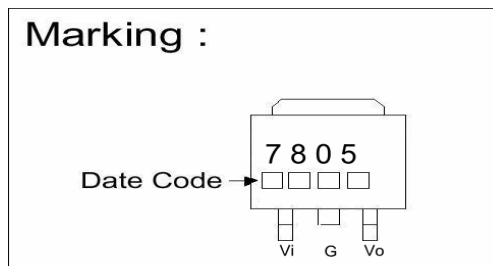
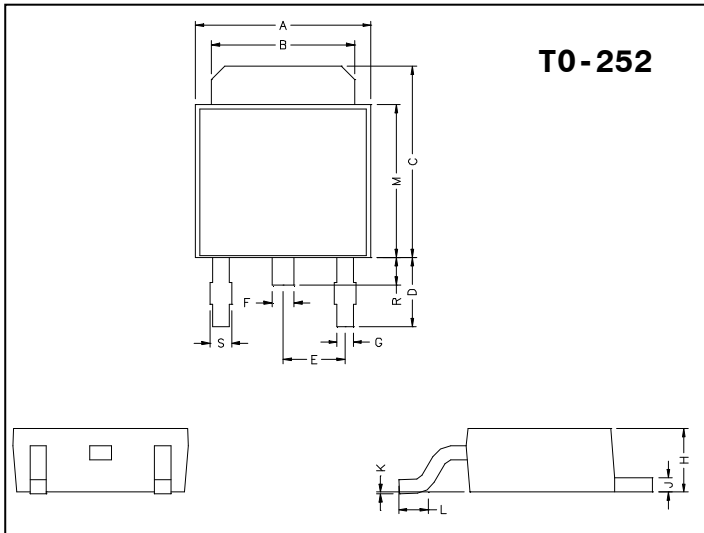


## GJ7805

### Description

The GJ7805 series of three-terminal positive regulators are available in the TO-252 package and with several fixed output voltages, making it useful in a wide range of applications. These regulators can provide local on-card regulation, eliminating the distribution problems associated with single point regulation. Each type employs internal current limiting, thermal shut-down and safe operating area protection, making it essentially indestructible. If adequate heat sinking is provided, they can deliver can be used with external components to obtain adjustable voltages and currents. GJ7805 is characterized for operation from 0°C to +125°C, and if operating temperature will always high, please refer the power dissipation curve.

### Package Dimensions



| REF. | Millimeter |      | REF. | Millimeter |      |
|------|------------|------|------|------------|------|
|      | Min.       | Max. |      | Min.       | Max. |
| A    | 6.40       | 6.80 | G    | 0.50       | 0.70 |
| B    | 5.20       | 5.50 | H    | 2.20       | 2.40 |
| C    | 6.80       | 7.20 | J    | 0.45       | 0.55 |
| D    | 2.20       | 2.80 | K    | 0          | 0.15 |
| E    | 2.30 REF.  |      | L    | 0.90       | 1.50 |
| F    | 0.70       | 0.90 | M    | 5.40       | 5.80 |
| S    | 0.60       | 0.90 | R    | 0.80       | 1.20 |

### Absolute Maximum Ratings

| Parameter                            | Ratings        | Unit |
|--------------------------------------|----------------|------|
| Input Voltage                        | 35V            | V    |
| Operating Junction Temperature Range | 0 ~ +150       | °C   |
| Output Current                       | 1              | A    |
| Storage Temperature Range            | -65 ~ +150     | °C   |
| Total Power Dissipation              | Internal limit | W    |

### Electrical Characteristics

(Refer to the test circuits, Tj=0 to 125°C, Io=500mA, Vi=10V, Ci=0.33uF, Co=0.1uF unless otherwise specified)

| Symbol                   | Rank A ( 3% ) |      |      | Unit  | Test Conditions                      |
|--------------------------|---------------|------|------|-------|--------------------------------------|
|                          | Min.          | Typ. | Max. |       |                                      |
| VO                       | 4.85          | 5    | 5.15 | V     | Tj=25°C                              |
|                          | 4.85          | 5    | 5.15 |       | PD<7W, 5mA ≤ Io ≤ 1A, 7V ≤ Vin ≤ 20V |
| ΔVO<br>(Line Regulation) | -             | 4    | 50   | mV    | Tj=25°C, 7V ≤ Vin ≤ 25V              |
|                          | -             | 1.6  | 25   |       | Tj=25°C, 8V ≤ Vin ≤ 12V              |
| ΔVO<br>(Load Regulation) | -             | -    | 100  | mV    | 5mA ≤ Io ≤ 1A                        |
|                          | -             | -    | 50   |       | 250mA ≤ Io ≤ 750Ma                   |
| IQ                       | -             | 5.5  | 8    | mA    | Tj=25°C                              |
| Δ IQ                     | -             | -    | 0.5  | mA    | 5mA ≤ Io ≤ 1A                        |
|                          | -             | -    | 1.0  |       | 7V ≤ Vin ≤ 25V                       |
| Vn                       | -             | 100  | 200  | uV    | Tj=25°C, 10Hz ≤ f ≤ 100KHz           |
| RR                       | 62            | 68   | -    | dB    | Tj=25°C, 8V ≤ Vin ≤ 18V, f=120Hz     |
| VD                       | -             | 2    | -    | V     | Tj=25°C, Io=1A                       |
| Isc                      | -             | 250  | -    | mA    | Tj=25°C, Vi=35V                      |
| Ipk                      | 1.7           | -    | -    | A     | Tj=25°C                              |
| ΔVo / ΔTj                | -             | -0.8 | -    | mV/°C | Io=5mA                               |

(Refer to the test circuits,  $T_j=0$  to  $125^\circ\text{C}$ ,  $I_o=500\text{mA}$ ,  $V_i=10\text{V}$ ,  $C_i=0.33\mu\text{F}$ ,  $C_o=0.1\mu\text{F}$  unless otherwise specified)

| Rank B ( 5% )                          |      |      |      | Unit                       | Test Conditions   |
|--|------|------|------|----------------------------|---|
| Symbol                                 | Min. | Typ. | Max. |                            |   |
| VO                                     | 4.75 | 5    | 5.25 | V                          | $T_j=25^\circ\text{C}$  |
|  | 4.75 | 5    | 5.25 |                            | $PD<7\text{W}$ , $5\text{mA} \leq I_o \leq 1\text{A}$ , $7\text{V} \leq V_{in} \leq 20\text{V}$ |
| $\Delta\text{VO}$<br>(Line Regulation) | -    | 4    | 100  | mV                         | $T_j=25^\circ\text{C}$ , $7\text{V} \leq V_{in} \leq 25\text{V}$                                |
|  | -    | 1.6  | 50   |                            | $T_j=25^\circ\text{C}$ , $8\text{V} \leq V_{in} \leq 12\text{V}$                                |
| $\Delta\text{VO}$<br>(Load Regulation) | -    | -    | 100  | mV                         | $5\text{mA} \leq I_o \leq 1\text{A}$  |
|  | -    | -    | 50   |                            | $250\text{mA} \leq I_o \leq 750\text{mA}$   |
| IQ                                     | -    | 5.5  | 8    | mA                         | $T_j=25^\circ\text{C}$  |
| $\Delta\text{IQ}$                      | -    | -    | 0.5  | mA                         | $5\text{mA} \leq I_o \leq 1\text{A}$  |
|  | -    | -    | 1.0  |                            | $7\text{V} \leq V_{in} \leq 25\text{V}$   |
| Vn                                     | -    | 100  | 200  | $\mu\text{V}$              | $T_j=25^\circ\text{C}$ , $10\text{Hz} \leq f \leq 100\text{KHz}$                                |
| RR                                     | 62   | 68   | -    | dB                         | $T_j=25^\circ\text{C}$ , $8\text{V} \leq V_{in} \leq 18\text{V}$ , $f=120\text{Hz}$             |
| VD                                     | -    | 2.0  | -    | V                          | $T_j=25^\circ\text{C}$ , $I_o=1\text{A}$  |
| Isc                                    | -    | 250  | -    | mA                         | $T_j=25^\circ\text{C}$ , $V_i=35\text{V}$   |
| Ipk                                    | 1.7  | -    | -    | A                          | $T_j=25^\circ\text{C}$  |
| $\Delta V_o / \Delta T_j$              | -    | -0.8 | -    | $\text{mV}/^\circ\text{C}$ | $I_o=5\text{mA}$  |

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