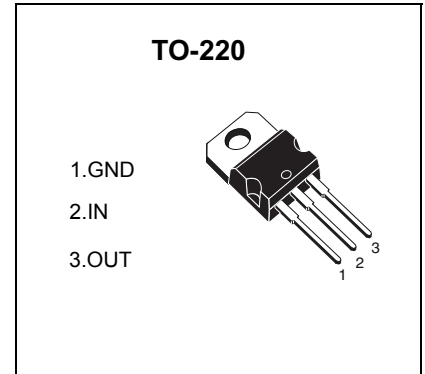


## TO-220 Plastic-Encapsulate Voltage Regulators

**L7924CV** Three-terminal negative voltage regulator

### FEATURES

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



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

| Parameter                            | Symbol          | Value    | Unit               |
|--------------------------------------|-----------------|----------|--------------------|
| Input Voltage                        | $V_i$           | -35      | V                  |
| Thermal Resistance Junction-Air      | $R_{\theta JA}$ | 83.3     | $^\circ\text{C/W}$ |
| Thermal Resistance Junction-Case     | $R_{\theta JC}$ | 8.33     | $^\circ\text{C/W}$ |
| Operating Junction Temperature Range | $T_{OPR}$       | 0~150    | $^\circ\text{C}$   |
| Storage Temperature Range            | $T_{STG}$       | -55~+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           | $V_o$                   | $25^\circ\text{C}$   | -23.5                  | -24    | -24.5 | V                    |
|                          |                         | $-26.5\text{V} \leq V_i \leq -35\text{V}$ , $I_o = 5\text{mA} - 1\text{A}$ , $P \leq 15\text{W}$ | 0-125 $^\circ\text{C}$ | -23.40 | -24   | -24.6                |
| 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          | $\Delta V_o$            | $-26.5\text{V} \leq V_i \leq -35\text{V}$  | $25^\circ\text{C}$     | 5      | 100   | mV                   |
|                          |                         | $-28\text{V} \leq V_i \leq -32\text{V}$  | $25^\circ\text{C}$     | 3      | 50    | mV                   |
| Quiescent current        | $I_q$                   | $25^\circ\text{C}$   |                        | 2      | 3     | mA                   |
| Quiescent current change | $\Delta I_q$            | $-26.5\text{V} \leq V_i \leq -35\text{V}$  | 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    |       | $\mu\text{V}$        |
| Output voltage drift     | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$   | 0-125 $^\circ\text{C}$ | -1     |       | mV/ $^\circ\text{C}$ |
| Ripple rejection         | RR                      | $-27.5\text{V} \leq V_i \leq -33.5\text{V}$ , $f = 120\text{Hz}$                                 | 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                    |

### TYPICAL APPLICATION

