

/ Descriptions

TO-220

Voltage Regulator in a TO-220 Plastic Package.

/ Features

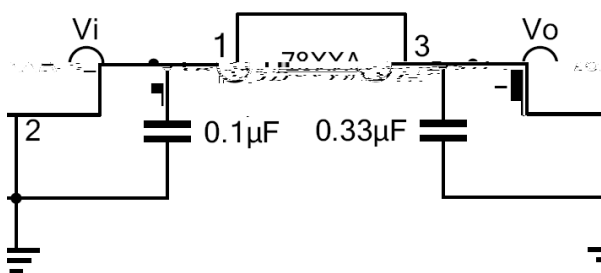
1.0A,

3-Terminal regulators ,output current up to 1.0A, internal thermal overload protection and short-circuit limiting.

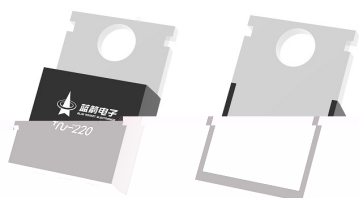
/ Applications

Voltage Regulator.

/ Equivalent Circuit or Application Circuit



/ Pinning



1 2 3

3 2 1

PIN1 IN

PIN 2 GND

PIN 3 OUT

/ Marking

See Marking Instructions.

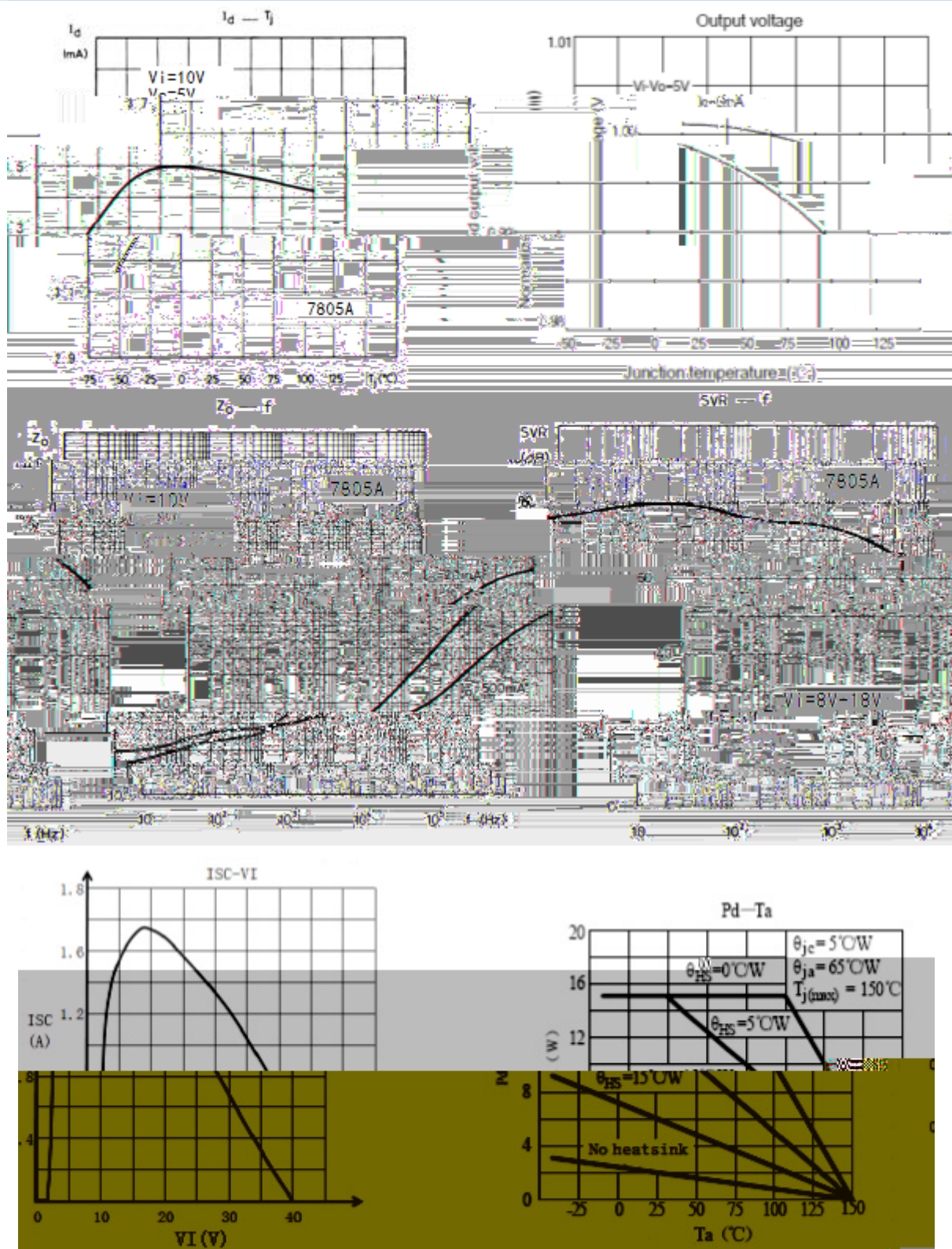
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Input voltage	V_I	7~35	V
Power Dissipation	P_D	Internally Limited	W
Thermal Resistance Junction-ambient	$R_{\theta JA}$	65	$^\circ\text{C}/\text{W}$
Thermal Resistance Junction-case	$R_{\theta JC}$	5.0	$^\circ\text{C}/\text{W}$
Operating Temperature Range	T_{OPR}	-40 125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-65 150	$^\circ\text{C}$

/ Electrical Characteristics($V_I=10\text{V}, I_o=500\text{mA}, T_j=-30 \sim 125^\circ\text{C}$,unless otherwise specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_j=25^\circ\text{C}$	4.8	5.0	5.2	V
		$V_i=7\text{V}\sim 20\text{V}$ $I_o=5\text{mA}\sim 1.0\text{A}$ $P_D\leq 15\text{W}$	4.75	5.0	5.25	V
Load Regulation	V_{Load}	$T_j=25^\circ\text{C}$ $I_o=5\text{mA}\sim 1.0\text{A}$			100	mV
		$T_j=25^\circ\text{C}$ $I_o=250\text{mA}\sim 750\text{mA}$			50	mV
Line Regulation	V_{Line}	$T_j=25^\circ\text{C}$ $V_i=7\text{V}\sim 25\text{V}$			100	mV
		$T_j=25^\circ\text{C}$ $V_i=8\text{V}\sim 12\text{V}$			50	mV
Quiescent Current	I_q	$T_j=25^\circ\text{C}$			8.0	mA
Quiescent Current Change	I_q	$V_i=7\text{V}\sim 25\text{V}$			0.8	mA
		$I_o=5\text{mA}\sim 1.0\text{A}$			0.5	mA
Output Voltage Drift	V_o/ T	$I_o=5\text{mA}$ $T_j=0\sim 125^\circ\text{C}$		-0.4		mV/ $^\circ\text{C}$
Output Noise Voltage	eN	B=10Hz~100KHz $T_j=25^\circ\text{C}$		42		$\mu\text{V}/V_o$
Supply Voltage Rejection	SVR	$V_i=8\text{V}\sim 18\text{V}$ $f=120\text{Hz}$	62			dB
Dropout Voltage	V_d	$I_o=1.0\text{A}$ $T_j=25^\circ\text{C}$		2.0		V
Output Resistance	R_o	$f=1\text{KHz}$		15		m Ω
Short Circuit Current	Isc	$V_i=35\text{V}$ $T_j=25^\circ\text{C}$		220		mA

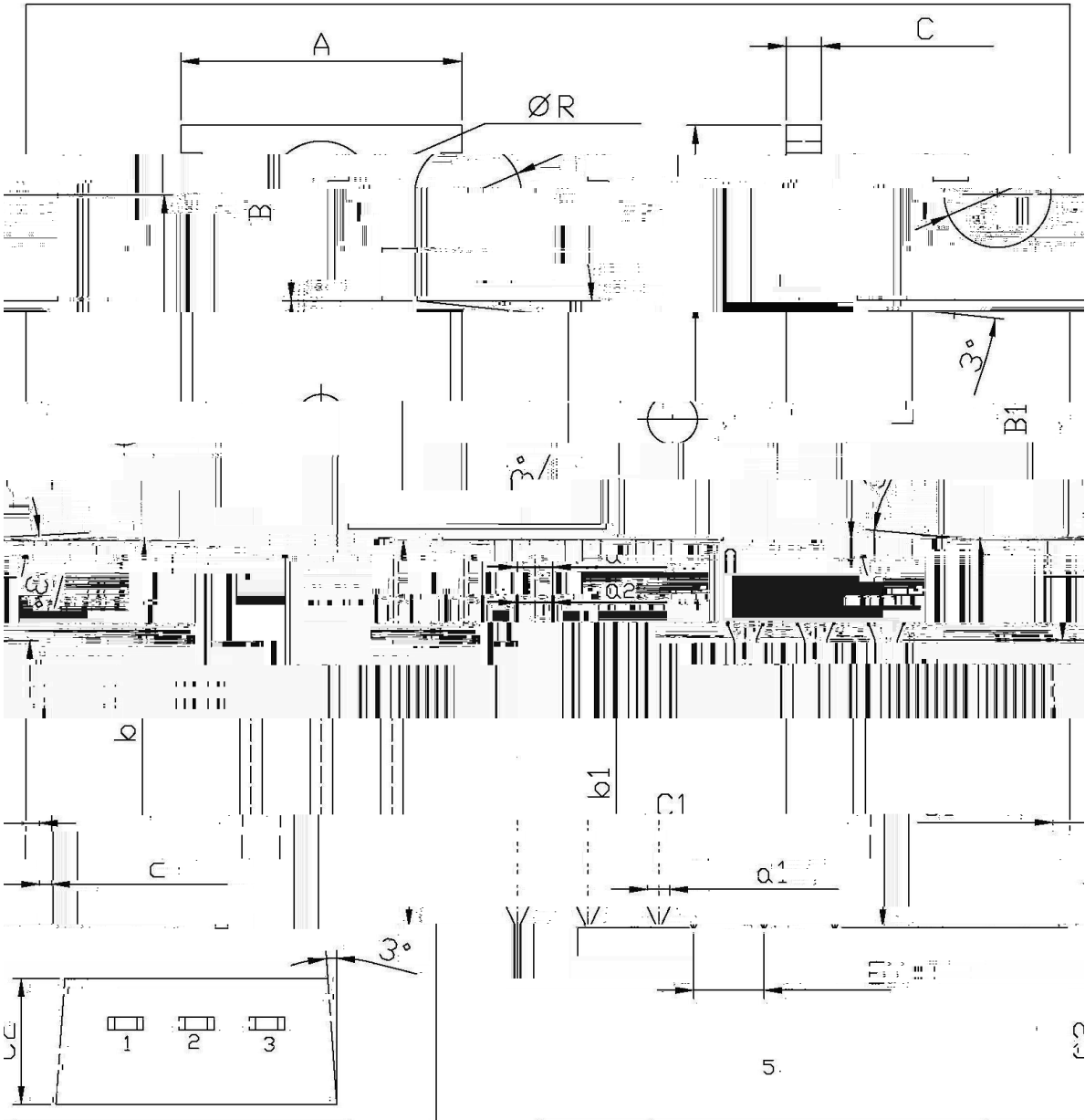
/ Electrical Characteristic Curve



/ Package Dimensions

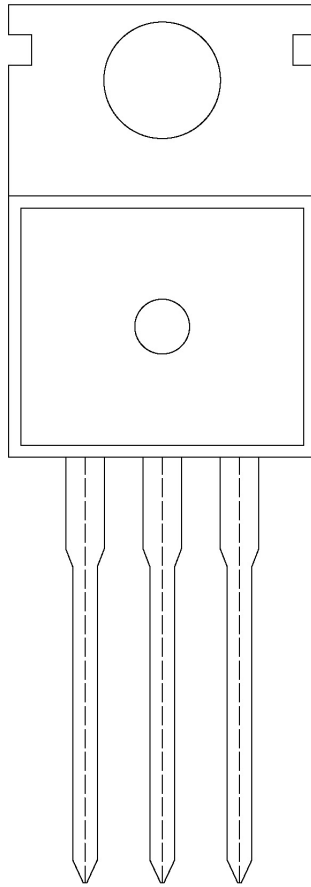
TQ-220

单位: mm

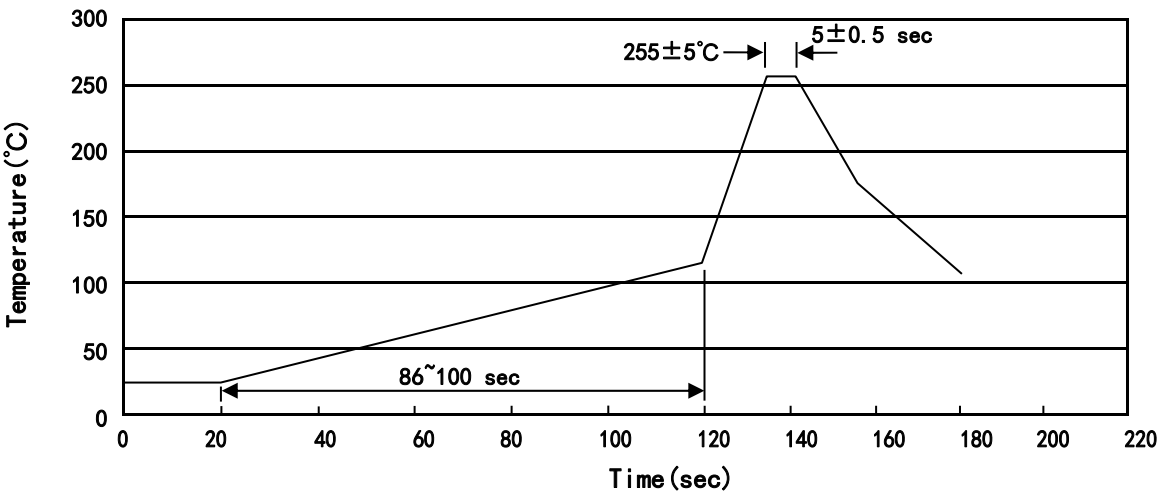


Dimensions In Millimeters			Dimensions In Millimeters		
Symbol	Min	Max	Symbol	Min	Max
A	9.8	10.2	C	1.2	1.4
R	3.56	3.64	B	6.3	6.7
	15.7	16.1	B1	9.0	9.4
b1	2.6	3.6	C1	2.2	2.6

/ Marking Instructions



() / 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 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm³)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-220/F	200	10	2,000	5	10,000	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: mm³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

7805A

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蓝箭电子
BLUE ROCKET ELECTRONICS

DATA SHEET

/ Notices

PCB