



/ Revised record

A			AOS-AOT2144L		

/ Descriptions

TO-220 N

N-CHANNEL MOSFET in a TO-220 Plastic Package.

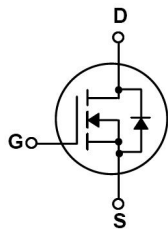
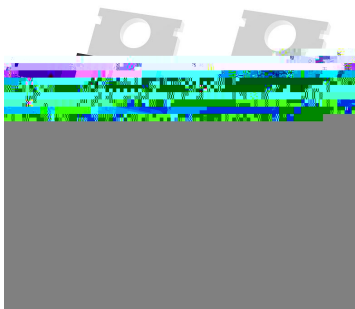
/ Features

Ultra Low On-Resistance,fast switching.

/ Applications

PFC

These devices are well suited for high efficient switched mode power supplies, Active power factor correction, electronic lamp ballast based on half bridge topology.

/ Equivalent Circuit**/ Pinning**

PIN1 G PIN 2 4 D PIN 3 S

/ Marking

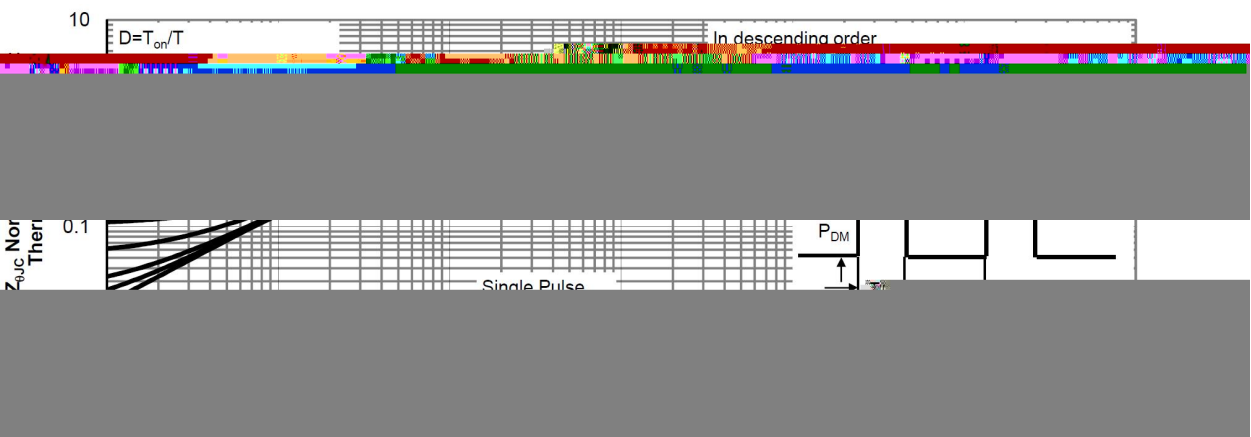
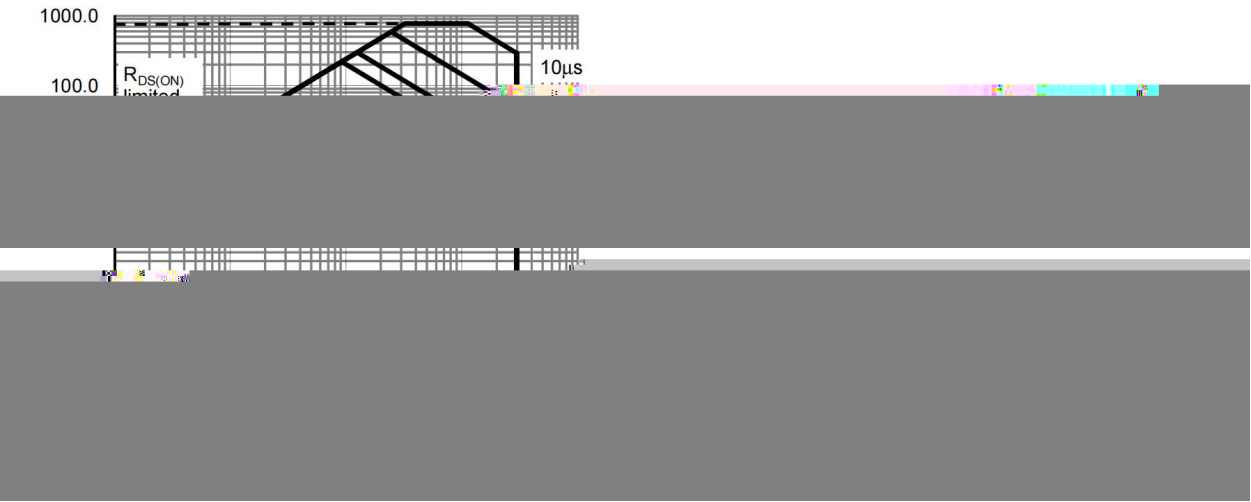
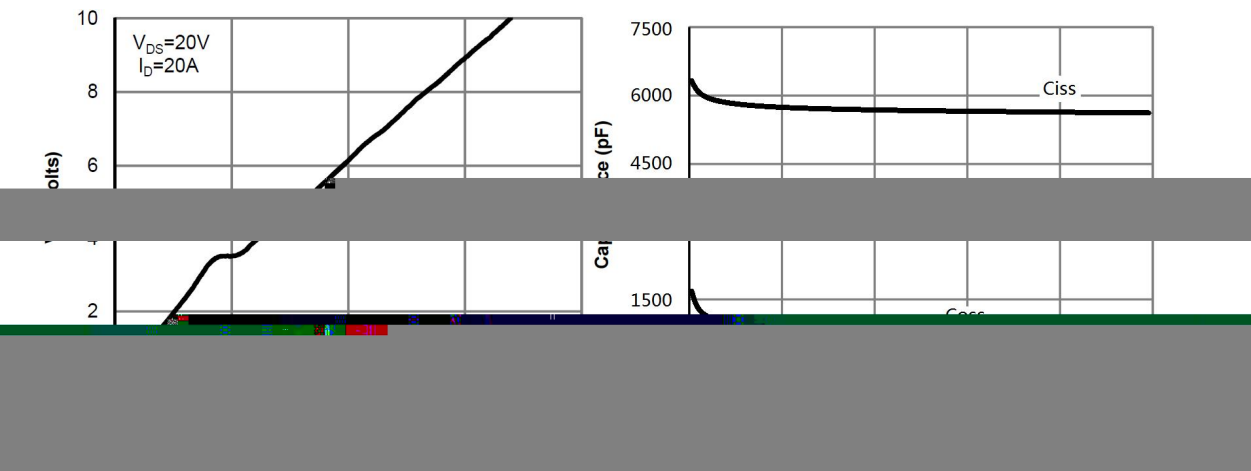
See Marking Instructions.

参数 Parameter		符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage		V _{DS}	30	V
Drain Current		I _D (Tc=25℃)	217	A
Pulsed Drain Current		I _{DM}	770	A
Gate-Source Voltage		V _{GS}	±20	V
Single Pulsed Avalanche Energy L=0.5mH		E _{AS}	590	mJ
Avalanche Current		I _{AS}	33.5	A
Total Power Dissipation		P _D (Tc=25℃)	150	W
Junction and Storage Temperature Range		T _J ,T _{STG}	-55 to 150	℃
Thermal Resistance-Junction to Ambient	t ≤ 10s	R θ JA	15	℃/W
	Steady-State		60	
Thermal Resistance-Junction to Case	Steady-State	R θ JC	0.8	

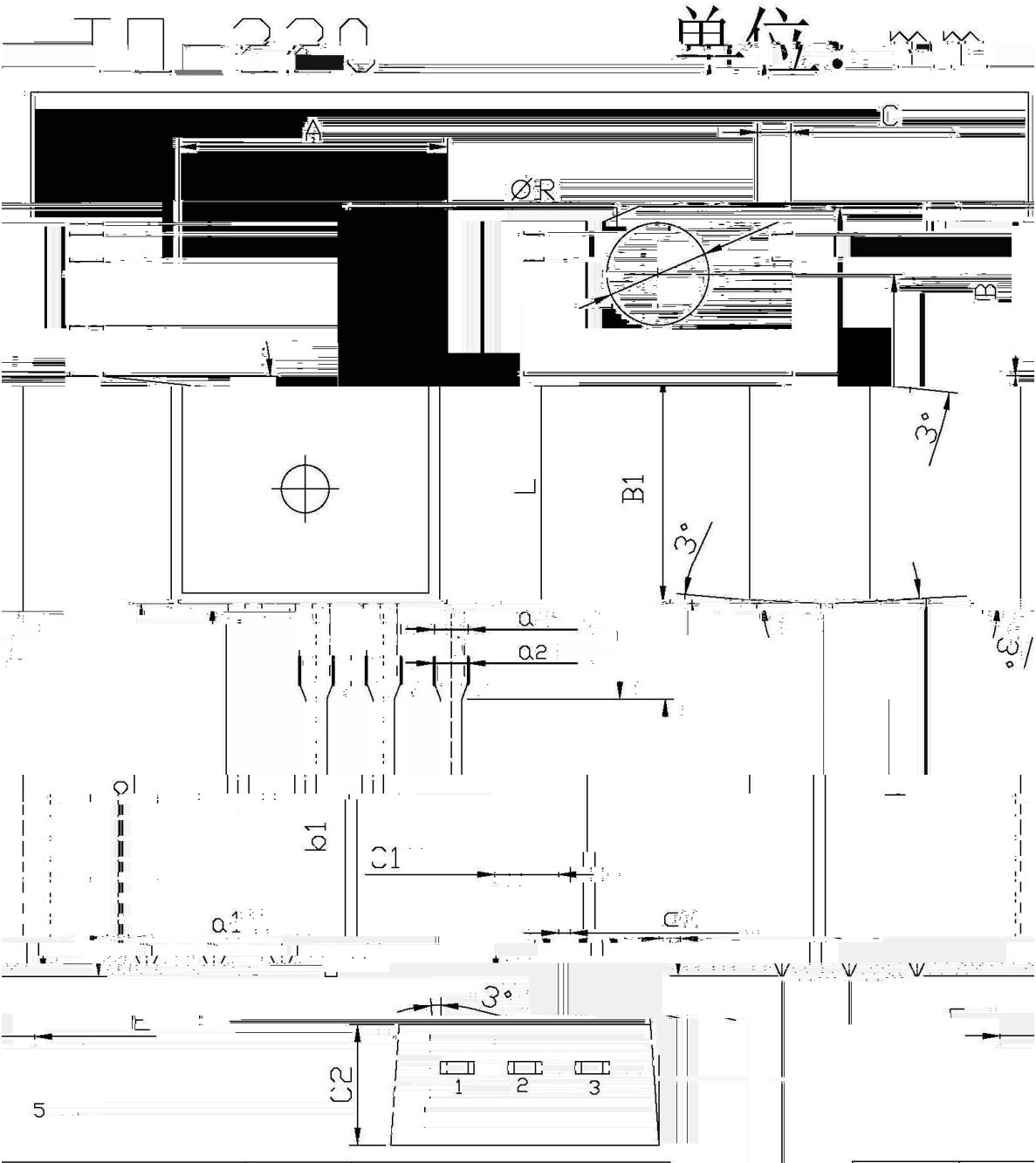
参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0\text{V}$ $I_D=250\mu\text{A}$	30	35		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30\text{V}$ $V_{GS}=0\text{V}$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20\text{V}$ $V_{DS}=0\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu\text{A}$	1	1.5	3	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$ $I_D=20\text{A}$		1.8	2	$\text{m}\Omega$
		$V_{GS}=4.5\text{V}$ $I_D=10\text{A}$		2.5	3	
Forward On Voltage	V_{SD}	$V_{GS}=0\text{V}$ $I_S=1\text{A}$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25\text{V}$ $V_{GS}=0\text{V}$ $f=1\text{MHz}$		5700		pF
Output Capacitance	C_{oss}			610		
Reverse Transfer Capacitance	C_{rss}					

BRCS020N03RA
Rev.A J

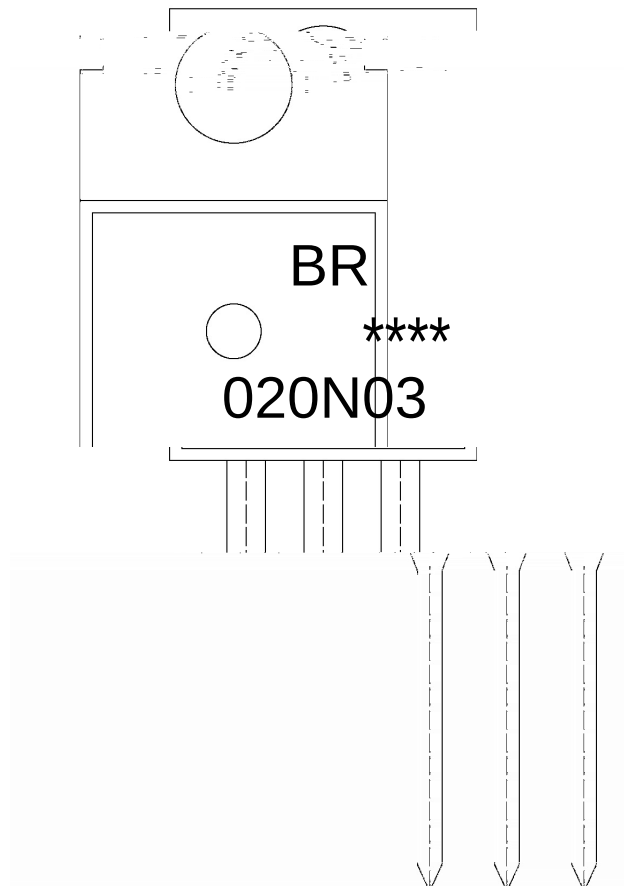
/ Electrical Characteristic Curve



/ Package Dimensions



Dimensions in Millimeters			Dimensions in Millimeters		
Symbol	Min	Max	Symbol	Min	Max
Δ	9.8	10.2	C	1.2	1.4
α	3.56	3.64	B	6.3	6.7
15.7	16.1	B1	9.0	9.4	
12.6	13.0	C1	2.2	2.6	
9.6	10.0	Q1	0.2	0.3	
4.3	4.7	Q2	1.25	1.45	

/ Marking Instructions

说明：

BR： 为公司代码

020N03： 为型号代码

****： 为生产批号代码，随生产批号变化

Note:

BR: Company Code

020N03: Product Type

****: Lot No. Code, code change with Lot No

() / Temperature Profile for Dip 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°C Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type	Units					Dimension (unit mm ³)		
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type	Units					Dimension (unit mm ³)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

/ Notices