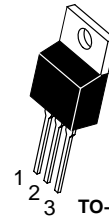


3 TERMINAL 1.5A POSITIVE VOLTAGE REGULATORS

**FEATURES**

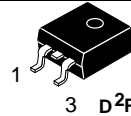
- \* Output current up to 1.5A
- \* 5V;6V;8V;9V;10V;12V;15V;18V;24V output voltage available
- \* Thermal overload protection
- \* Short circuit protection
- \* Output transistor SOA protection



Heatsink surface connected to Pin 2.

TO-220-3

MC7805CT



Pin 1. Input  
2. Ground  
3. Output

D<sup>2</sup>PAK-3

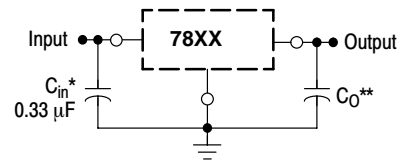
L7812ABD2T



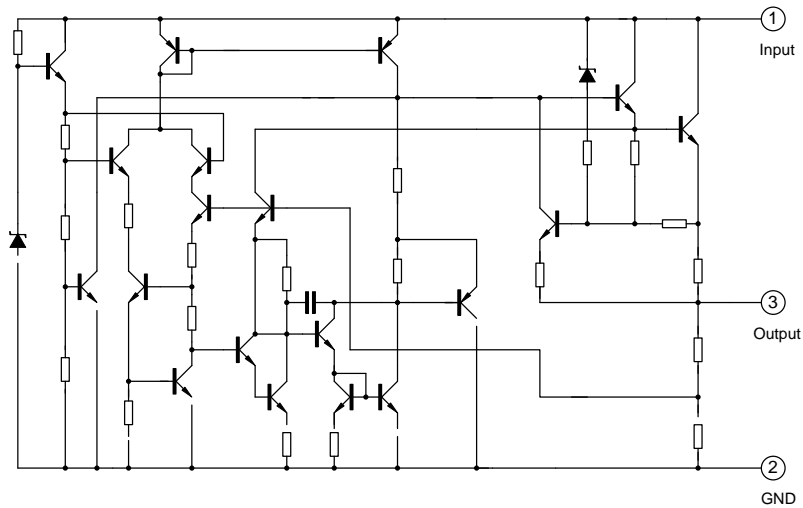
MC7805BDT L7805CDT  
MC7812BDTR L78M12ABDT  
MC7815CDTR  
L78M10ABDT

DPAK-3

**STANDARD APPLICATION**



**BLOCK DIAGRAM**



**ABSOLUTE MAXIMUM RATINGS**  $T_a = 25^\circ\text{C}$ 

Characteristic	Symbol	Value	Unit
Input voltage (for $V_o=5\text{V}$ to $18\text{V}$ ) (for $V_o=24\text{V}$ )	$V_i$	35 40	V
Operating Temperature	$T_{opr}$	-40~ +125	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-65 ~ +150	$^\circ\text{C}$

**7805 ELECTRICAL CHARACTERISTICS**

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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Output voltage	$V_o$	$T_j=25^\circ\text{C}$	4.8	5.0	5.2	V
		$5.0\text{mA} < I_o < 1.0\text{A}$ , $P_D < 15\text{W}$ $V_i=7.5\text{V}$ to $20\text{V}$	4.75	5.00	5.25	V
Line regulation	$\Delta V_o$	$T_j=25^\circ\text{C}$ , $V_i=7.5\text{V}$ 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
Load regulation	$\Delta V_o$	$T_j=25^\circ\text{C}$ , $I_o=5.0\text{mA}$ to $1.5\text{A}$	-	9	100	mV
		$T_j=25^\circ\text{C}$ , $I_o=250\text{mA}$ to $750\text{mA}$	-	4	50	mV
Quiescent current	$I_q$	$T_j=25^\circ\text{C}$	-	5.0	8	mA
Quiescent current change	$\Delta I_q$	$I_o=5\text{mA}$ to $1.0\text{A}$	-	-	0.5	mA
		$V_i=8\text{V}$ to $25\text{V}$	-	-	0.8	mA
Output voltage drift	$\Delta V_o/\Delta T$	$I_o=5\text{mA}$	-	0.8	-	mV/ $^\circ\text{C}$
Output noise voltage	$V_N$	$f=10\text{Hz}$ to $100\text{kHz}$ , $T_a=25^\circ\text{C}$	-	42	-	$\mu\text{V}/V_o$
Ripple rejection	RR	$f=120\text{Hz}$ , $V_i=8\text{V}$ to $18\text{V}$	62	73	-	dB
Dropout voltage	$V_o$	$I_o=1.0\text{A}$ , $T_j=25^\circ\text{C}$	-	2	-	V
Output resistance	$R_o$	$f=1\text{kHz}$	-	15	-	$\text{m}\Omega$
Short circuit current	$I_{sc}$	$V_i=35\text{V}$ , $T_a=25^\circ\text{C}$	-	230	-	mA
peak current	$I_{pk}$	$T_j=25^\circ\text{C}$	-	2.2	-	A

**7806 ELECTRICAL CHARACTERISTICS**

 (Refer to test circuits,  $0 < T_j < 125^\circ\text{C}$ ,  $I_o = 500\text{mA}$ ,  $V_i = 11\text{V}$ ,  $C_i = 0.33\mu\text{F}$ ,  $C_o = 0.1\mu\text{F}$ , unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Output voltage	$V_o$	$T_j = 25^\circ\text{C}$	5.75	6.00	6.25	V
		$5.0\text{mA} < I_o < 1.0\text{A}$ , $P_D < 15\text{W}$ $V_i = 8.5\text{V to } 21\text{V}$	5.7	6.0	6.3	V
Line regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $V_i = 8.5\text{V to } 25\text{V}$	-	5	120	mV
		$T_j = 25^\circ\text{C}$ , $V_i = 9\text{V to } 13\text{V}$	-	1.8	60	mV
Load regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $I_o = 5.0\text{mA to } 1.5\text{A}$	-	9	130	mV
		$T_j = 25^\circ\text{C}$ , $I_o = 250\text{mA to } 750\text{mA}$	-	4	60	mV
Quiescent current	$I_q$	$T_j = 25^\circ\text{C}$	-	5.0	8	mA
Quiescent current change	$\Delta I_q$	$I_o = 5\text{mA to } 1.0\text{A}$	-	-	0.5	mA
		$V_i = 9\text{V to } 25\text{V}$	-	-	0.8	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$	-	0.9	-	$\text{mV}/^\circ\text{C}$
Output noise voltage	$V_N$	$f = 10\text{Hz to } 100\text{kHz}$ , $T_a = 25^\circ\text{C}$	-	45	-	$\mu\text{V}/V_o$
Ripple rejection	RR	$f = 120\text{Hz}$ , $V_i = 9\text{V to } 19\text{V}$	59	70	-	dB
Dropout voltage	$V_o$	$I_o = 1.0\text{A}$ , $T_j = 25^\circ\text{C}$	-	2	-	V
Output resistance	$R_o$	$f = 1\text{kHz}$	-	19	-	$\text{m}\Omega$
Short circuit current	$I_{sc}$	$V_i = 35\text{V}$ , $T_a = 25^\circ\text{C}$	-	230	-	mA
peak current	$I_{pk}$	$T_j = 25^\circ\text{C}$	-	2.2	-	A

**7808 ELECTRICAL CHARACTERISTICS**

 (Refer to test circuits,  $0 < T_j < 125^\circ\text{C}$ ,  $I_o = 500\text{mA}$ ,  $V_i = 14\text{V}$ ,  $C_i = 0.33\mu\text{F}$ ,  $C_o = 0.1\mu\text{F}$ , unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Output voltage	$V_o$	$T_j = 25^\circ\text{C}$	7.7	8.0	8.3	V
		$5.0\text{mA} < I_o < 1.0\text{A}$ , $P_D < 15\text{W}$ $V_i = 11\text{V to } 23\text{V}$	7.6	8.0	8.4	V
Line regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $V_i = 10.5\text{V to } 25\text{V}$	-	5.0	160	mV
		$T_j = 25^\circ\text{C}$ , $V_i = 11\text{V to } 17\text{V}$	-	2.0	80	mV
Load regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $I_o = 5.0\text{mA to } 1.5\text{A}$	-	10	160	mV
		$T_j = 25^\circ\text{C}$ , $I_o = 250\text{mA to } 750\text{mA}$	-	5.0	80	mV
Quiescent current	$I_q$	$T_j = 25^\circ\text{C}$	-	5.0	8	mA
Quiescent current change	$\Delta I_q$	$I_o = 5\text{mA to } 1.0\text{A}$	-	-	0.5	mA
		$V_i = 11\text{V to } 25\text{V}$	-	-	0.8	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$	-	1.2	-	$\text{mV}/^\circ\text{C}$
Output noise voltage	$V_N$	$f = 10\text{Hz to } 100\text{kHz}$ , $T_a = 25^\circ\text{C}$	-	52	-	$\mu\text{V}/V_o$
Ripple rejection	RR	$f = 120\text{Hz}$ , $V_i = 11.5\text{V to } 21.5\text{V}$	56	67	-	dB
Dropout voltage	$V_o$	$I_o = 1.0\text{A}$ , $T_j = 25^\circ\text{C}$	-	2	-	V
Output resistance	$R_o$	$f = 1\text{kHz}$	-	17	-	$\text{m}\Omega$
Short circuit current	$I_{sc}$	$V_i = 35\text{V}$ , $T_a = 25^\circ\text{C}$	-	230	-	mA
peak current	$I_{pk}$	$T_j = 25^\circ\text{C}$	-	2.2	-	A

**7809 ELECTRICAL CHARACTERISTICS**

 (Refer to test circuits,  $0 < T_j < 125^\circ\text{C}$ ,  $I_o = 500\text{mA}$ ,  $V_i = 15\text{V}$ ,  $C_i = 0.33\mu\text{F}$ ,  $C_o = 0.1\mu\text{F}$ , unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Output voltage	$V_o$	$T_j = 25^\circ\text{C}$	8.65	9.00	9.35	V
		$5.0\text{mA} < I_o < 1.0\text{A}$ , $P_D < 15\text{W}$ $V_i = 11.5\text{V}$ to $24\text{V}$	8.6	9.0	9.4	V
Line regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $V_i = 11.5\text{V}$ 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
Load regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $I_o = 5.0\text{mA}$ to $1.5\text{A}$	-	12	180	mV
		$T_j = 25^\circ\text{C}$ , $I_o = 250\text{mA}$ to $750\text{mA}$	-	5	90	mV
Quiescent current	$I_q$	$T_j = 25^\circ\text{C}$	-	5.0	8	mA
Quiescent current change	$\Delta I_q$	$I_o = 5\text{mA}$ to $1.0\text{A}$	-	-	0.5	mA
		$V_i = 12\text{V}$ to $26\text{V}$	-	-	0.8	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$	-	1.3	-	mV/ $^\circ\text{C}$
Output noise voltage	$V_N$	$f = 10\text{Hz}$ to $100\text{kHz}$ , $T_a = 25^\circ\text{C}$	-	58	-	$\mu\text{V}/V_o$
Ripple rejection	RR	$f = 120\text{Hz}$ , $V_i = 13\text{V}$ to $23\text{V}$	55	66	-	dB
Dropout voltage	$V_o$	$I_o = 1.0\text{A}$ , $T_j = 25^\circ\text{C}$	-	2	-	V
Output resistance	$R_o$	$f = 1\text{kHz}$	-	15	-	$\text{m}\Omega$
Short circuit current	$I_{sc}$	$V_i = 35\text{V}$ , $T_a = 25^\circ\text{C}$	-	230	-	mA
peak current	$I_{pk}$	$T_j = 25^\circ\text{C}$	-	2.2	-	A

**7810 ELECTRICAL CHARACTERISTICS**

 (Refer to test circuits,  $0 < T_j < 125^\circ\text{C}$ ,  $I_o = 500\text{mA}$ ,  $V_i = 16\text{V}$ ,  $C_i = 0.33\mu\text{F}$ ,  $C_o = 0.1\mu\text{F}$ , unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Output voltage	$V_o$	$T_j = 25^\circ\text{C}$	9.6	10	10.4	V
		$5.0\text{mA} < I_o < 1.0\text{A}$ , $P_D < 15\text{W}$ $V_i = 12.5\text{V}$ to $25\text{V}$	9.5	10	10.5	V
Line regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $V_i = 12.5\text{V}$ to $25\text{V}$	-	8	200	mV
		$T_j = 25^\circ\text{C}$ , $V_i = 13\text{V}$ to $20\text{V}$	-	3	100	mV
Load regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $I_o = 5.0\text{mA}$ to $1.5\text{A}$	-	12	200	mV
		$T_j = 25^\circ\text{C}$ , $I_o = 250\text{mA}$ to $750\text{mA}$	-	5	100	mV
Quiescent current	$I_q$	$T_j = 25^\circ\text{C}$	-	5.0	8	mA
Quiescent current change	$\Delta I_q$	$I_o = 5\text{mA}$ to $1.0\text{A}$	-	-	0.5	mA
		$V_i = 13\text{V}$ to $29\text{V}$	-	-	0.8	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$	-	1.4	-	mV/ $^\circ\text{C}$
Output noise voltage	$V_N$	$f = 10\text{Hz}$ to $100\text{kHz}$ , $T_a = 25^\circ\text{C}$	-	58	-	$\mu\text{V}/V_o$
Ripple rejection	RR	$f = 120\text{Hz}$ , $V_i = 14\text{V}$ to $24\text{V}$	54	65	-	dB
Dropout voltage	$V_o$	$I_o = 1.0\text{A}$ , $T_j = 25^\circ\text{C}$	-	2	-	V
Output resistance	$R_o$	$f = 1\text{kHz}$	-	17	-	$\text{m}\Omega$
Short circuit current	$I_{sc}$	$V_i = 35\text{V}$ , $T_a = 25^\circ\text{C}$	-	230	-	mA
peak current	$I_{pk}$	$T_j = 25^\circ\text{C}$	-	2.2	-	A

**7812 ELECTRICAL CHARACTERISTICS**

 (Refer to test circuits,  $0 < T_j < 125^\circ\text{C}$ ,  $I_o = 500\text{mA}$ ,  $V_i = 19\text{V}$ ,  $C_i = 0.33\mu\text{F}$ ,  $C_o = 0.1\mu\text{F}$ , unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Output voltage	$V_o$	$T_j = 25^\circ\text{C}$	11.5	12.0	12.5	V
		$5.0\text{mA} < I_o < 1.0\text{A}$ , $P_D < 15\text{W}$ $V_i = 14.5\text{V}$ to $27\text{V}$	11.4	12	12.6	V
Line regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $V_i = 14.5\text{V}$ 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
Load regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $I_o = 5.0\text{mA}$ to $1.5\text{A}$	-	12	240	mV
		$T_j = 25^\circ\text{C}$ , $I_o = 250\text{mA}$ to $750\text{mA}$	-	5.0	120	mV
Quiescent current	$I_q$	$T_j = 25^\circ\text{C}$	-	5.1	8	mA
Quiescent current change	$\Delta I_q$	$I_o = 5\text{mA}$ to $1.0\text{A}$	-	-	0.5	mA
		$V_i = 15\text{V}$ to $30\text{V}$	-	-	0.8	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$	-	1.7	-	mV/ $^\circ\text{C}$
Output noise voltage	$V_N$	$f = 10\text{Hz}$ to $100\text{kHz}$ , $T_a = 25^\circ\text{C}$	-	76	-	$\mu\text{V}/V_o$
Ripple rejection	RR	$f = 120\text{Hz}$ , $V_i = 15\text{V}$ to $25\text{V}$	53	64	-	dB
Dropout voltage	$V_o$	$I_o = 1.0\text{A}$ , $T_j = 25^\circ\text{C}$	-	2	-	V
Output resistance	$R_o$	$f = 1\text{kHz}$	-	18	-	$\text{m}\Omega$
Short circuit current	$I_{sc}$	$V_i = 35\text{V}$ , $T_a = 25^\circ\text{C}$	-	230	-	mA
peak current	$I_{pk}$	$T_j = 25^\circ\text{C}$	-	2.2	-	A

**7815 ELECTRICAL CHARACTERISTICS**

 (Refer to test circuits,  $0 < T_j < 125^\circ\text{C}$ ,  $I_o = 500\text{mA}$ ,  $V_i = 23\text{V}$ ,  $C_i = 0.33\mu\text{F}$ ,  $C_o = 0.1\mu\text{F}$ , unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Output voltage	$V_o$	$T_j = 25^\circ\text{C}$	14.4	15.0	15.6	V
		$5.0\text{mA} < I_o < 1.0\text{A}$ , $P_D < 15\text{W}$ $V_i = 17.5\text{V}$ to $30\text{V}$	14.25	15	15.75	V
Line regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $V_i = 17.5\text{V}$ to $30\text{V}$	-	11	300	mV
		$T_j = 25^\circ\text{C}$ , $V_i = 20\text{V}$ to $26\text{V}$	-	3	150	mV
Load regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $I_o = 5.0\text{mA}$ to $1.5\text{A}$	-	12	300	mV
		$T_j = 25^\circ\text{C}$ , $I_o = 250\text{mA}$ to $750\text{mA}$	-	5	150	mV
Quiescent current	$I_q$	$T_j = 25^\circ\text{C}$	-	5.2	8	mA
Quiescent current change	$\Delta I_q$	$I_o = 5\text{mA}$ to $1.0\text{A}$	-	-	0.5	mA
		$V_i = 18\text{V}$ to $30.5\text{V}$	-	-	0.8	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$	-	2.0	-	mV/ $^\circ\text{C}$
Output noise voltage	$V_N$	$f = 10\text{Hz}$ to $100\text{kHz}$ , $T_a = 25^\circ\text{C}$	-	90	-	$\mu\text{V}/V_o$
Ripple rejection	RR	$f = 120\text{Hz}$ , $V_i = 18.5\text{V}$ to $28.5\text{V}$	51	62	-	dB
Dropout voltage	$V_o$	$I_o = 1.0\text{A}$ , $T_j = 25^\circ\text{C}$	-	2	-	V
Output resistance	$R_o$	$f = 1\text{kHz}$	-	19	-	$\text{m}\Omega$
Short circuit current	$I_{sc}$	$V_i = 35\text{V}$ , $T_a = 25^\circ\text{C}$	-	230	-	mA
peak current	$I_{pk}$	$T_j = 25^\circ\text{C}$	-	2.2	-	A

**7818 ELECTRICAL CHARACTERISTICS**

(Refer to test circuits,  $0 < T_j < 125^\circ\text{C}$ ,  $I_o = 500\text{mA}$ ,  $V_i = 26\text{V}$ ,  $C_i = 0.33\mu\text{F}$ ,  $C_o = 0.1\mu\text{F}$ , unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Output voltage	Vo	$T_j = 25^\circ\text{C}$	17.3	18.0	18.7	V
		$5.0\text{mA} < I_o < 1.0\text{A}$ , $P_D < 15\text{W}$ $V_i = 21$ to $33\text{V}$	17.1	18.0	18.9	V
Line regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $V_i = 21$ to $33\text{V}$	-	-	360	mV
		$T_j = 25^\circ\text{C}$ , $V_i = 24\text{V}$ to $30\text{V}$	-	-	180	mV
Load regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $I_o = 5.0\text{mA}$ to $1.5\text{A}$	-	-	360	mV
		$T_j = 25^\circ\text{C}$ , $I_o = 250\text{mA}$ to $750\text{mA}$	-	-	180	mV
Quiescent current	$I_q$	$T_j = 25^\circ\text{C}$	-	5.2	8	mA
Quiescent current change	$\Delta I_q$	$I_o = 5\text{mA}$ to $1.0\text{A}$	-	-	0.5	mA
		$V_i = 21\text{V}$ to $33\text{V}$	-	-	1	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$	-	2.3	-	mV/ $^\circ\text{C}$
Output noise voltage	$V_N$	$f = 10\text{Hz}$ to $100\text{kHz}$ , $T_a = 25^\circ\text{C}$	-	110	-	$\mu\text{V}/V_o$
Ripple rejection	RR	$f = 120\text{Hz}$ , $V_i = 22\text{V}$ to $32\text{V}$	51	57	-	dB
Dropout voltage	$V_o$	$I_o = 1.0\text{A}$ , $T_j = 25^\circ\text{C}$	-	2	-	V
Output resistance	$R_o$	$f = 1\text{kHz}$	-	22	-	$\text{m}\Omega$
Short circuit current	$I_{sc}$	$V_i = 35\text{V}$ , $T_a = 25^\circ\text{C}$	-	230	-	mA
peak current	$I_{pk}$	$T_j = 25^\circ\text{C}$	-	2.2	-	A

**7824 ELECTRICAL CHARACTERISTICS**

(Refer to test circuits,  $0 < T_j < 125^\circ\text{C}$ ,  $I_o = 500\text{mA}$ ,  $V_i = 33\text{V}$ ,  $C_i = 0.33\mu\text{F}$ ,  $C_o = 0.1\mu\text{F}$ , unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Output voltage	Vo	$T_j = 25^\circ\text{C}$	23	24	25	V
		$5.0\text{mA} < I_o < 1.0\text{A}$ , $P_D < 15\text{W}$ $V_i = 27\text{V}$ to $38\text{V}$	22.8	24	25.2	V
Line regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $V_i = 27\text{V}$ to $38\text{V}$	-	-	480	mV
		$T_j = 25^\circ\text{C}$ , $V_i = 30\text{V}$ to $36\text{V}$	-	-	240	mV
Load regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $I_o = 5.0\text{mA}$ to $1.5\text{A}$	-	-	480	mV
		$T_j = 25^\circ\text{C}$ , $I_o = 250\text{mA}$ to $750\text{mA}$	-	-	240	mV
Quiescent current	$I_q$	$T_j = 25^\circ\text{C}$	-	5.2	8	mA
Quiescent current change	$\Delta I_q$	$I_o = 5\text{mA}$ to $1.0\text{A}$	-	-	0.5	mA
		$V_i = 27\text{V}$ to $38\text{V}$	-	-	1	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$	-	3.0	-	mV/ $^\circ\text{C}$
Output noise voltage	$V_N$	$f = 10\text{Hz}$ to $100\text{kHz}$ , $T_a = 25^\circ\text{C}$	-	170	-	$\mu\text{V}/V_o$
Ripple rejection	RR	$f = 120\text{Hz}$ , $V_i = 28\text{V}$ to $38\text{V}$	50	54	-	dB
Dropout voltage	$V_o$	$I_o = 1.0\text{A}$ , $T_j = 25^\circ\text{C}$	-	2	-	V
Output resistance	$R_o$	$f = 1\text{kHz}$	-	28	-	$\text{m}\Omega$
Short circuit current	$I_{sc}$	$V_i = 35\text{V}$ , $T_a = 25^\circ\text{C}$	-	230	-	mA
peak current	$I_{pk}$	$T_j = 25^\circ\text{C}$	-	2.2	-	A

**TEST CIRCUITS**

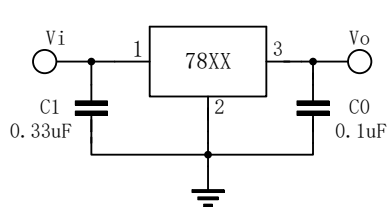


FIG.1 DC PARAMETERS

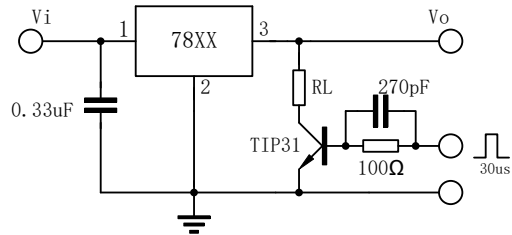


FIG.2 LOAD REGULATION

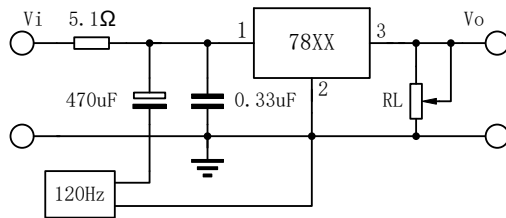


FIG.3 RIPPLE REJECTION

**APPLICATION CIRCUITS**

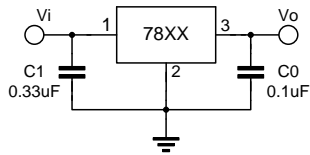


Fig.4 Fixed output regulator

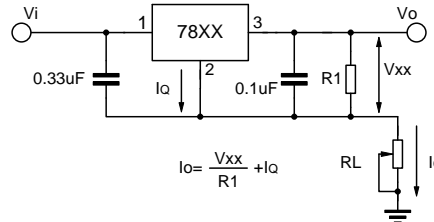


Fig.5 Constant current regulator

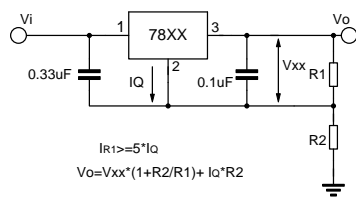


Fig.6 Circuit for increasing Regulator output voltage

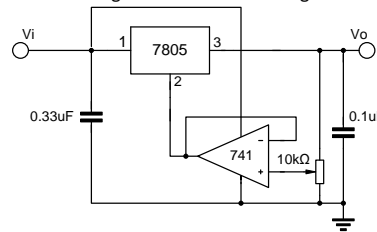
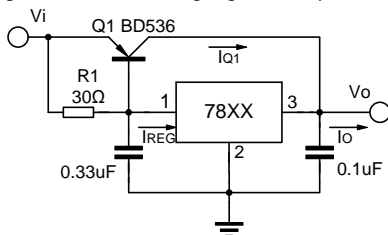


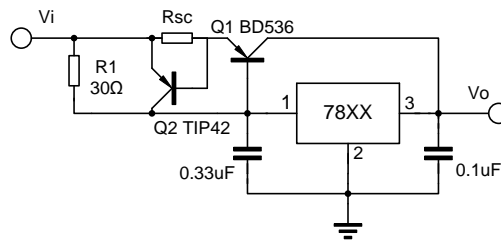
Fig.7 Adjustable output



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

$$R_1 = V_{BEQ1}/I_{REG} - I_{Q1} \cdot Q_1$$

Fig.8 High current with voltage regulator



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

Fig.9 High output current short circuit protection

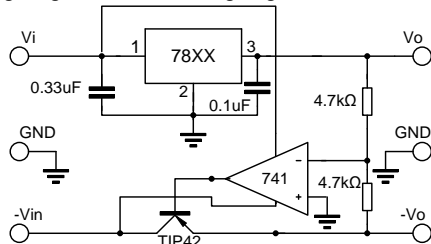


Fig.10 Tracking voltage regulator

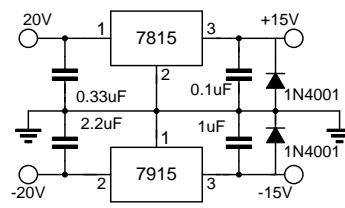


Fig.11 Split power supply ( $\pm 15V, 1A$ )

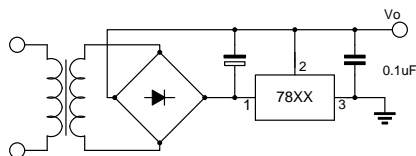


Fig.12 Negative output voltage circuit

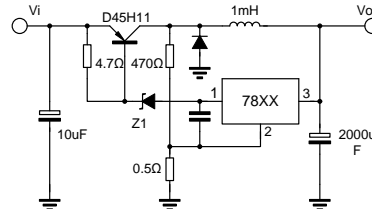


Fig.13 switching regulator



**TYPICAL PERFORMANCE CHARACTERISTICS**

Fig.14 Quiescent current

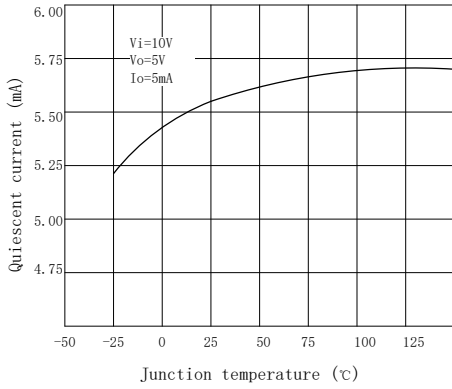


Fig.15 Output voltage

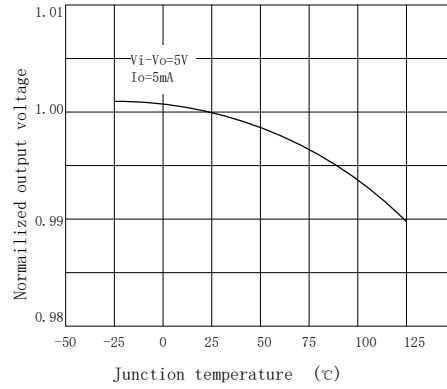


Fig.16 Peak output current

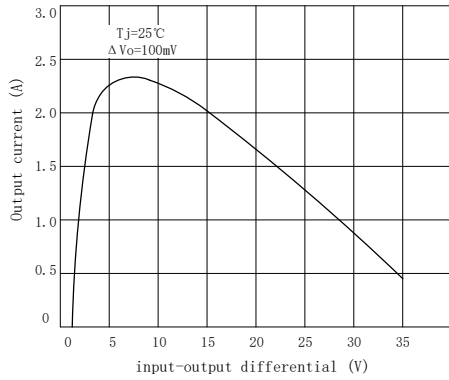
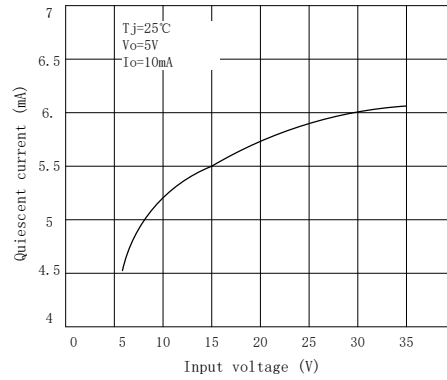


Fig.17 Quiescent current



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