



/ Revised record

A			AOS-AOT2144L		

/ Descriptions

TO-220 N

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

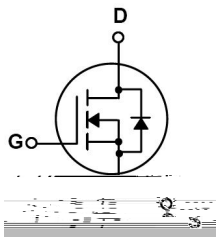
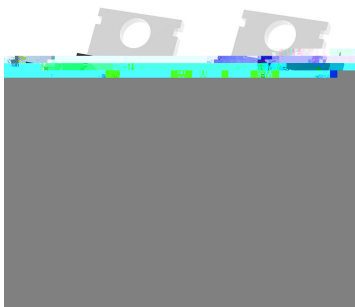
/ Features

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

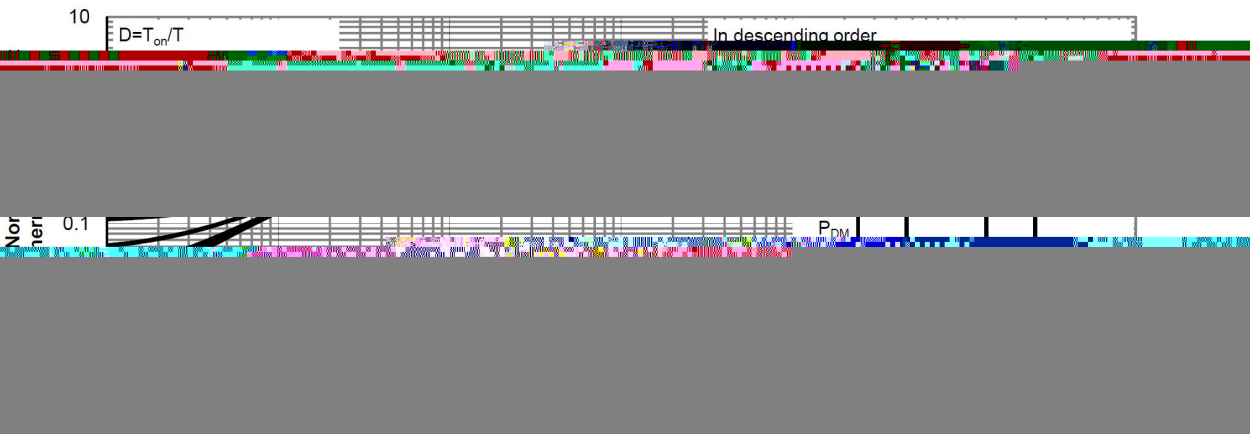
See Marking Instructions.

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 _{θJA}	15	℃/W
	Steady-State		60	
Thermal Resistance-Junction to Case	Steady-State	R _{θJC}	0.8	

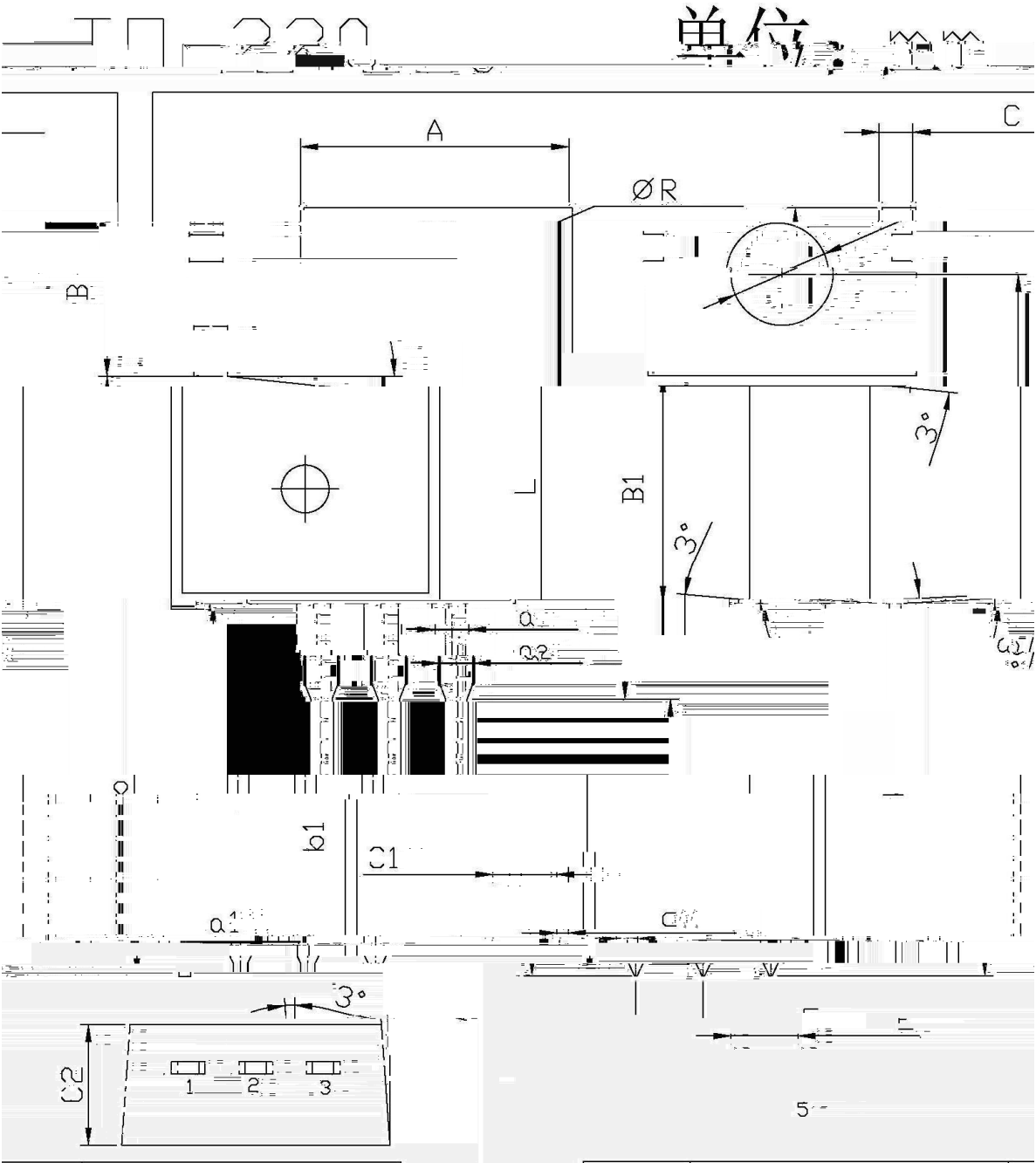
参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0\text{V}$ $I_D=250\mu\text{A}$	30	35		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30\text{V}$ $V_{GS}=0\text{V}$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20\text{V}$ $V_{DS}=0\text{V}$			± 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	m Ω
		$V_{GS}=4.5\text{V}$ $I_D=10\text{A}$		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

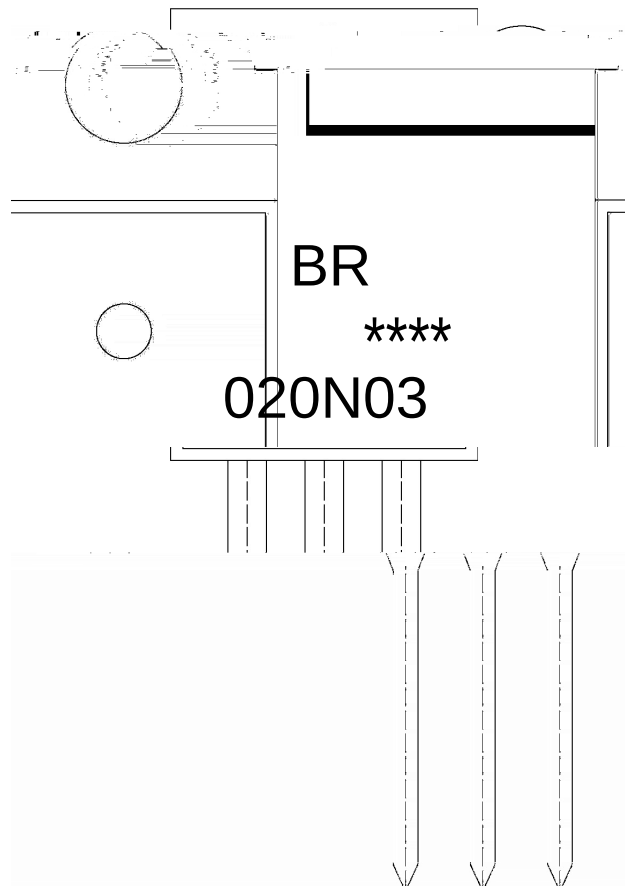
/ Electrical Characteristic Curve



/ Package Dimensions



Dimensions In Millimeters				Dimensions In Millimeters			
Symbol	Min	Max	Symbol	Min	Max	Symbol	Min
	9.8	10.2		1.2	1.6		9.0
	3.56	3.64		6.3	6.6		9.4
	15.7	16.1		12.6	13.6		9.6
	12.6	13.6		12.6	13.6		12.2
	12.2	12.6		12.2	12.6		12.2
	12.2	12.6		12.2	12.6		12.2
	12.2	12.6		12.2	12.6		12.2
	12.2	12.6		12.2	12.6		12.2
	12.2	12.6		12.2	12.6		12.2
	12.2	12.6		12.2	12.6		12.2
	12.2	12.6		12.2	12.6		12.2
	12.2	12.6		12.2	12.6		12.2
	12.2	12.6		12.2	12.6		12.2

/ 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

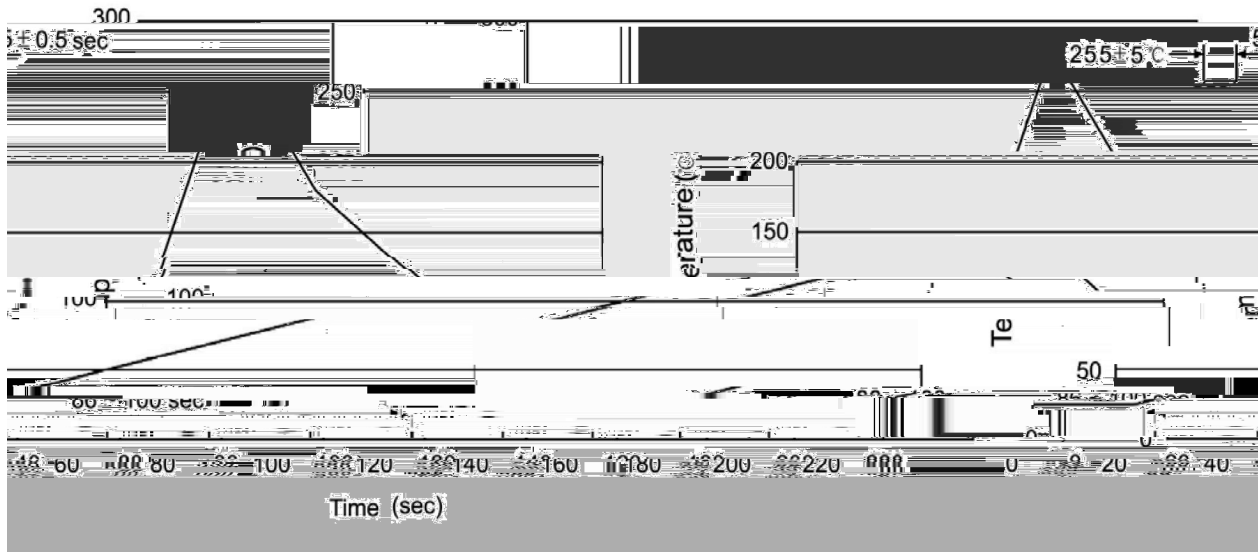
Note:

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