

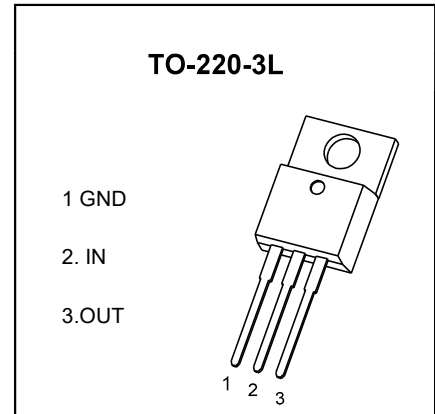


**DONGGUAN NANJING ELECTRONICS LTD.,**  
**TO-220-3L Plastic-Encapsulate Voltage Regulator**

**7915** Three-terminal negative voltage regulator

**FEATURES**

- Maximum output current  
 $I_{OM}: 1.5\text{ A}$
- Output voltage  
 $V_O: -15\text{ V}$
- Continuous total dissipation  
 $P_D: 1.5\text{ W}$  ( $T_a = 25\text{ }^\circ\text{C}$ )



**ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)**

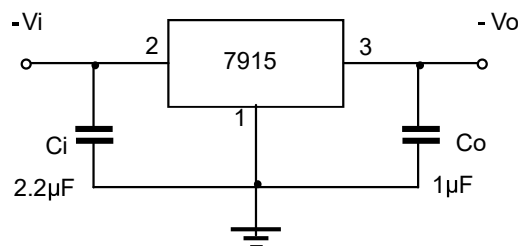
| Parameter                               | Symbol          | Value    | Unit               |
|---|-----------------|----------|--------------------|
| Input Voltage                           | $V_i$           | -35      | V                  |
| Thermal Resistance from Junction to Air | $R_{\theta JA}$ | 83.3     | $^\circ\text{C/W}$ |
| Operating Junction Temperature Range    | $T_{OPR}$       | -40~+125 | $^\circ\text{C}$   |
| Storage Temperature Range               | $T_{STG}$       | -65~+150 | $^\circ\text{C}$   |

**ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ( $V_i = -23\text{ V}$ ,  $I_o = 500\text{ mA}$ ,  $C_i = 2.2\mu\text{F}$ ,  $C_o = 1\mu\text{F}$ , unless otherwise specified )**

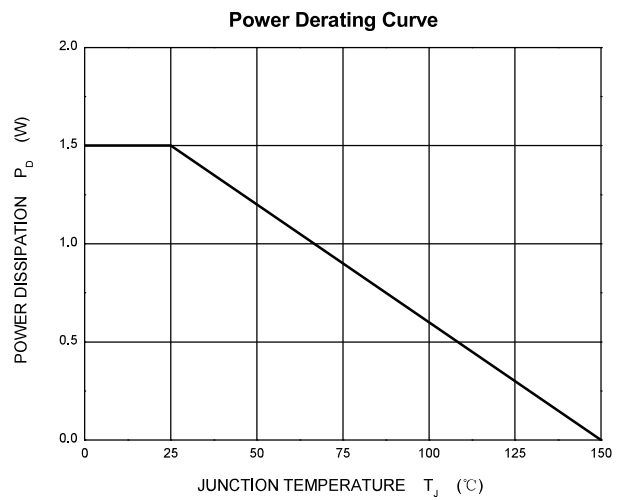
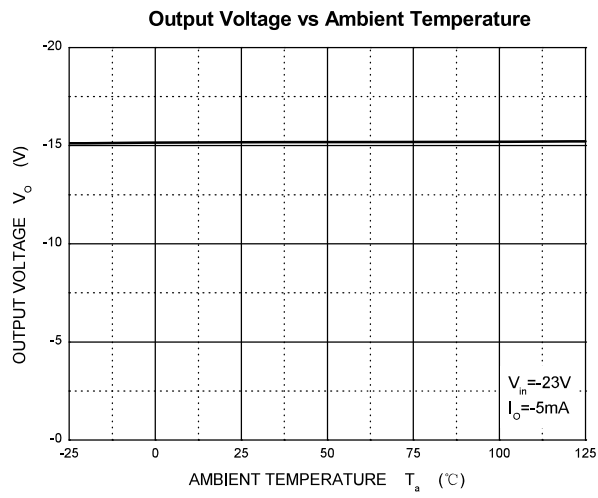
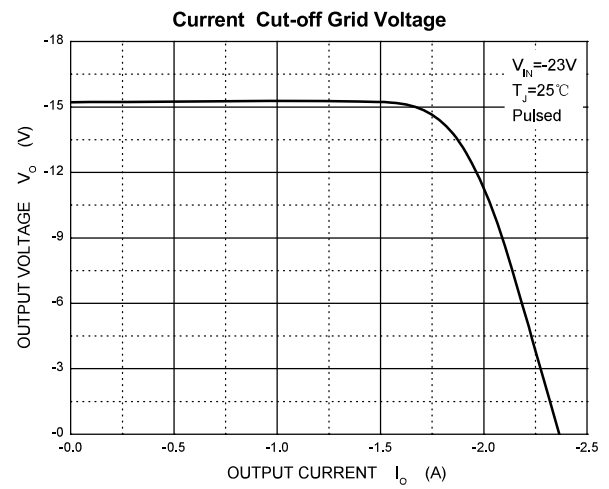
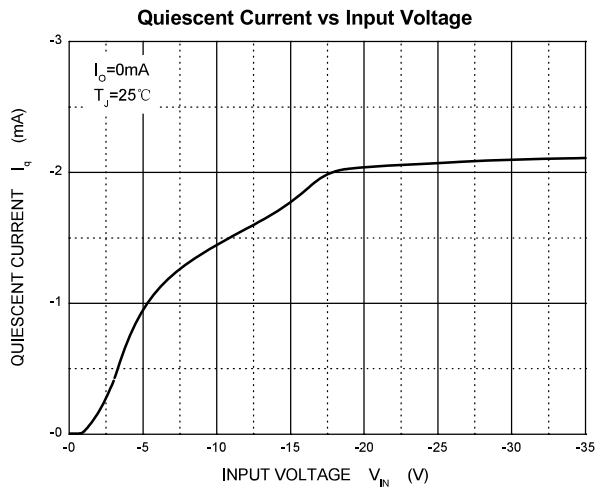
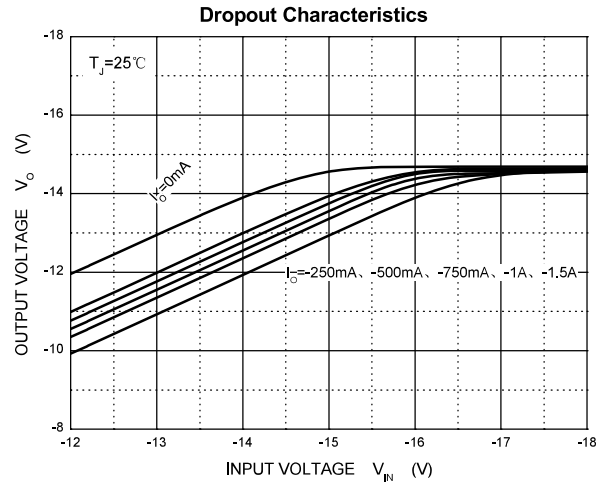
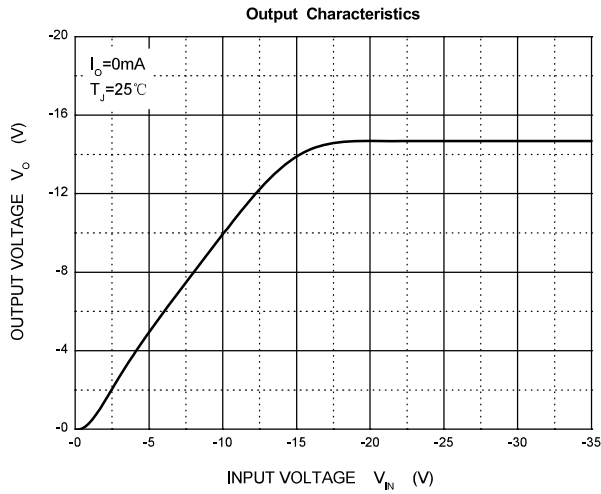
| Parameter                | Symbol                  | Test conditions  | Min                    | Typ    | Max   | Unit                       |
|--------------------------|-------------------------|--|------------------------|--------|-------|----------------------------|
| Output voltage           | $V_o$                   | $25^\circ\text{C}$   | -14.4                  | -15    | -15.6 | $\nabla$                   |
|                          |                         | $-17.5\text{V} \leq V_i \leq -30\text{V}$ , $I_o = 5\text{mA} - 1\text{A}$ | 0-125 $^\circ\text{C}$ | -14.25 | -15   | -15.75                     |
| Load regulation          | $\Delta V_o$            | $I_o = 5\text{mA} - 1.5\text{A}$   | $25^\circ\text{C}$     | 15     | 200   | mV                         |
|                          |                         | $I_o = 250\text{mA} - 750\text{mA}$  | $25^\circ\text{C}$     | 5      | 75    | mV                         |
| Line regulation          | $\Delta V_o$            | $-17.5\text{V} \leq V_i \leq -30\text{V}$                                  | $25^\circ\text{C}$     | 5      | 100   | mV                         |
|                          |                         | $-20\text{V} \leq V_i \leq -26\text{V}$                                    | $25^\circ\text{C}$     | 3      | 50    | mV                         |
| Quiescent current        | $I_q$                   | $25^\circ\text{C}$   |                        | 2      | 3     | mA                         |
| Quiescent current change | $\Delta I_q$            | $-17.5\text{V} \leq V_i \leq -30\text{V}$                                  | 0-125 $^\circ\text{C}$ |        | 0.5   | mA                         |
|                          | $\Delta I_q$            | $5\text{mA} \leq I_o \leq 1\text{A}$                                       | 0-125 $^\circ\text{C}$ |        | 0.5   | mA                         |
| Output noise voltage     | $V_N$                   | $10\text{Hz} \leq f \leq 100\text{KHz}$                                    | $25^\circ\text{C}$     | 375    |       | $\mu\text{V}/V_o$          |
| Output voltage drift     | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$   | 0-125 $^\circ\text{C}$ | -1     |       | $\text{mV}/^\circ\text{C}$ |
| Ripple rejection         | RR                      | $-18.5\text{V} \leq V_i \leq -28.5\text{V}$ , $f = 120\text{Hz}$           | 0-125 $^\circ\text{C}$ | 54     | 60    | dB                         |
| Dropout voltage          | $V_d$                   | $I_o = 1\text{A}$  | $25^\circ\text{C}$     |        | 1.1   | V                          |
| Peak current             | $I_{pk}$                | $25^\circ\text{C}$   |                        | 2.1    |       | A                          |

\* Pulse test.

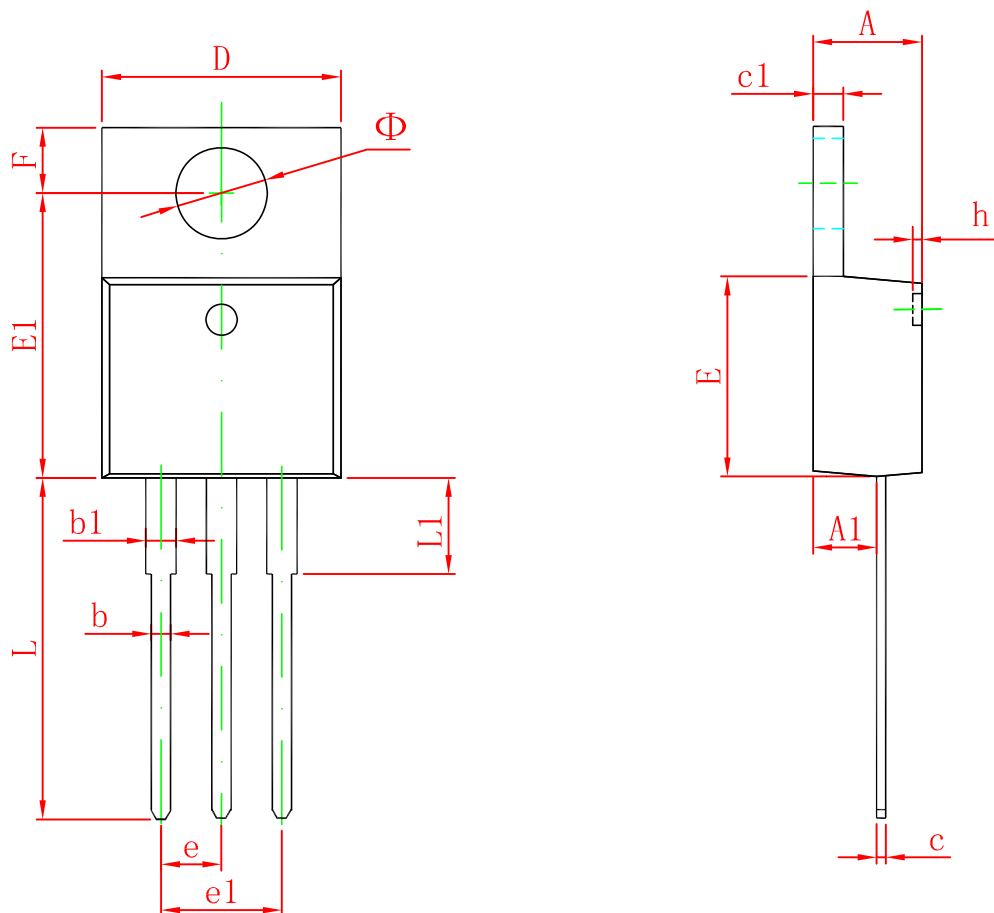
**TYPICAL APPLICATION**



# Typical Characteristics



# TO-220-3L Package Outline Dimensions



| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min                       | Max    | Min                  | Max   |
| A      | 4.470                     | 4.670  | 0.176                | 0.184 |
| A1     | 2.520                     | 2.820  | 0.099                | 0.111 |
| b      | 0.710                     | 0.910  | 0.028                | 0.036 |
| b1     | 1.170                     | 1.370  | 0.046                | 0.054 |
| c      | 0.310                     | 0.530  | 0.012                | 0.021 |
| c1     | 1.170                     | 1.370  | 0.046                | 0.054 |
| D      | 10.010                    | 10.310 | 0.394                | 0.406 |
| E      | 8.500                     | 8.900  | 0.335                | 0.350 |
| E1     | 12.060                    | 12.460 | 0.475                | 0.491 |
| e      | 2.540 TYP                 |        | 0.100 TYP            |       |
| e1     | 4.980                     | 5.180  | 0.196                | 0.204 |
| F      | 2.590                     | 2.890  | 0.102                | 0.114 |
| h      | 0.000                     | 0.300  | 0.000                | 0.012 |
| L      | 13.400                    | 13.800 | 0.528                | 0.543 |
| L1     | 3.560                     | 3.960  | 0.140                | 0.156 |
| $\Phi$ | 3.735                     | 3.935  | 0.147                | 0.155 |