

## Descriptions

The 7815 is Voltage Regulator , TO-220 Plastic Package.

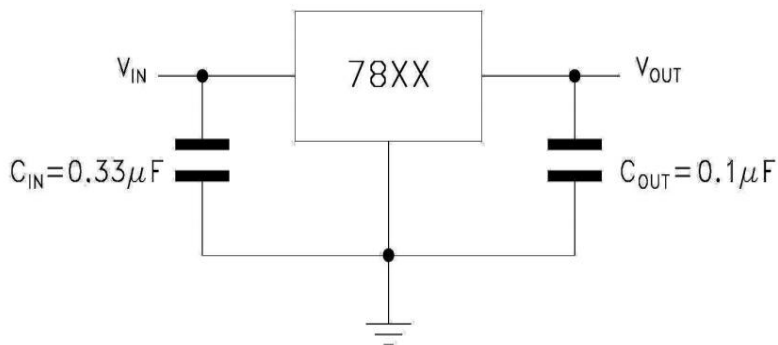
## Features

- 3-Terminal regulators
- output current up to 1.5 A
- internal thermal overload protection and short-circuit limiting
- Halogen-free product

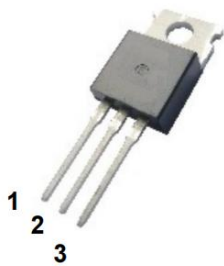
## Applications

- Voltage Regulator.

## Equivalent Circuit



## Pinning



PIN1: IN

PIN 2: GND

PIN 3: OUT

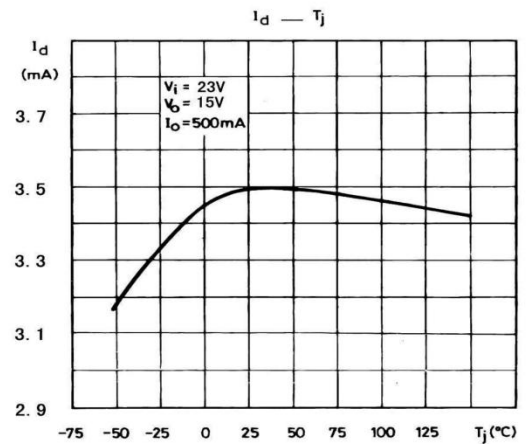
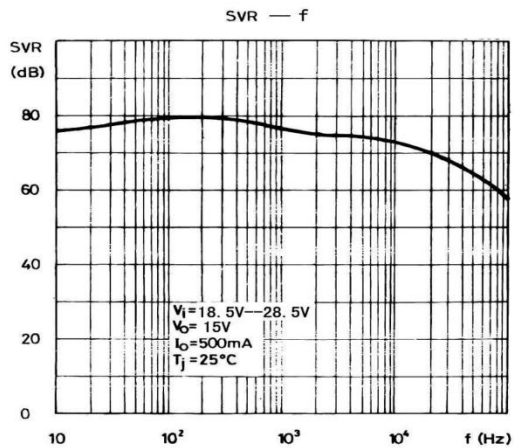
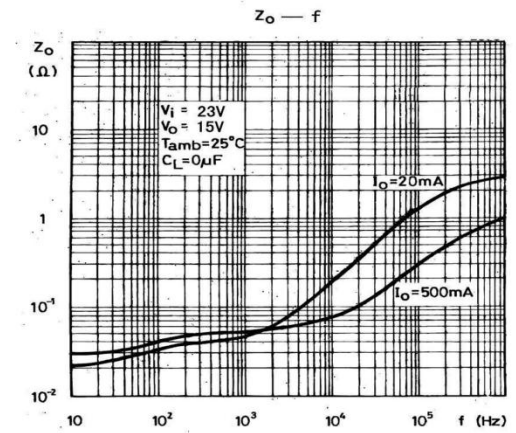
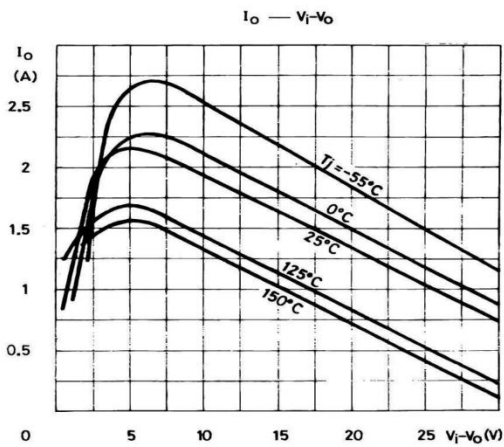
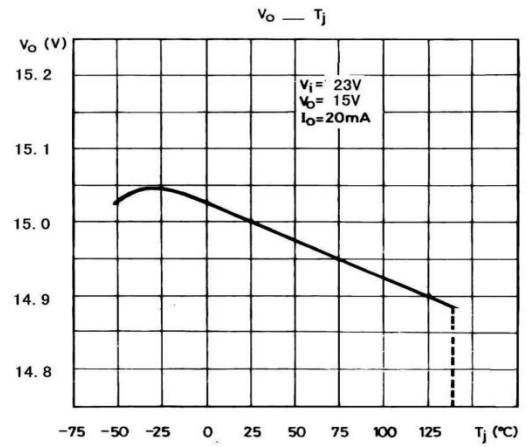
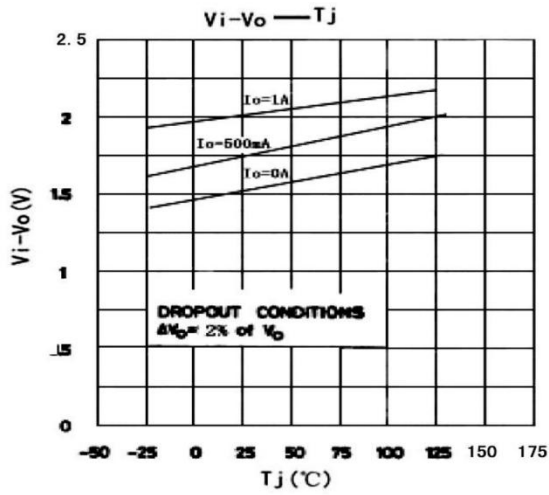
## Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Input Voltage Difference	$V_I$	35	V
Junction-to-Ambient	$R_{\theta JA}$	50	°C/W
Junction-to-Case	$R_{\theta JC}$	5.0	°C/W
Operating Temperature Range	$T_{OPR}$	0~125	°C
Storage temperature range	$T_{stg}$	-65~150	°C

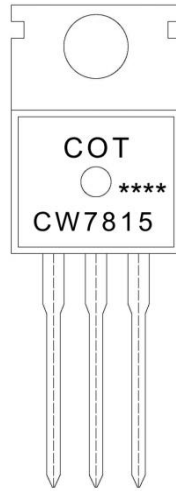
## Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	$V_o$	$T_j=25^\circ\text{C}$	14.4	15	15.6	V
		$V_i=17.5\text{V}-30\text{V}$ $I_o=5.0\text{mA}-1.0\text{A}$ $P_o\leq 15\text{W}$	14.25	15	15.75	
Load Regulation	$\Delta V_{Load}$	$T_j=25^\circ\text{C}$ $I_o=5.0\text{mA}-1.5\text{A}$			300	mV
		$T_j=25^\circ\text{C}$ $I_o=250\text{mA}-750\text{mA}$			150	
Line Regulation	$\Delta V_{Line}$	$T_j=25^\circ\text{C}$ $V_i=17.5\text{V}-30\text{V}$			300	mV
		$T_j=25^\circ\text{C}$ $V_i=20\text{V}-26\text{V}$			150	
Quiescent Current	$I_q$	$T_j=25^\circ\text{C}$			8.0	mA
Quiescent Current Change	$\Delta I_q$	$V_i=17.5\text{V}-30\text{V}$			1.0	mA
		$I_o=5.0\text{mA}-1.0\text{A}$			0.5	mA
Output Voltage Drift	$\Delta V_o/\Delta T$	$I_o=5.0\text{mA}$		-1.0		mV/°C
Output Noise Voltage	eN	$B=10\text{Hz}-100\text{KHz}$ $T_j=25^\circ\text{C}$		90		$\mu\text{V}/V_o$
Supply Voltage Rejection	SVR	$V_i=18.5\text{V}-28.5\text{V}$ $f=120\text{Hz}$	54			dB
Dropout Voltage	$V_d$	$I_o=1\text{A}$ $T_j=25^\circ\text{C}$		2.0		V
Output Resistance	$R_o$	$f=1.0\text{KHz}$		19		m $\Omega$
Short Circuit Current	$I_{sc}$	$V_i=35\text{V}$ $T_j=25^\circ\text{C}$		0.23		A
Short Circuit Peak Current	$I_{scp}$	$T_j=25^\circ\text{C}$		2.2		A

Electrical Characteristic Curve



**Marking Instructions**



Note:

COT: Company Code.

CW7815: Product Type.

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

**Packaging SPEC**

**REEL**

Package Type	Units					Dimension (unit: mm3)		
	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

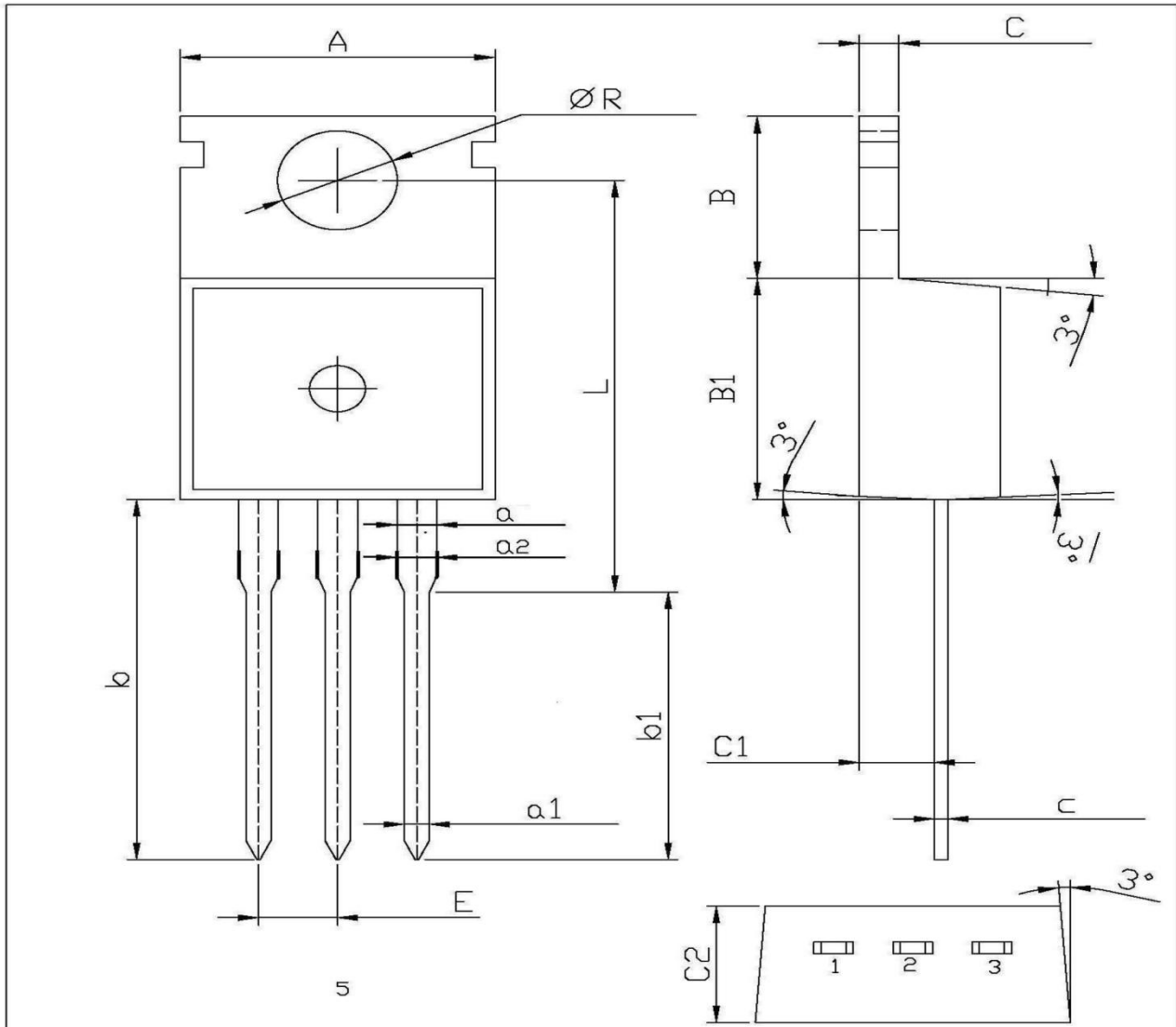
**TUBE**

Package Type	Units					Dimension (unit: mm3)		
	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

Package Dimensions

TO-220

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	9.8	10.2	C	1.2	1.4
R	3.56	3.64	B	6.3	6.7
L	15.7	16.1	B1	9.0	9.4
b	12.6	13.6	C1	2.2	2.6
b1	9.6	10.6	a1	0.7	0.9
a	1.22	1.32	c	0.4	0.6
E	2.34	2.74	C2	4.3	4.7
a2	1.25	1.45			