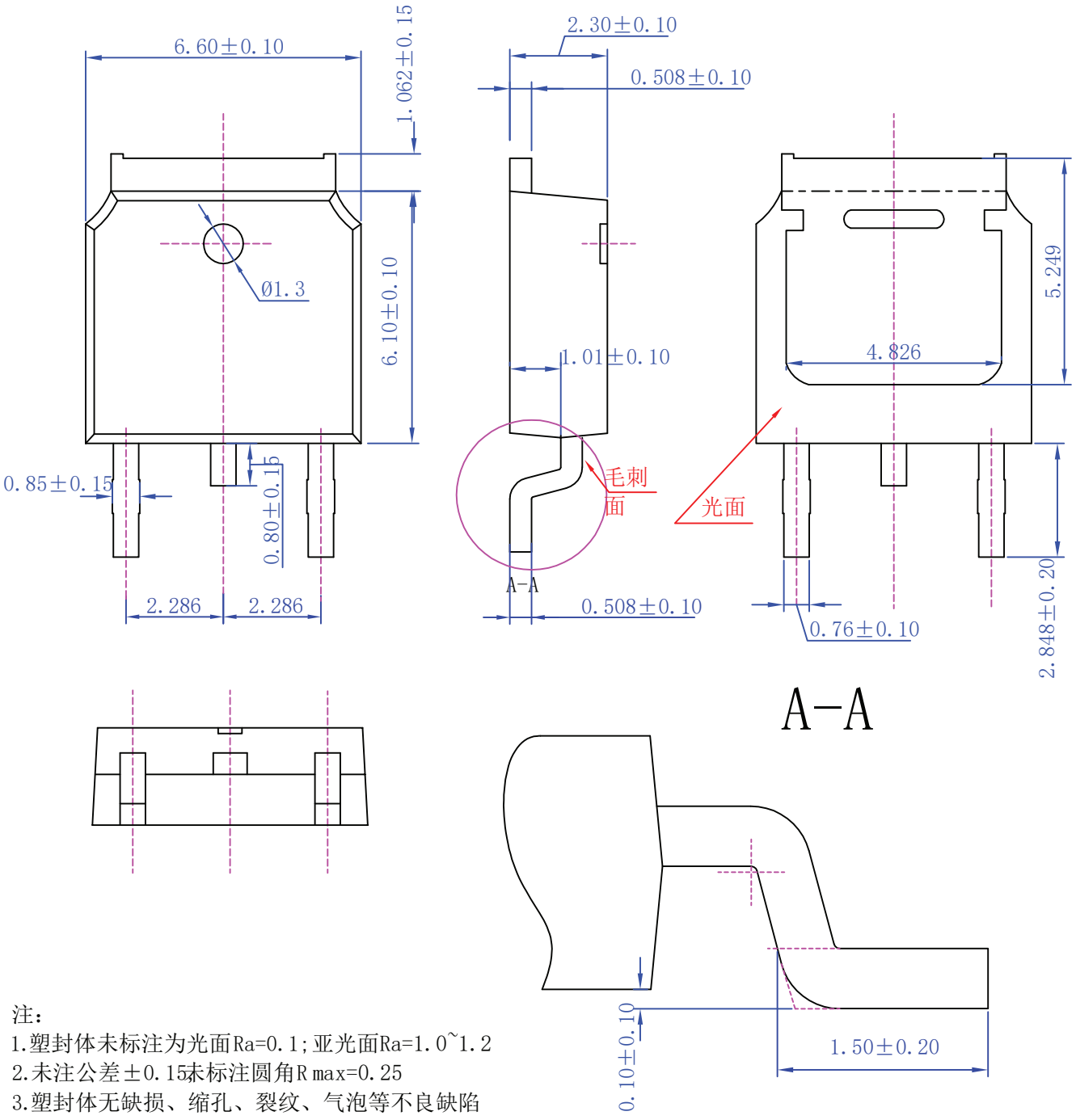


Figure 11. Typ. Coss Stored Energy



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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