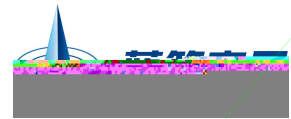


BRI65R380C

Rev.F Apr.-2022



DATA SHEET

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

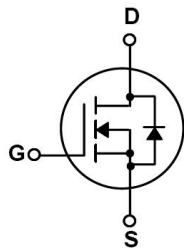
 $R_{DS(on)}$ C_{rss} Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching, HF Product.

/ Applications

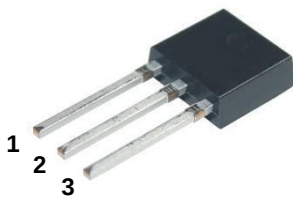
DC/DC

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



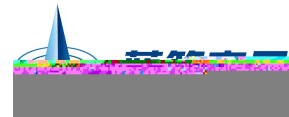
PIN1 G

PIN 2 D

PIN 3 S

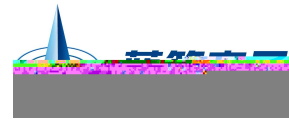
/ Marking

See Marking Instructions.



Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	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	$^{\circ}\text{C/W}$

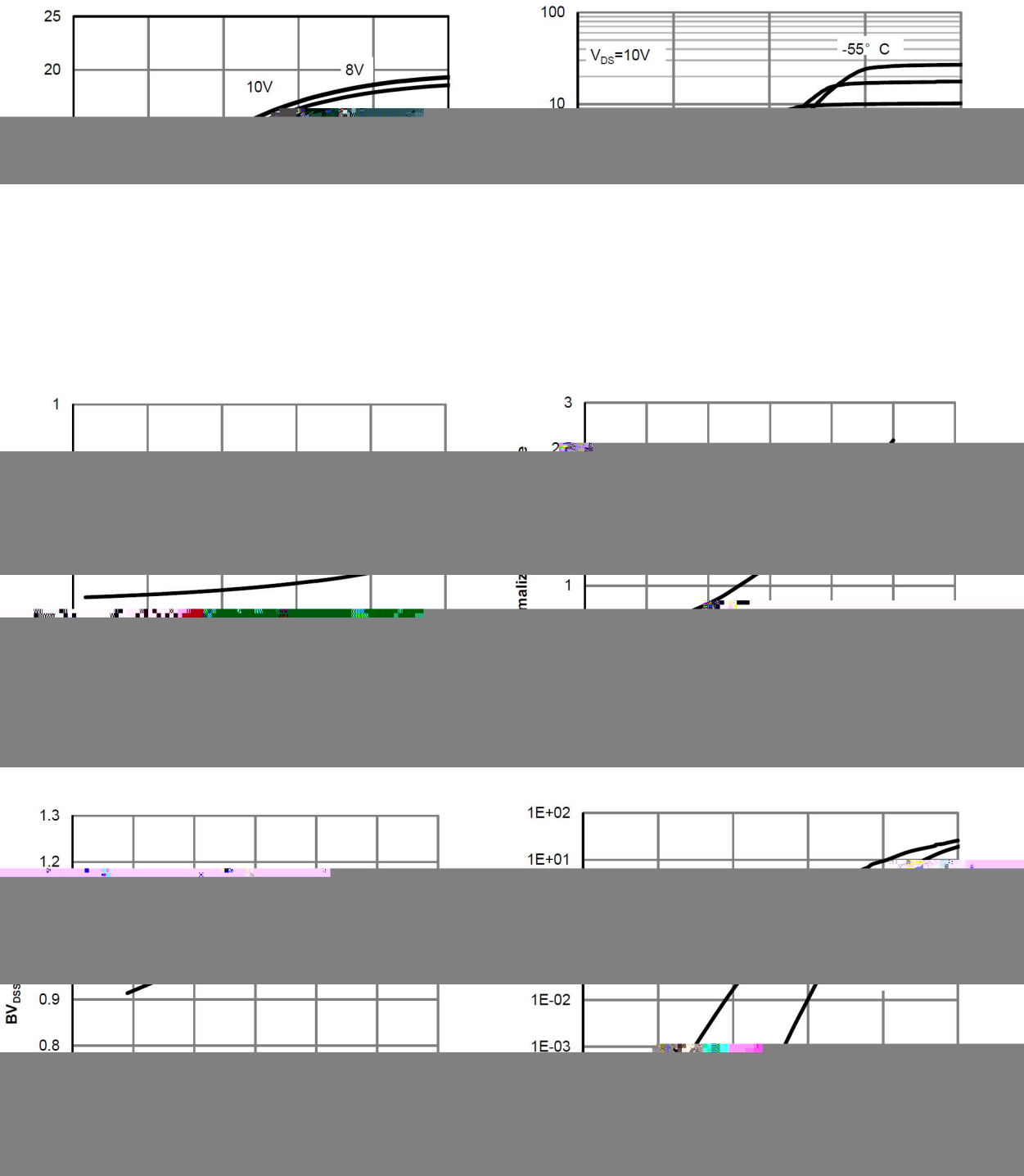
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	650	700		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650V$ $V_{GS}=0V$ $T_J=25^{\circ}\text{C}$			1.0	μA
Gate-Body Leakage Current, Forward	I_{GSS}	$V_{GS}=\pm 30V$			± 100	nA
Gate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



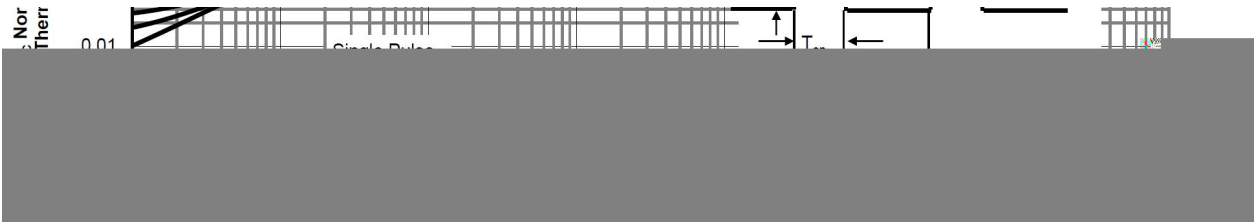
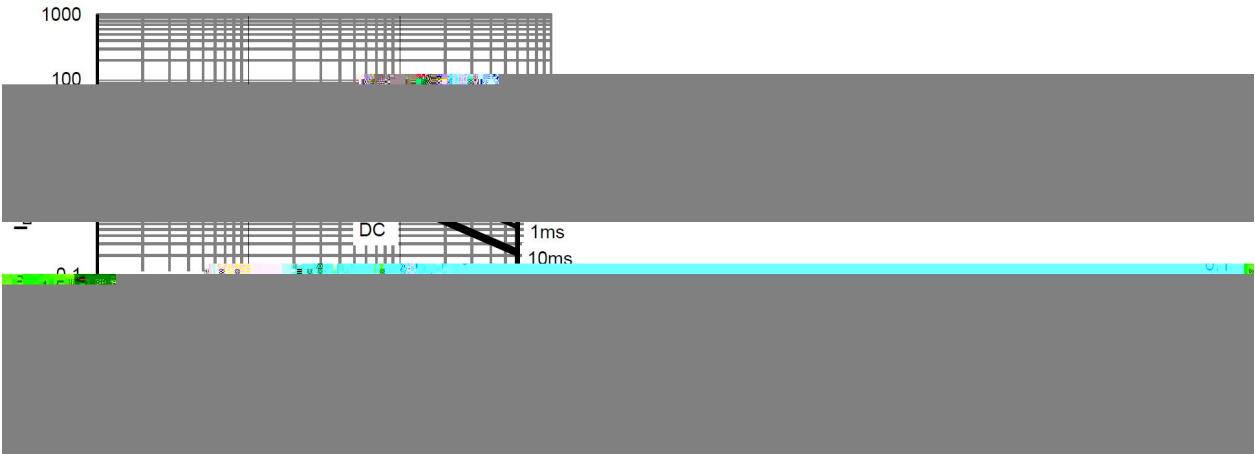
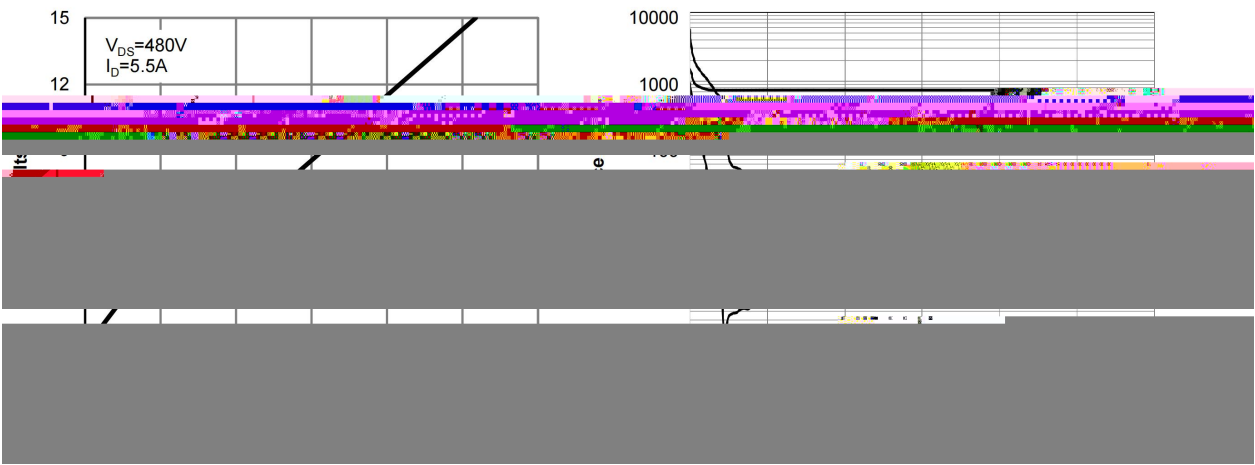
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	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

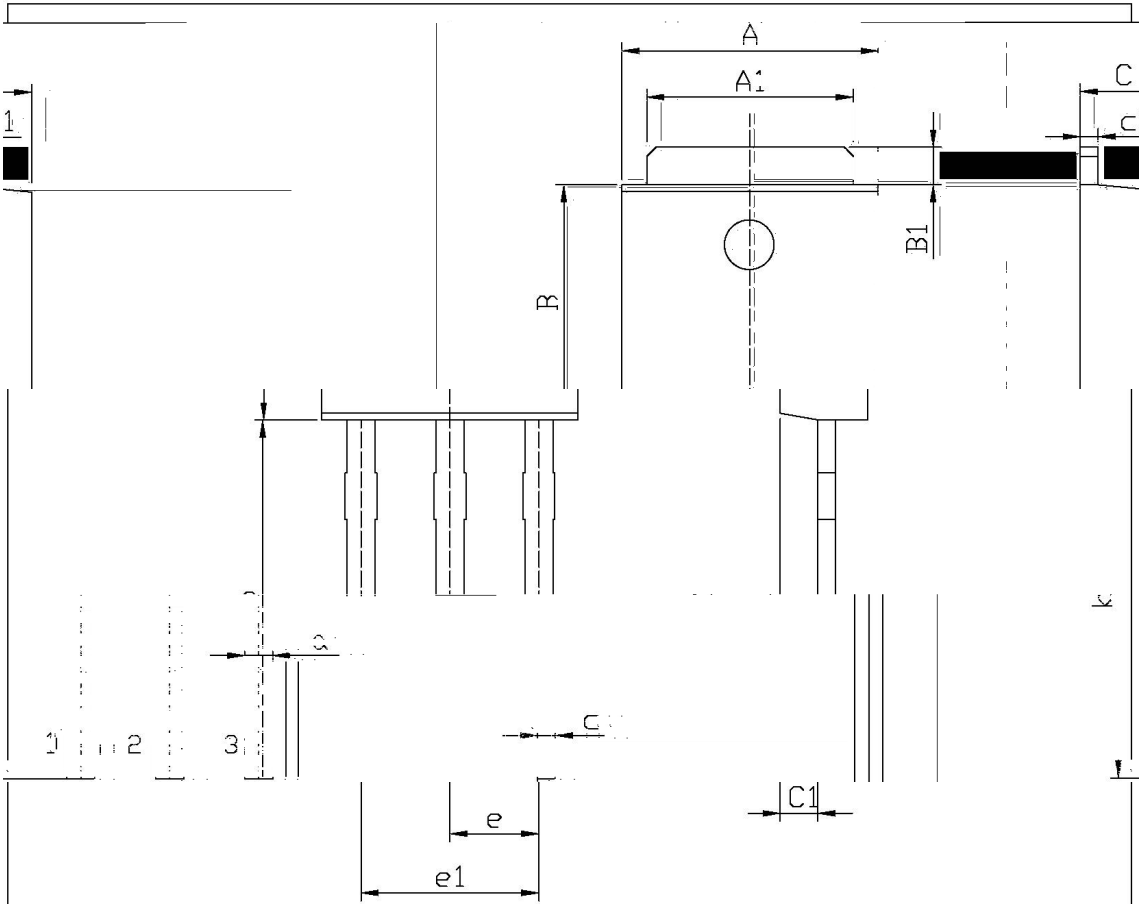
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve

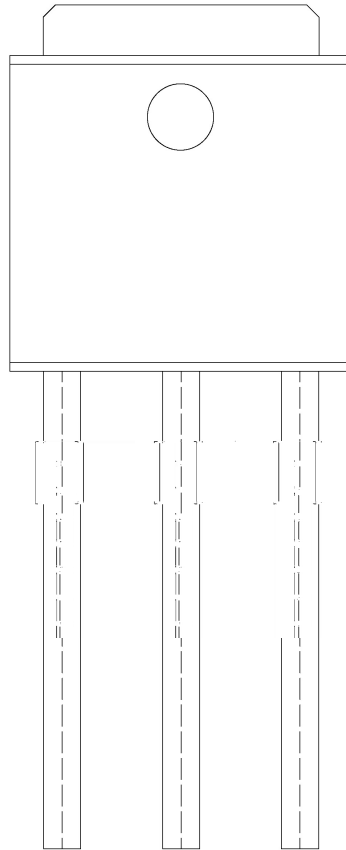


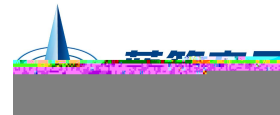
/ Package Dimensions



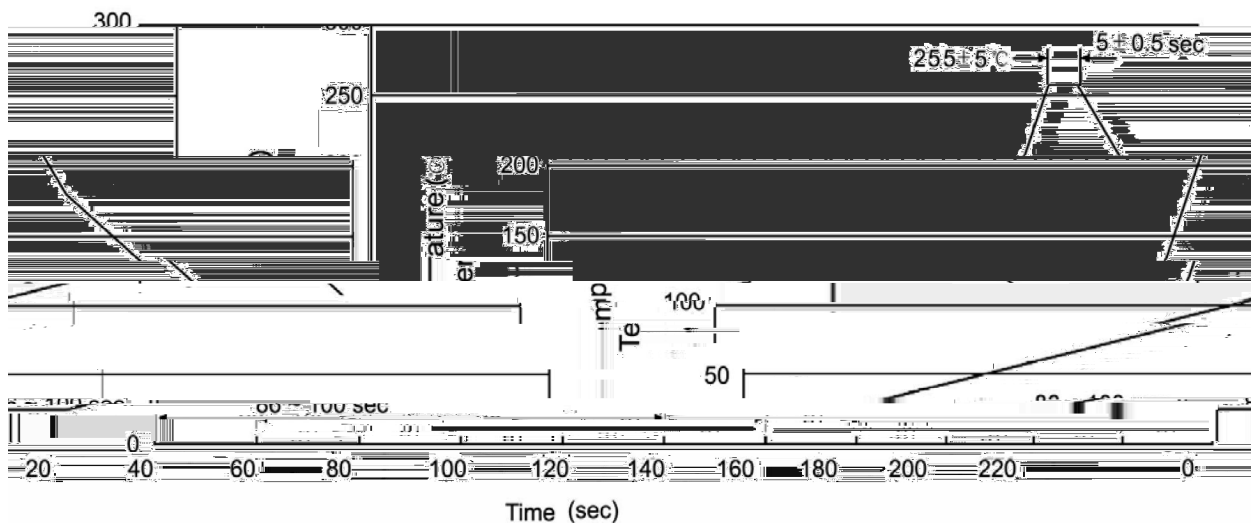
单位: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	6.40	6.70	B	5.00	5.20
A1	5.40	5.70	B1	5.95	6.25
C	0.45	0.55	c1	0.45	0.55
B1	0.95	1.25			
C1	2.26	2.40		2.24	2.34
e	1.25	1.43			
e1	4.43	4.73			
			C1	6.95	





() / Temperature Profile for IR Reflow Soldering(Pb-Free)



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