

双极型线性集成电路

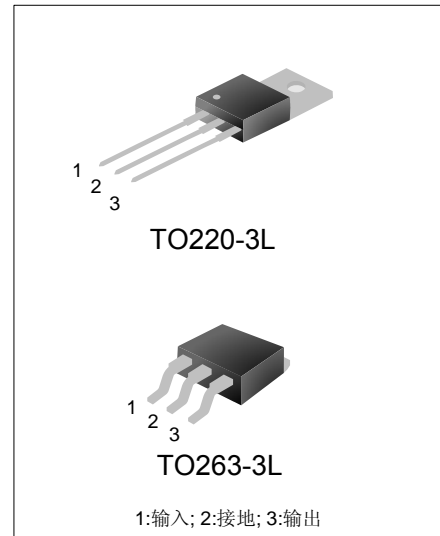
三端1A正电源稳压电路

概述

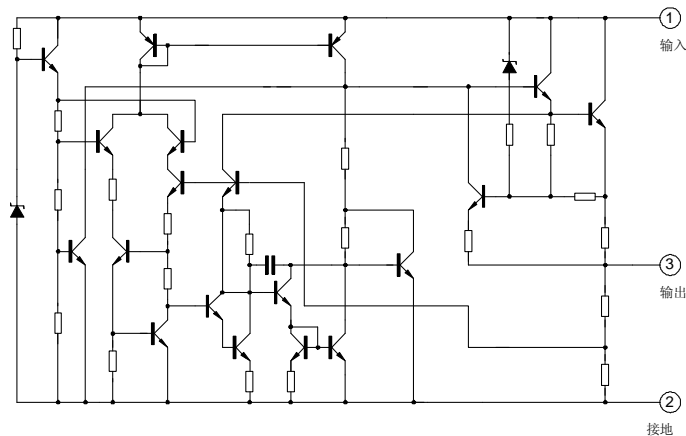
HX78xx 系列是三端正电源稳压电路，它的封装形式为 TO-263 TO-220。它有一系列固定的电压输出，应用非常的广泛。每种类型由于内部电流的限制，以及过热保护和安全工作区的保护，使它基本上不会损坏。如果能够提供足够的散热片，它们就能够提供大于 1A 的输出电流。虽然是按照固定电压值来设计的，但是当接入适当的外部器件后，就能能获得各种不同的电压和电流。

特点

- *最大输出电流为 1A
- *输出电压为 5V;6V;8V;9V;10V;12V;15V;18V;24V
- *热过载保护
- *短路保护
- *输出晶体管安全工作区保护



内部框图



极限参数 (Ta=25°C)

| 参数 | 符号 | 数值 | 单位 |
|------------------------------------|------|------------|--------|
| 输入电压 (Vo=5V to 18V) (Vo=24V) | Vi | 35 40 | V V |
| 结到空气热阻 | RθJA | 65 | °C/W |
| 结到壳热阻 | RθJC | 5 | °C/W |
| 工作温度 | Topr | 0~ +85 | °C |
| 贮存温度 | Tstg | -65 ~ +150 | °C |

产品订购信息

| 产品名称 | 封装 | 打印名称 | 包装 | 包装数量 |
|------------|-----------|-----------|--------|----------|
| HX7805CTG | TO-220-3L | HX7805 | 管装 | 1000 只/盒 |
| HX7806CTG | | HX7806 | 管装 | 1000 只/盒 |
| HX7808CTG | | HX7808 | 管装 | 1000 只/盒 |
| HX7809CTG | | HX7809 | 管装 | 1000 只/盒 |
| HX7810CTG | | HX7810 | 管装 | 1000 只/盒 |
| HX7812CTG | | HX7812 | 管装 | 1000 只/盒 |
| HX7815CTG | | HX7815 | 管装 | 1000 只/盒 |
| HX7818CTG | | HX7818 | 管装 | 1000 只/盒 |
| HX7824CTG | | HX7824 | 管装 | 1000 只/盒 |
| HX7805CSRG | | TO-263-3L | HX7805 | 编带 |
| HX7806CSRG | HX7806 | | 编带 | 500 只/盘 |
| HX7808CSRG | HX7808 | | 编带 | 500 只/盘 |
| HX7809CSRG | HX7809 | | 编带 | 500 只/盘 |
| HX7810CSRG | HX7810 | | 编带 | 500 只/盘 |
| HX7812CSRG | HX7812 | | 编带 | 500 只/盘 |
| HX7815CSRG | HX7815 | | 编带 | 500 只/盘 |
| HX7818CSRG | HX7818 | | 编带 | 500 只/盘 |
| HX7824CSRG | HX7824 | | 编带 | 500 只/盘 |

HX7805电参数

(除特别说明, $0 < T_j < 125^{\circ}\text{C}$, $I_o = 500\text{mA}$, $V_i = 10\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$)

| 参数 | 符号 | 测试条件 | 最小值 | 典型值 | 最大值 | 单位 |
|---------|-------------------------|---|------|------|------|------------------------|
| 输出电压 | V_o | $T_j = 25^{\circ}\text{C}$ | 4.8 | 5.0 | 5.2 | V |
| | | $5.0\text{mA} < I_o < 1.0\text{A}$, $P_o < 15\text{W}$ $V_i = 7.5\text{V to } 20\text{V}$ | 4.75 | 5.00 | 5.25 | V |
| 线性调整率 | ΔV_o | $T_j = 25^{\circ}\text{C}$, $V_i = 7.5\text{V to } 25\text{V}$ | | 4.0 | 100 | mV |
| | | $T_j = 25^{\circ}\text{C}$, $V_i = 8\text{V to } 12\text{V}$ | | 1.6 | 50 | mV |
| 负载调整率 | ΔV_o | $T_j = 25^{\circ}\text{C}$, $I_o = 5.0\text{mA to } 1.0\text{A}$ | | 9 | 100 | mV |
| | | $T_j = 25^{\circ}\text{C}$, $I_o = 250\text{mA to } 750\text{mA}$ | | 4 | 50 | mV |
| 静态电流 | I_Q | $T_j = 25^{\circ}\text{C}$ | | 5.0 | 8 | mA |
| 静态电流变化率 | ΔI_Q | $I_o = 5\text{mA to } 1.0\text{A}$ | | 0.03 | 0.5 | mA |
| | | $V_i = 8\text{V to } 25\text{V}$ | | 0.3 | 0.8 | mA |
| 输出电压温漂 | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$ | | 0.8 | | mV/ $^{\circ}\text{C}$ |
| 输出噪音电压 | V_N | $f = 10\text{Hz to } 100\text{kHz}$, $T_a = 25^{\circ}\text{C}$ | | 42 | | μV |
| 纹波抑制比 | RR | $f = 120\text{Hz}$, $V_i = 8\text{V to } 18\text{V}$ | 62 | 73 | | dB |
| 输入输出电压差 | V_o | $I_o = 1.0\text{A}$, $T_j = 25^{\circ}\text{C}$ | | 2 | | V |
| 输出阻抗 | R_o | $f = 1\text{kHz}$ | | 15 | | $\text{m}\Omega$ |
| 短路电流 | I_{sc} | $V_i = 35\text{V}$, $T_a = 25^{\circ}\text{C}$ | | 230 | | mA |
| 峰值电流 | I_{pk} | $T_j = 25^{\circ}\text{C}$ | | 2.2 | | A |

HX7806电参数

(除特别说明, $0 < T_j < 125^{\circ}\text{C}$, $I_o = 500\text{mA}$, $V_i = 11\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$)

| 参数 | 符号 | 测试参数 | 最小值 | 典型值 | 最大值 | 单位 |
|---------|-------------------------|---|------|------|------|------------------------|
| 输出电压 | V_o | $T_j = 25^{\circ}\text{C}$ | 5.75 | 6.00 | 6.25 | V |
| | | $5.0\text{mA} < I_o < 1.0\text{A}$, $P_o < 15\text{W}$ $V_i = 8.5\text{V to } 21\text{V}$ | 5.7 | 6.0 | 6.3 | V |
| 线性调整率 | ΔV_o | $T_j = 25^{\circ}\text{C}$, $V_i = 8.5\text{V to } 25\text{V}$ | | 5 | 120 | mV |
| | | $T_j = 25^{\circ}\text{C}$, $V_i = 9\text{V to } 13\text{V}$ | | 1.5 | 60 | mV |
| 负载调整率 | ΔV_o | $T_j = 25^{\circ}\text{C}$, $I_o = 5.0\text{mA to } 1.0\text{A}$ | | 9 | 130 | mV |
| | | $T_j = 25^{\circ}\text{C}$, $I_o = 250\text{mA to } 750\text{mA}$ | | 3 | 60 | mV |
| 静态电流 | I_Q | $T_j = 25^{\circ}\text{C}$ | | 5.0 | 8 | mA |
| 静态电流变化率 | ΔI_Q | $I_o = 5\text{mA to } 1.0\text{A}$ | | | 0.5 | mA |
| | | $V_i = 9\text{V to } 25\text{V}$ | | | 0.8 | mA |
| 输出电压温漂 | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$ | | 0.8 | | mV/ $^{\circ}\text{C}$ |
| 输出噪音电压 | V_N | $f = 10\text{Hz to } 100\text{kHz}$, $T_a = 25^{\circ}\text{C}$ | | 45 | | μV |
| 纹波抑制比 | RR | $f = 120\text{Hz}$, $V_i = 9\text{V to } 19\text{V}$ | 59 | 75 | | dB |
| 输入输出电压差 | V_o | $I_o = 1.0\text{A}$, $T_j = 25^{\circ}\text{C}$ | | 2 | | V |
| 输出阻抗 | R_o | $f = 1\text{kHz}$ | | 19 | | $\text{m}\Omega$ |
| 短路电流 | I_{sc} | $V_i = 35\text{V}$, $T_a = 25^{\circ}\text{C}$ | | 250 | | mA |
| 峰值电流 | I_{pk} | $T_j = 25^{\circ}\text{C}$ | | 2.2 | | A |

HX7808电参数

(除特别说明, $0 < T_j < 125^\circ\text{C}$, $I_o = 500\text{mA}$, $V_i = 14\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$)

| 参数 | 符号 | 测试条件 | 最小值 | 典型值 | 最大值 | 单位 |
|---------|-------------------------|--|-----|------|-----|----------------------|
| 输出电压 | V_o | $T_j = 25^\circ\text{C}$ | 7.7 | 8.0 | 8.3 | V |
| | | $5.0\text{mA} < I_o < 1.0\text{A}$, $P_o < 15\text{W}$ $V_i = 11\text{V to } 23\text{V}$ | 7.6 | 8.0 | 8.4 | V |
| 线性调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $V_i = 10.5\text{V to } 25\text{V}$ | | 5.0 | 160 | mV |
| | | $T_j = 25^\circ\text{C}$, $V_i = 11\text{V to } 17\text{V}$ | | 2.0 | 80 | mV |
| 负载调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $I_o = 5.0\text{mA to } 1.0\text{A}$ | | 10 | 160 | mV |
| | | $T_j = 25^\circ\text{C}$, $I_o = 250\text{mA to } 750\text{mA}$ | | 5.0 | 80 | mV |
| 静态电流 | I_Q | $T_j = 25^\circ\text{C}$ | | 5.0 | 8 | mA |
| 静态电流变化率 | ΔI_Q | $I_o = 5\text{mA to } 1.0\text{A}$ | | 0.05 | 0.5 | mA |
| | | $V_i = 11\text{V to } 25\text{V}$ | | 0.5 | 1.0 | mA |
| 输出电压温漂 | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$ | | 0.8 | | mV/ $^\circ\text{C}$ |
| 输出噪音电压 | V_N | $f = 10\text{Hz to } 100\text{kHz}$, $T_a = 25^\circ\text{C}$ | | 52 | | μV |
| 纹波抑制比 | RR | $f = 120\text{Hz}$, $V_i = 11.5\text{V to } 21.5\text{V}$ | 56 | 73 | | dB |
| 输入输出电压差 | V_o | $I_o = 1.0\text{A}$, $T_j = 25^\circ\text{C}$ | | 2 | | V |
| 输出阻抗 | R_o | $f = 1\text{kHz}$ | | 17 | | $\text{m}\Omega$ |
| 短路电流 | I_{sc} | $V_i = 35\text{V}$, $T_a = 25^\circ\text{C}$ | | 230 | | mA |
| 峰值电流 | I_{pk} | $T_j = 25^\circ\text{C}$ | | 2.2 | | A |

HX7809电参数

(除特别说明, $0 < T_j < 125^\circ\text{C}$, $I_o = 500\text{mA}$, $V_i = 15\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$)

| 参数 | 符号 | 测试条件 | 最小值 | 典型值 | 最大值 | 单位 |
|---------|-------------------------|--|------|------|------|----------------------|
| 输出电压 | V_o | $T_j = 25^\circ\text{C}$ | 8.65 | 9.00 | 9.35 | V |
| | | $5.0\text{mA} < I_o < 1.0\text{A}$, $P_o < 15\text{W}$ $V_i = 11.5\text{V to } 24\text{V}$ | 8.6 | 9.0 | 9.4 | V |
| 线性调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $V_i = 11.5\text{V to } 25\text{V}$ | | 6 | 180 | mV |
| | | $T_j = 25^\circ\text{C}$, $V_i = 12\text{V to } 25\text{V}$ | | 2 | 90 | mV |
| 负载调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $I_o = 5.0\text{mA to } 1.0\text{A}$ | | 12 | 180 | mV |
| | | $T_j = 25^\circ\text{C}$, $I_o = 250\text{mA to } 750\text{mA}$ | | 4 | 90 | mV |
| 静态电流 | I_Q | $T_j = 25^\circ\text{C}$ | | 5.0 | 8 | mA |
| 静态电流变化率 | ΔI_Q | $I_o = 5\text{mA to } 1.0\text{A}$ | | | 0.5 | mA |
| | | $V_i = 12\text{V to } 26\text{V}$ | | | 0.8 | mA |
| 输出电压温漂 | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$ | | 1 | | mV/ $^\circ\text{C}$ |
| 输出噪音电压 | V_N | $f = 10\text{Hz to } 100\text{kHz}$, $T_a = 25^\circ\text{C}$ | | 58 | | μV |
| 纹波抑制比 | RR | $f = 120\text{Hz}$, $V_i = 13\text{V to } 23\text{V}$ | 56 | 71 | | dB |
| 输入输出电压差 | V_o | $I_o = 1.0\text{A}$, $T_j = 25^\circ\text{C}$ | | 2 | | V |
| 输出阻抗 | R_o | $f = 1\text{kHz}$ | | 15 | | $\text{m}\Omega$ |
| 短路电流 | I_{sc} | $V_i = 35\text{V}$, $T_a = 25^\circ\text{C}$ | | 250 | | mA |
| 峰值电流 | I_{pk} | $T_j = 25^\circ\text{C}$ | | 2.2 | | A |

HX7810 电参数

(除特别说明, $0 < T_j < 125^\circ\text{C}$, $I_o = 500\text{mA}$, $V_i = 16\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$)

| 参数 | 符号 | 测试条件 | 最小值 | 典型值 | 最大值 | 单位 |
|---------|-------------------------|--|-----|-----|------|----------------------|
| 输出电压 | V_o | $T_j = 25^\circ\text{C}$ | 9.6 | 10 | 10.4 | V |
| | | $5.0\text{mA} < I_o < 1.0\text{A}$, $P_o < 15\text{W}$ $V_i = 12.5\text{V to } 25\text{V}$ | 9.5 | 10 | 10.5 | V |
| 线性调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $V_i = 12.5\text{V to } 25\text{V}$ | | 10 | 200 | mV |
| | | $T_j = 25^\circ\text{C}$, $V_i = 13\text{V to } 20\text{V}$ | | 3 | 100 | mV |
| 负载调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $I_o = 5.0\text{mA to } 1.0\text{A}$ | | 12 | 200 | mV |
| | | $T_j = 25^\circ\text{C}$, $I_o = 250\text{mA to } 750\text{mA}$ | | 4 | 100 | mV |
| 静态电流 | I_Q | $T_j = 25^\circ\text{C}$ | | 5.0 | 8 | mA |
| 静态电流变化率 | ΔI_Q | $I_o = 5\text{mA to } 1.0\text{A}$ | | | 0.5 | mA |
| | | $V_i = 13\text{V to } 29\text{V}$ | | | 0.8 | mA |
| 输出电压温漂 | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$ | | 1 | | mV/ $^\circ\text{C}$ |
| 输出噪音电压 | V_N | $f = 10\text{Hz to } 100\text{kHz}$, $T_a = 25^\circ\text{C}$ | | 58 | | μV |
| 纹波抑制比 | RR | $f = 120\text{Hz}$, $V_i = 14\text{V to } 24\text{V}$ | 56 | 71 | | dB |
| 输入输出电压差 | V_o | $I_o = 1.0\text{A}$, $T_j = 25^\circ\text{C}$ | | 2 | | V |
| 输出阻抗 | R_o | $f = 1\text{kHz}$ | | 17 | | $\text{m}\Omega$ |
| 短路电流 | I_{sc} | $V_i = 35\text{V}$, $T_a = 25^\circ\text{C}$ | | 250 | | mA |
| 峰值电流 | I_{pk} | $T_j = 25^\circ\text{C}$ | | 2.2 | | A |

HX7812 电参数

(除特别说明, $0 < T_j < 125^\circ\text{C}$, $I_o = 500\text{mA}$, $V_i = 16\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$)

| 参数 | 符号 | 测试条件 | 最小值 | 典型值 | 最大值 | 单位 |
|---------|-------------------------|--|------|------|------|----------------------|
| 输出电压 | V_o | $T_j = 25^\circ\text{C}$ | 11.5 | 12.0 | 12.5 | V |
| | | $5.0\text{mA} < I_o < 1.0\text{A}$, $P_o < 15\text{W}$ $V_i = 14.5\text{V to } 27\text{V}$ | 11.4 | 12 | 12.6 | V |
| 线性调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $V_i = 14.5\text{V to } 30\text{V}$ | | 10 | 240 | mV |
| | | $T_j = 25^\circ\text{C}$, $V_i = 16\text{V to } 22\text{V}$ | | 3 | 120 | mV |
| 负载调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $I_o = 5.0\text{mA to } 1.0\text{A}$ | | 11 | 240 | mV |
| | | $T_j = 25^\circ\text{C}$, $I_o = 250\text{mA to } 750\text{mA}$ | | 5.0 | 120 | mV |
| 静态电流 | I_Q | $T_j = 25^\circ\text{C}$ | | 5.1 | 8 | mA |
| 静态电流变化率 | ΔI_Q | $I_o = 5\text{mA to } 1.0\text{A}$ | | | 0.5 | mA |
| | | $V_i = 15\text{V to } 30\text{V}$ | | | 0.8 | mA |
| 输出电压温漂 | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$ | | 1 | | mV/ $^\circ\text{C}$ |
| 输出噪音电压 | V_N | $f = 10\text{Hz to } 100\text{kHz}$, $T_a = 25^\circ\text{C}$ | | 76 | | μV |
| 纹波抑制比 | RR | $f = 120\text{Hz}$, $V_i = 15\text{V to } 25\text{V}$ | 55 | 71 | | dB |
| 输入输出电压差 | V_o | $I_o = 1.0\text{A}$, $T_j = 25^\circ\text{C}$ | | 2 | | V |
| 输出阻抗 | R_o | $f = 1\text{kHz}$ | | 18 | | $\text{m}\Omega$ |
| 短路电流 | I_{sc} | $V_i = 35\text{V}$, $T_a = 25^\circ\text{C}$ | | 230 | | mA |
| 峰值电流 | I_{pk} | $T_j = 25^\circ\text{C}$ | | 2.2 | | A |

HX7815电参数

(除特别说明, $0 < T_j < 125^\circ\text{C}$, $I_o = 500\text{mA}$, $V_i = 23\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$)

| 参数 | 符号 | 测试条件 | 最小值 | 典型值 | 最大值 | 单位 |
|---------|-------------------------|---|-------|------|-------|----------------------|
| 输出电压 | V_o | $T_j = 25^\circ\text{C}$ | 14.4 | 15.0 | 15.6 | V |
| | | $5.0\text{mA} < I_o < 1.0\text{A}$, $P_o < 15\text{W}$ $V_i = 17.5\text{V}$ to 30V | 14.25 | 15 | 15.75 | V |
| 线性调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $V_i = 17.5\text{V}$ to 30V | | 11 | 300 | mV |
| | | $T_j = 25^\circ\text{C}$, $V_i = 20\text{V}$ to 26V | | 3 | 150 | mV |
| 负载调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $I_o = 5.0\text{mA}$ to 1.0A | | 12 | 300 | mV |
| | | $T_j = 25^\circ\text{C}$, $I_o = 250\text{mA}$ to 750mA | | 4 | 150 | mV |
| 静态电流 | I_Q | $T_j = 25^\circ\text{C}$ | | 5.2 | 8 | mA |
| 静态电流变化率 | ΔI_Q | $I_o = 5\text{mA}$ to 1.0A | | | 0.5 | mA |
| | | $V_i = 18\text{V}$ to 30V | | | 0.8 | mA |
| 输出电压温漂 | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$ | | 1 | | mV/ $^\circ\text{C}$ |
| 输出噪声电压 | V_N | $f = 10\text{Hz}$ to 100kHz , $T_a = 25^\circ\text{C}$ | | 90 | | μV |
| 纹波抑制比 | RR | $f = 120\text{Hz}$, $V_i = 18.5\text{V}$ to 28.5V | 54 | 70 | | dB |
| 输入输出电压差 | V_o | $I_o = 1.0\text{A}$, $T_j = 25^\circ\text{C}$ | | 2 | | V |
| 输出阻抗 | R_o | $f = 1\text{kHz}$ | | 19 | | $\text{m}\Omega$ |
| 短路电流 | I_{sc} | $V_i = 35\text{V}$, $T_a = 25^\circ\text{C}$ | | 250 | | mA |
| 峰值电流 | I_{pk} | $T_j = 25^\circ\text{C}$ | | 2.2 | | A |

HX7818电参数

(除特别说明, $0 < T_j < 125^\circ\text{C}$, $I_o = 500\text{mA}$, $V_i = 23\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$)

| 参数 | 符号 | 测试条件 | 最小值 | 典型值 | 最大值 | 单位 |
|---------|-------------------------|---|------|------|------|----------------------|
| 输出电压 | V_o | $T_j = 25^\circ\text{C}$ | 17.3 | 18.0 | 18.7 | V |
| | | $5.0\text{mA} < I_o < 1.0\text{A}$, $P_o < 15\text{W}$ $V_i = 21\text{V}$ to 33V | 17.1 | 18 | 18.9 | V |
| 线性调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $V_i = 21\text{V}$ to 33V | | 15 | 360 | mV |
| | | $T_j = 25^\circ\text{C}$, $V_i = 24\text{V}$ to 30V | | 5 | 180 | mV |
| 负载调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $I_o = 5.0\text{mA}$ to 1.0A | | 15 | 360 | mV |
| | | $T_j = 25^\circ\text{C}$, $I_o = 250\text{mA}$ to 750mA | | 5.0 | 180 | mV |
| 静态电流 | I_Q | $T_j = 25^\circ\text{C}$ | | 5.2 | 8 | mA |
| 静态电流变化率 | ΔI_Q | $I_o = 5\text{mA}$ to 1.0A | | | 0.5 | mA |
| | | $V_i = 21\text{V}$ to 32V | | | 0.8 | mA |
| 输出电压温漂 | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$ | | 1 | | mV/ $^\circ\text{C}$ |
| 输出噪声电压 | V_N | $f = 10\text{Hz}$ to 100kHz , $T_a = 25^\circ\text{C}$ | | 110 | | μV |
| 纹波抑制比 | RR | $f = 120\text{Hz}$, $V_i = 22\text{V}$ to 32V | 53 | 69 | | dB |
| 输入输出电压差 | V_o | $I_o = 1.0\text{A}$, $T_j = 25^\circ\text{C}$ | | 2 | | V |
| 输出阻抗 | R_o | $f = 1\text{kHz}$ | | 22 | | $\text{m}\Omega$ |
| 短路电流 | I_{sc} | $V_i = 35\text{V}$, $T_a = 25^\circ\text{C}$ | | 250 | | mA |
| 峰值电流 | I_{pk} | $T_j = 25^\circ\text{C}$ | | 2.2 | | A |

HX7824电参数

(除特别说明, $0 < T_j < 125^\circ\text{C}$, $I_o = 500\text{mA}$, $V_i = 33\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$)

| 参数 | 符号 | 测试条件 | 最小值 | 典型值 | 最大值 | 单位 |
|---------|-------------------------|--|------|-----|------|----------------------|
| 输出电压 | V_o | $T_j = 25^\circ\text{C}$ | 23 | 24 | 25 | V |
| | | $5.0\text{mA} < I_o < 1.0\text{A}$, $P_o < 15\text{W}$ $V_i = 27\text{V to } 38\text{V}$ | 22.8 | 24 | 25.2 | V |
| 线性调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $V_i = 27\text{V to } 38\text{V}$ | | 17 | 480 | mV |
| | | $T_j = 25^\circ\text{C}$, $V_i = 30\text{V to } 36\text{V}$ | | 6 | 240 | mV |
| 负载调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $I_o = 5.0\text{mA to } 1.0\text{A}$ | | 15 | 480 | mV |
| | | $T_j = 25^\circ\text{C}$, $I_o = 250\text{mA to } 750\text{mA}$ | | 5.0 | 240 | mV |
| 静态电流 | I_Q | $T_j = 25^\circ\text{C}$ | | 5.2 | 8 | mA |
| 静态电流变化率 | ΔI_Q | $I_o = 5\text{mA to } 1.0\text{A}$ | | | 0.5 | mA |
| | | $V_i = 27\text{V to } 38\text{V}$ | | | 0.8 | mA |
| 输出电压温漂 | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$ | | 1.5 | | mV/ $^\circ\text{C}$ |
| 输出噪音电压 | V_N | $f = 10\text{Hz to } 100\text{kHz}$, $T_a = 25^\circ\text{C}$ | | 160 | | μV |
| 纹波抑制比 | RR | $f = 120\text{Hz}$, $V_i = 28\text{V to } 38\text{V}$ | 50 | 67 | | dB |
| 输入输出电压差 | V_o | $I_o = 1.0\text{A}$, $T_j = 25^\circ\text{C}$ | | 2 | | V |
| 输出阻抗 | R_o | $f = 1\text{kHz}$ | | 28 | | $\text{m}\Omega$ |
| 短路电流 | I_{sc} | $V_i = 35\text{V}$, $T_a = 25^\circ\text{C}$ | | 230 | | mA |
| 峰值电流 | I_{pk} | $T_j = 25^\circ\text{C}$ | | 2.2 | | A |

测试电路图

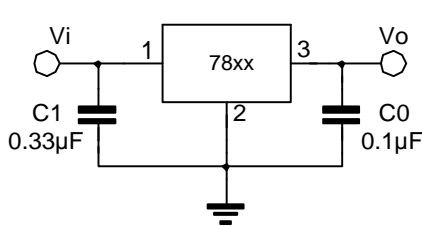


图1 测直流电参数电路图

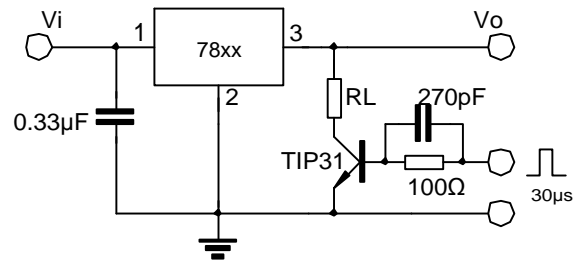


图2 测负载调整率电路图

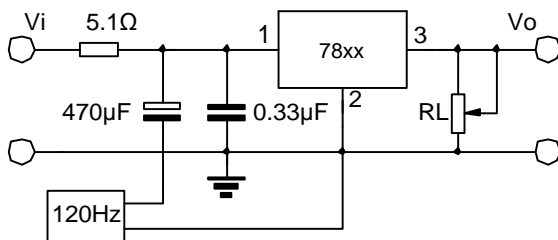


图3 测纹波抑制比电路图

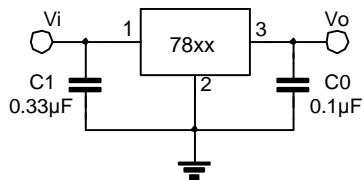
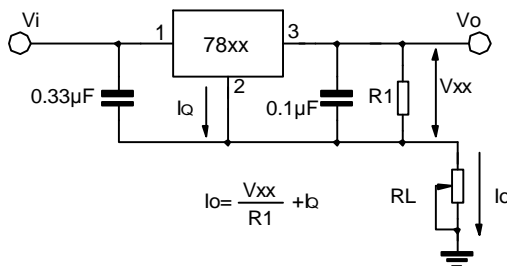
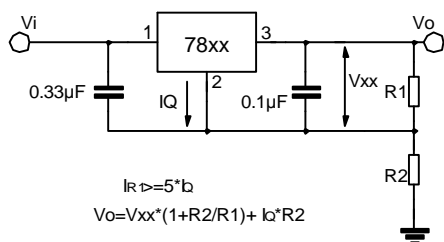
应用电路图


图4 固定输出稳压电路



$$I_o = \frac{V_{xx}}{R_1} + I_q$$

图5 恒流稳压电路



$$I_R \triangleright 5 \cdot I_q$$

$$V_o = V_{xx} \cdot (1 + R_2/R_1) + I_q \cdot R_2$$

图6 增强型稳压输出电路

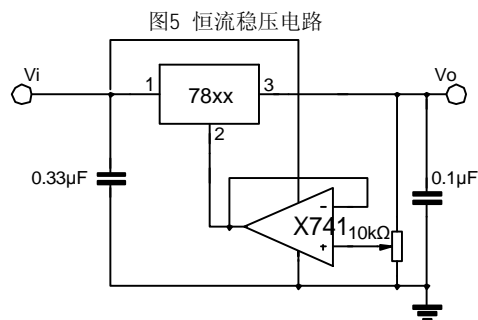
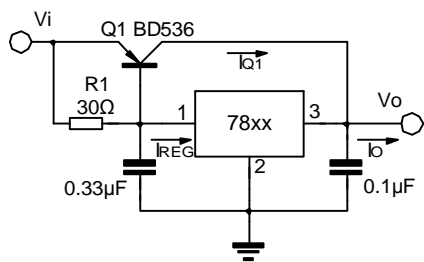


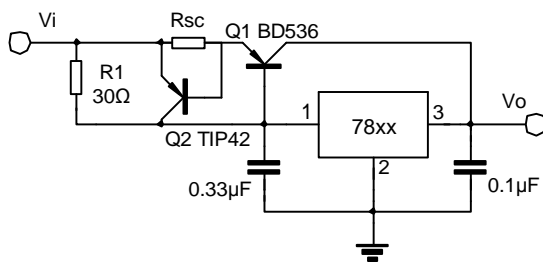
图7 可调型输出电路



$$I_o = I_{REG} \cdot (I_{REG} \cdot V_{BEQ1} / R_1)$$

$$R_1 = V_{BEQ1} / I_{REG} \cdot I_{Q1}$$

图8 高电流电压稳压电路



$$R_{sc} = V_{BEQ2} / I_{sc}$$

图9 高输出电流短路保护电路

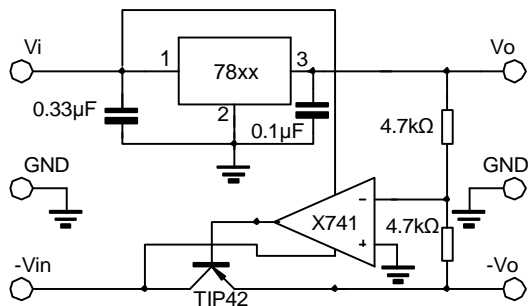


图10 跟踪电压稳压电路

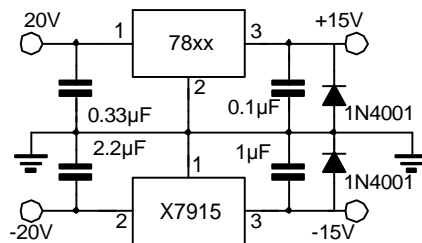


图11 分电源电路(±15V, 1A)

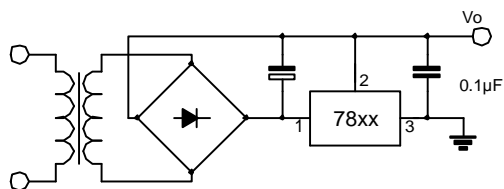


图12 负电源电压输出电路

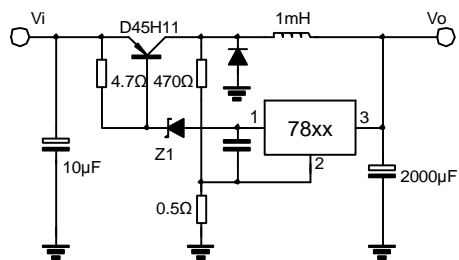


图13 开关稳压电路

典型特性曲线图

图14 静态电流与结点温度的关系曲线图

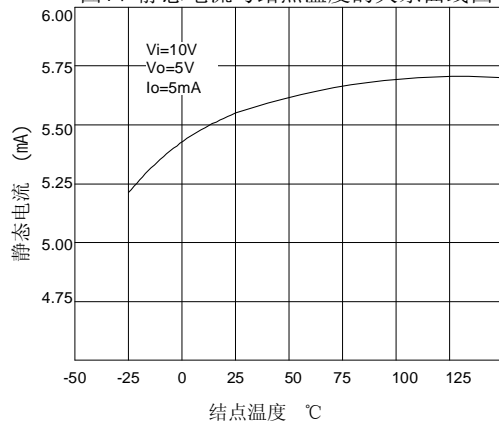


图15 输出电压与结点温度的关系曲线图

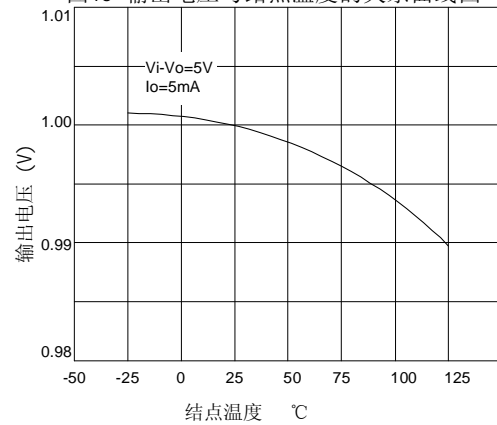


图16 峰值输出电流

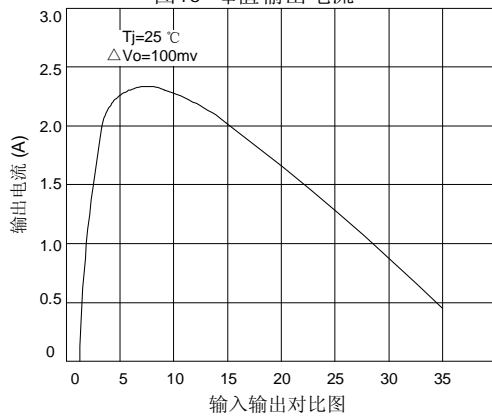
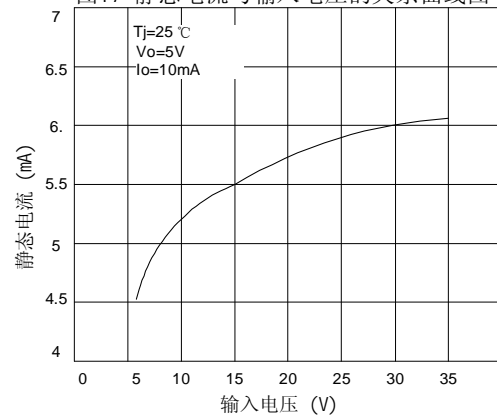
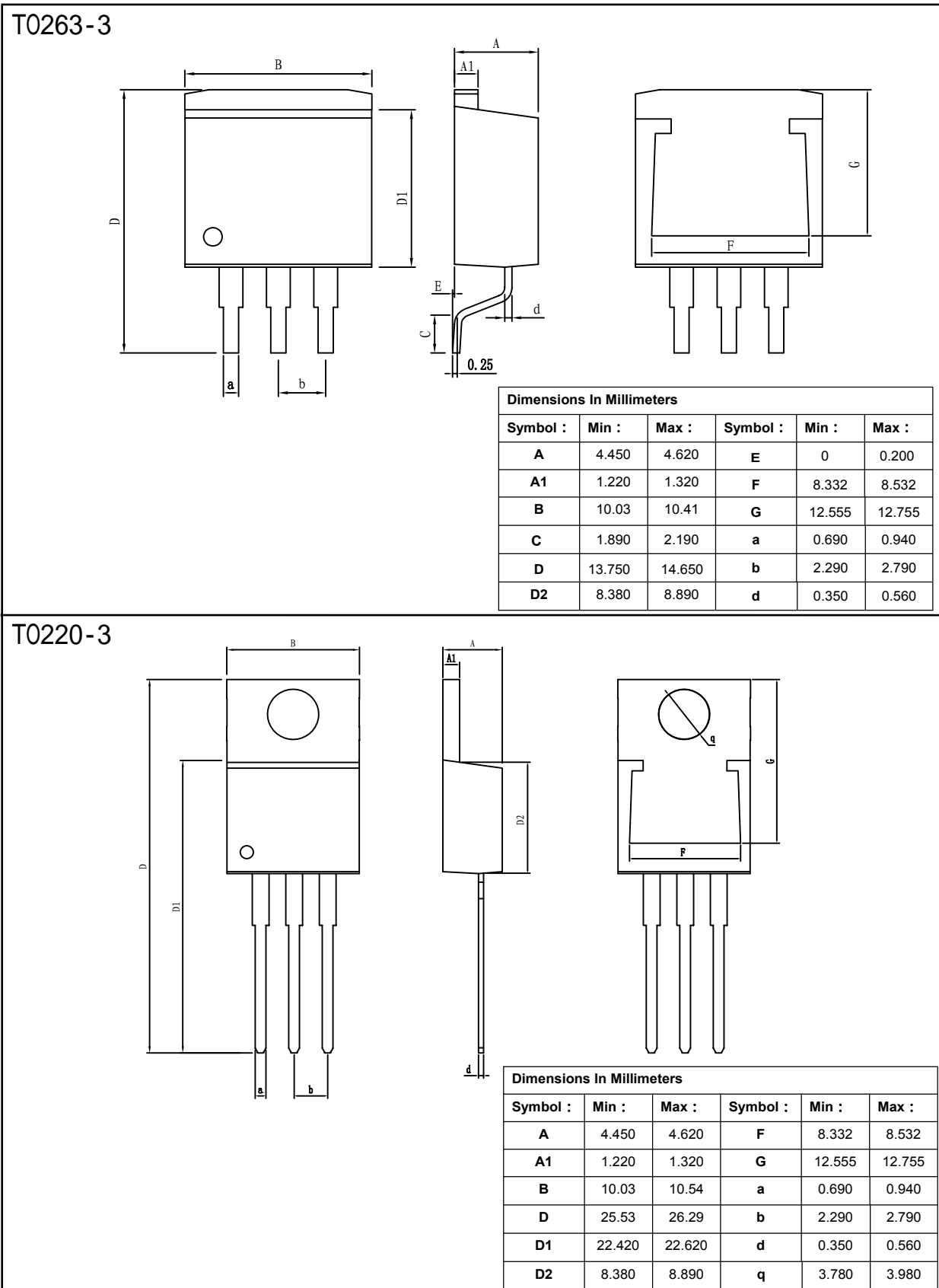


图17 静态电流与输入电压的关系曲线图



封装外形图：


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