

/ Descriptions

TO-220
Voltage Regulator in a TO-220 Plastic Package.

/ Features

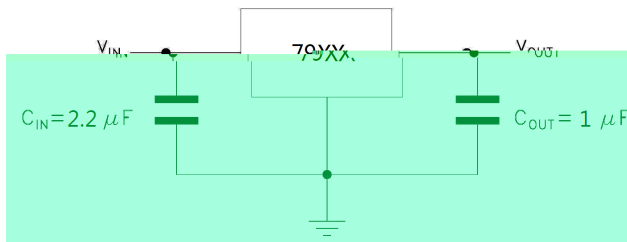
AEC-Q100

3-Terminal regulators ,output current up to 1.5A, internal thermal overload protection and short-circuit limiting, Qualified to AEC-Q100 Standards for High Reliability, HF Product.

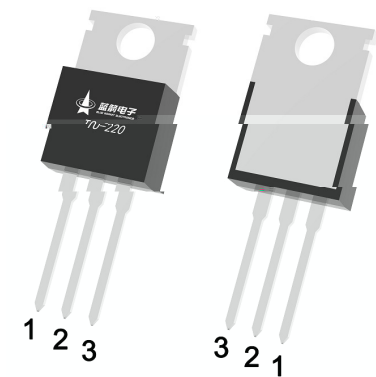
/ Applications

Voltage Regulator, Meet the stringent requirements of automotive applications.

/ / Equivalent Circuit or Application Circuit



/ Pinning



PIN1 GND PIN 2 IN PIN 3 OUT

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Input voltage	V_i	-35	V
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	62.5	/W
Thermal Resistance Junction-Case	$R_{\theta JC}$	5	/W
Operating Junction Temperature Range	T_{OPR}	-40 125	
Storage temperature range	T_{stg}	-65 150	

/ Electrical Characteristics

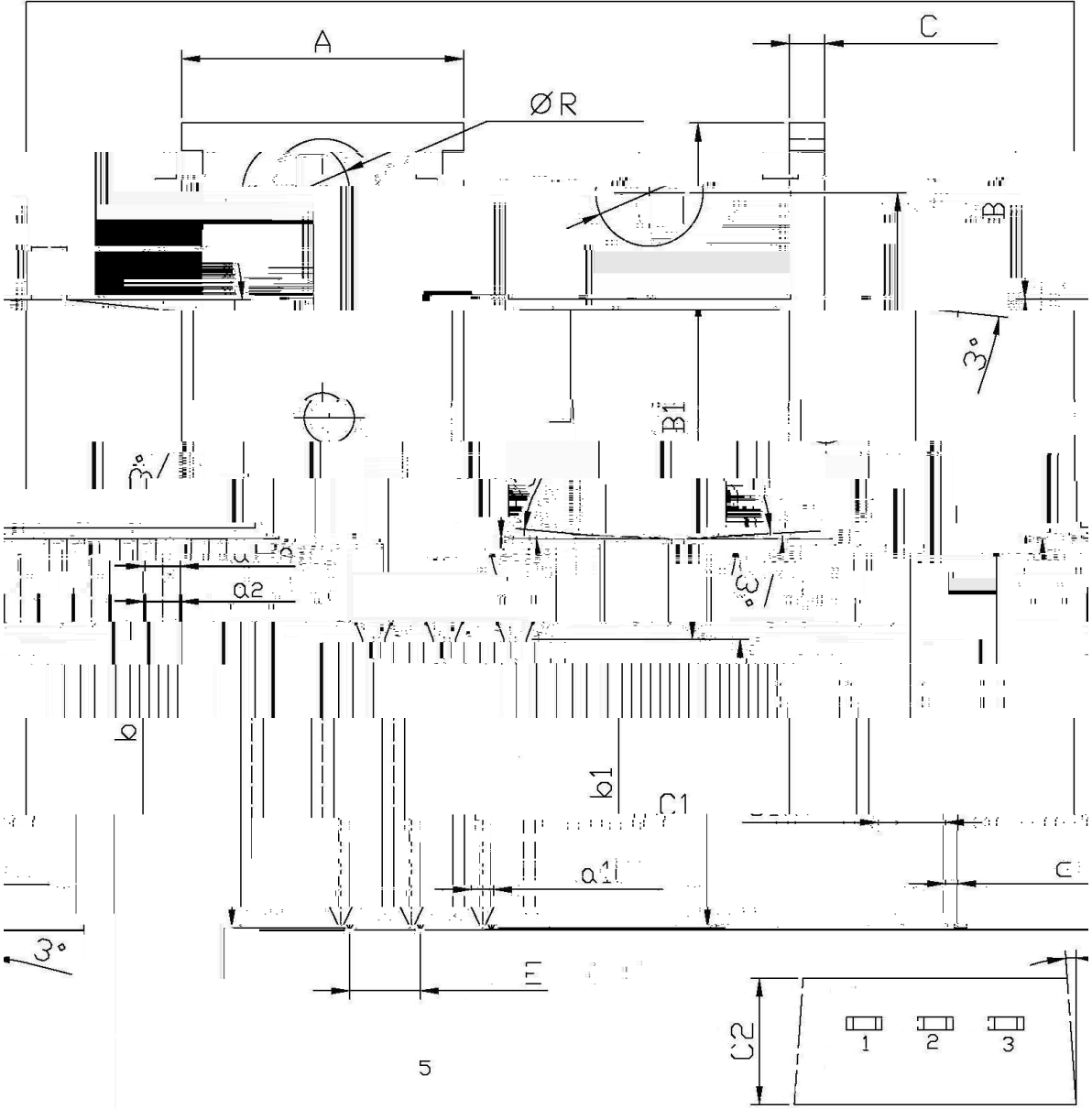
(Ta=25 V_i =-23V, I_o =500mA C_i =2.2 μ F, C_o =1 μ F, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output voltage	V_o	$T_j=25^\circ\text{C}$	-14.4	-15.0	-15.6	V
		$I_o=5\text{mA}\sim 1\text{A}$ $P_o\leq 15\text{W}$ $V_i=-17\text{V}\sim -30\text{V}$	-14.25	-15.0	-15.75	V
Load Regulation	V_o	$T_j=25$ $I_o=5.0\text{mA}\sim 1.5\text{A}$			300	mV
		$T_j=25$ $I_o=250\text{mA}\sim 750\text{mA}$			150	mV
Line regulation	V_o	$T_j=25$ $V_i=-17.5\text{V}\sim -30\text{V}$			300	mV
		$T_j=25$ $V_i=-20\text{V}\sim -26\text{V}$			150	mV
Quiescent Current	I_q	$T_j=25$			6.0	mA
Quiescent Current Change	I_q	$V_i=-17.5\text{V}\sim -30\text{V}$			1.0	mA
		$I_o=5\text{mA}\sim 1\text{A}$			0.5	mA
Output Voltage Drift	V_o/ T	$I_o=5\text{mA}$		1.5		mV/
Output Noise Voltage	V_N	B=10Hz~100KHz $T_j=25$		250		μ V
Supply Voltage Rejection	SVR	$V_i=10\text{V}$ $f=120\text{Hz}$	54			dB
Dropout Voltage	V_d	$I_o=1\text{A}$ $T_j=25$		2.0		V
Short Circuit Current	I_{sc}	$V_i=-35\text{V}$ $T_j=25$		10		mA
Short Circuit Peak Current	I_{scp}	$T_j=25$		2.1		A

/ Package Dimensions

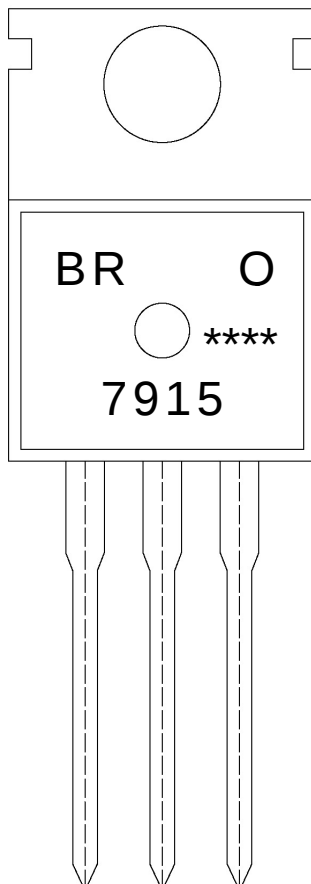
TQ-220

单位: mm



Dimensions In Millimeters				Dimensions In Millimeters			
Symbol	Min	Max	Symbol	Min	Max	Symbol	Min
A	9.8	14.0	C	3.2	11.2	B1	19.0
R	3.56	6.7	B	3.64	16.3	C1	2.6
a1	15.7	9.4	a2	16.1	9.4		
b1	12.6	2.6					

/ Marking Instructions



Q

Note:

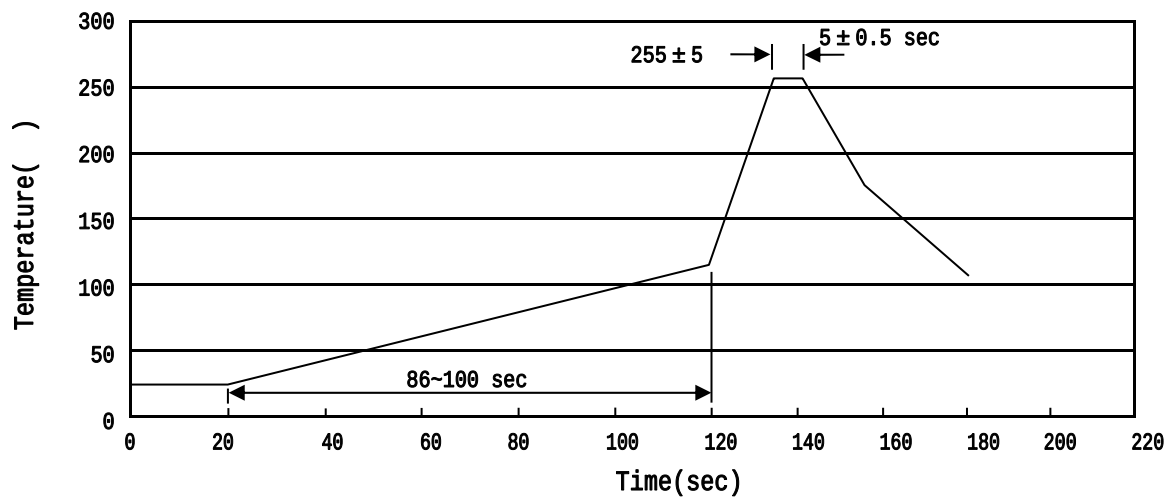
BR: Company Code

Q: Automobile halogen-free product Code

7915: 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 , Time:60~90sec.
- 2

255 5

5 0.5sec;

2.Peak Temp.:255 5 , Duration:5 0.5sec.
- 3

2 10

/sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

270 5 10 1 sec. Temp.:270±5℃ Time:10±1 sec

/ Packaging SPEC.

/ BULK

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

/ Notices