

BRI65R380C

Rev.F Apr.-2022



D	2015-11				
E	2022-4-22	1			

AOS-AOD380A60

F 2022.4.21 ALL

/ Descriptions

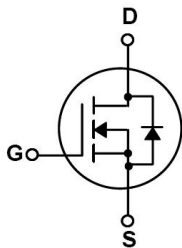
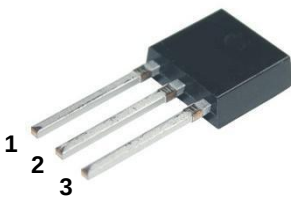
TO-251 N 650V

N-CHANNEL 650V Super-Junction Power MOSFET in a TO-251 Plastic Package.

/ Features $R_{DS(on)}$ C_{rss} Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching, HF Product.**/ Applications**

DC/DC

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.

/ Equivalent Circuit**/ Pinning**

PIN1 G

PIN 2 D

PIN 3 S

/ Marking

See Marking Instructions.

参

Parameter	 Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	650	V
Drain Current	$I_D(T_C=25^{\circ}\text{C})$	11	A
Drain Current - Pulsed	I_{DM}	44	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	277	mJ
Avalanche Current	I_{AS}	8	A
Power Dissipation	$P_D(T_C=25^{\circ}\text{C})$	125	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}\text{C}$
Junction-to-Case	$R_{\theta JC}$	1	$^{\circ}\text{C/W}$
Junction-to-Ambient	$R_{\theta JA}$	55	$^{\circ}\text{C/W}$

Parameter	 Symbol	Test Conditions	Min	Typ	 Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0\text{V}$ $I_D=250\mu\text{A}$	650	700		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650\text{V}$ $V_{GS}=0\text{V}$ $T_J=25^{\circ}\text{C}$			1.0	μA
Gate-Body Leakage Current, Forward	I_{GSS}	$V_{GS}=\pm 30\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu\text{A}$	2.5	3.3	4.5	V

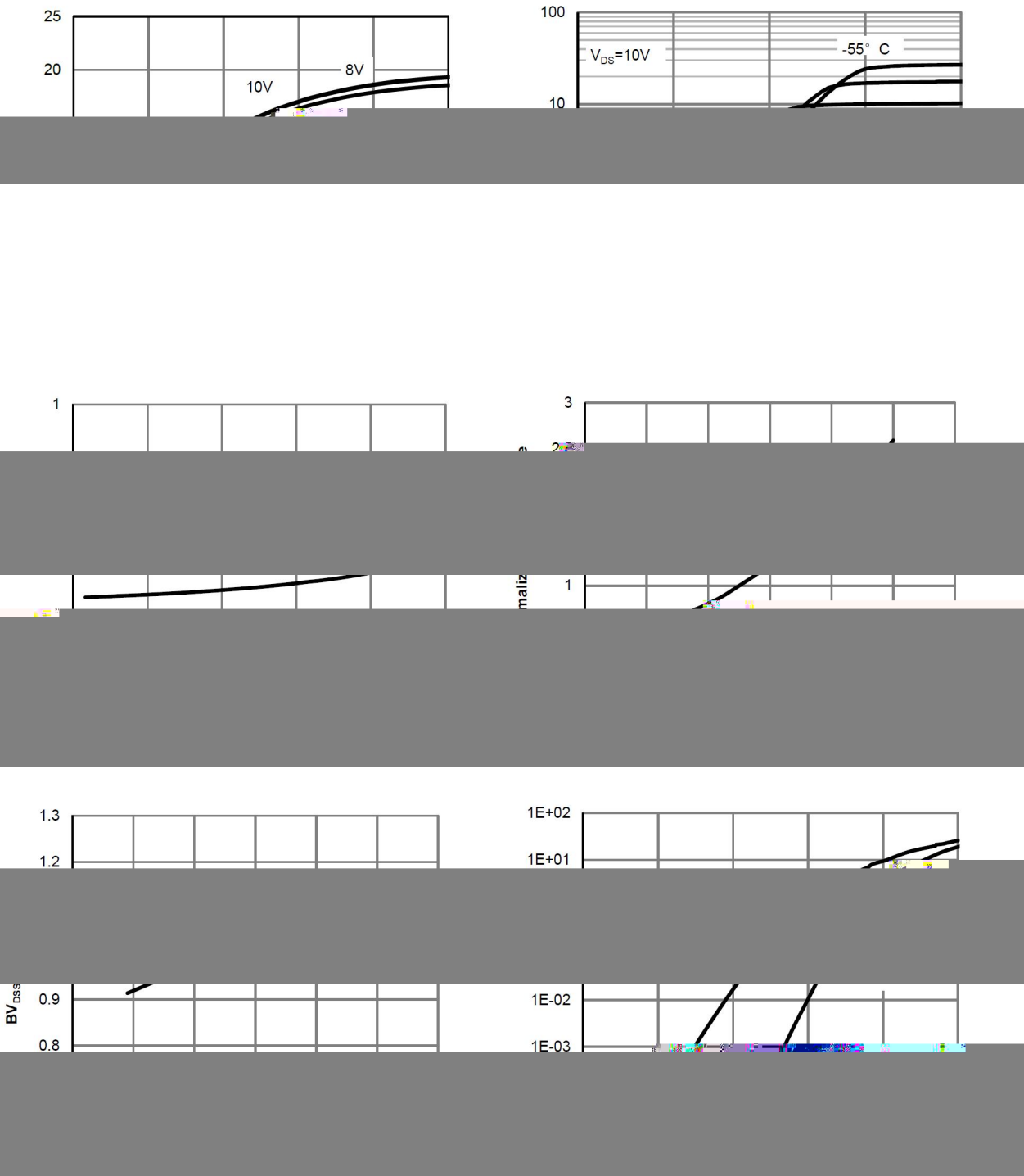
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/ Electrical Characteristics(Ta=25)

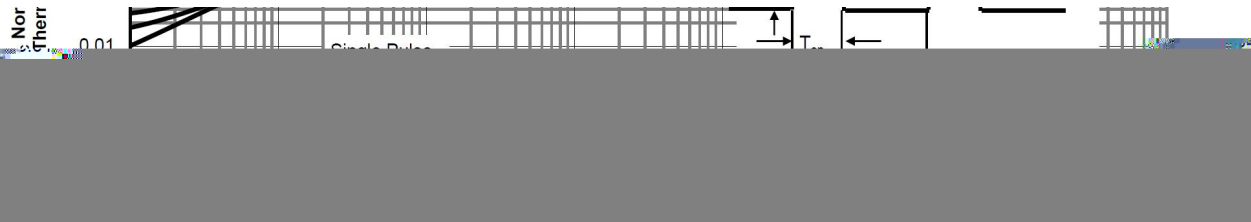
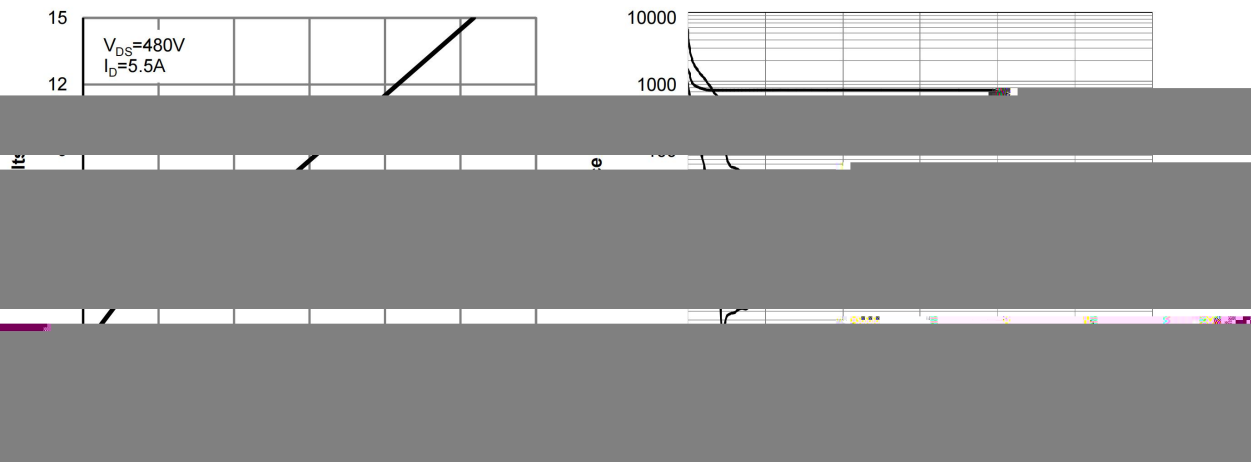
Parameter	□ Symbol	Test Conditions	Min	Typ	参 Max	Unit
Continuous Diode Forward Current	I _s				11	A
Total Gate Charge	Q _g	V _{DS} =480V I _D =5.5A V _{GS} =10V		18		nC
Gate-Source Charge	Q _{gs}			7		nC
Gate-Drain Charge	Q _{gd}			4.5		nC

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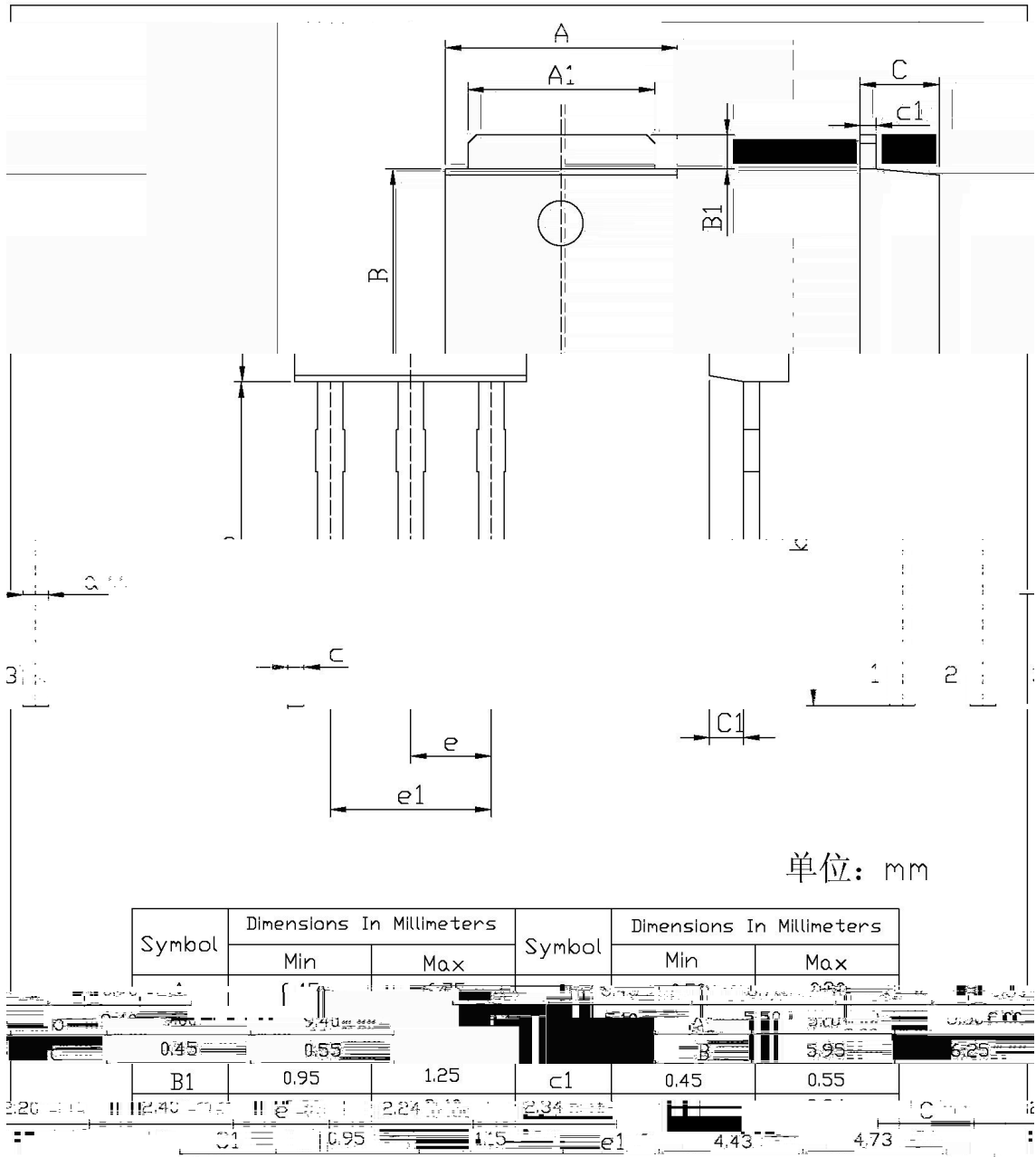
/ Electrical Characteristic Curve



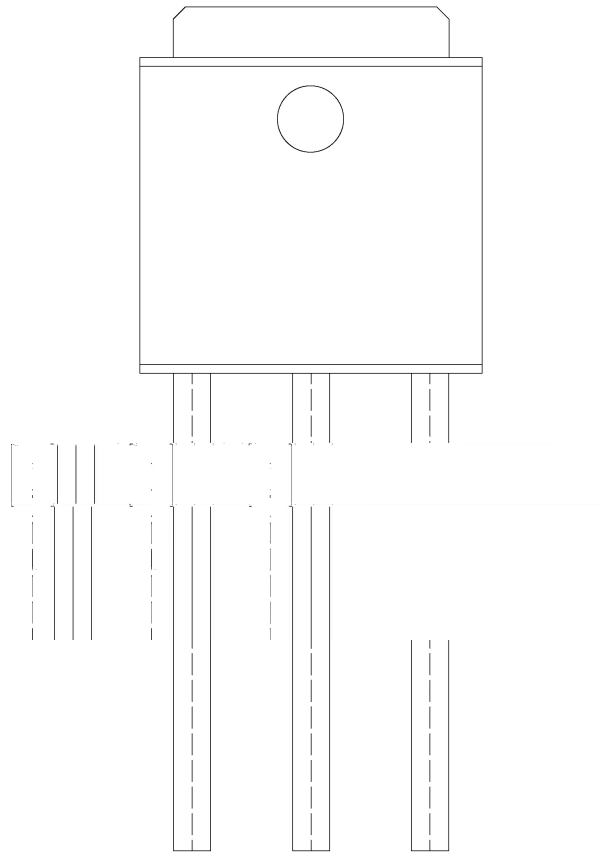
/ Electrical Characteristic Curve



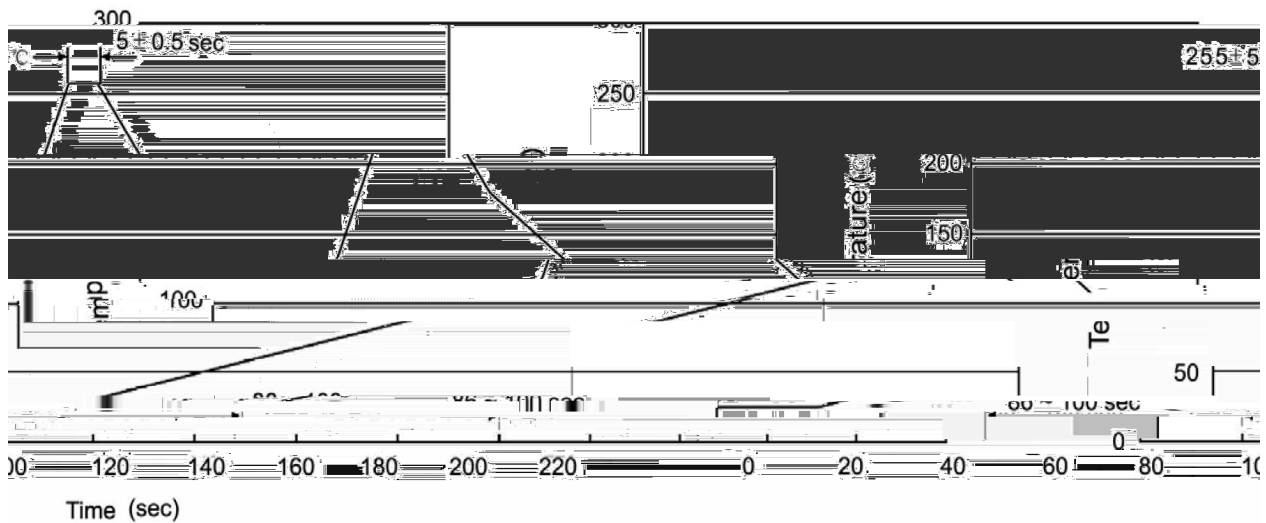
I Package Dimensions



251	TC-1
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Note:

- | | | | | | |
|---|-------|-----|-----------|--------|--|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150°C, Time:60~90sec. |
| 2 | 255±5 | | 5±0.5sec; | | 2.Peak Temp.:255±5°C, Duration:5±0.5sec. |
| 3 | | 2 | 10°C/sec. | | 3. Cooling Speed: 2~10°C/sec. |

/ Resistance to Soldering Heat Test Conditions

270±5°C 10±1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag 袋	Inner Box 盒	Outer Box 箱
TO-251	1,000	10	10,000	5	50,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube 套管	Inner Box 盒	Outer Box 箱
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

/ Notices