## Electrical Characteristics (LM7808)

Refer to the test circuit, -40°C < $T_J$ < 125°C, $I_O$ = 500 mA, $V_I$ = 14 V, $C_I$ = 0.33 µF, $C_O$ = 0.1 µF, unless otherwise specified.

| Symbol | Parameter | Conditions | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| $V_O$ | Output Voltage | $T_J$ = +25°C | | 7.7 | 8.0 | 8.3 | V |
| | | $I_O$ = 5 mA to 1 A, $P_O \leq$ 15 W, $V_I$ = 10.5 V to 23 V | | 7.6 | 8.0 | 8.4 | |
| Regline | Line Regulation(6) | $T_J$ = +25°C | $V_I$ = 10.5 V to 25 V | | 5 | 160 | mV |
| | | | $V_I$ = 11.5 V to 17 V | | 2 | 80 | |
| Regload | Load Regulation(6) | $T_J$ = +25°C | $I_O$ = 5 mA to 1.5 A | | 10 | 160 | mV |
| | | | $I_O$ = 250 mA to 750 mA | | 5 | 80 | |
| $I_Q$ | Quiescent Current | $T_J$ = +25°C | | | 5 | 8 | mA |
| $\Delta I_Q$ | Quiescent Current Change | $I_O$ = 5 mA to 1 A | | | 0.05 | 0.50 | mA |
| | | $V_I$ = 10.5 V to 25 V | | | 0.5 | 1.0 | |
| $\Delta V_O/\Delta T$ | Output Voltage Drift(7) | $I_O$ = 5 mA | | | -0.8 | | mV/°C |
| $V_N$ | Output Noise Voltage | f = 10 Hz to 100 kHz, $T_A$ = +25°C | | | 52 | | µV |
| RR | Ripple Rejection(7) | f = 120 Hz, $V_I$ = 11.5 V to 21.5 V | | 56 | 73 | | dB |
| $V_{DROP}$ | Dropout Voltage | $I_O$ = 1 A, $T_J$ = +25°C | | | 2 | | V |
| $R_O$ | Output Resistance(7) | f = 1 kHz | | | 17 | | mΩ |
| $I_{SC}$ | Short-Circuit Current | $V_I$ = 35 V, $T_J$ = +25°C | | | 230 | | mA |
| $I_{PK}$ | Peak Current(7) | $T_J$ = +25°C | | | 2.2 | | A |

**Notes:**

6. Load and line regulation are specified at constant junction temperature. Changes in $V_O$ due to heating effects must be taken into account separately. Pulse testing with low duty is used.
7. These parameters, although guaranteed, are not 100% tested in production.