



Micro Commercial Components



Micro Commercial Components
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MC7905CT THRU MC7912CT

Features

- Output current in excess of 1.0 Ampere
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Internal short-circuit current limiting And Internal thermal shut down protection
- Safe operating area protection
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings @ T_A=25°C, Unless Otherwise Noted

Parameter	Symbol	Value	Unit
Input Voltage	V _I	-35	V
Operating Temperature Range	T _{OPR}	0---125	°C
Storage Temperature Range	T _{STG}	-55---150	°C

Three-Terminal Negative Voltage Regulators

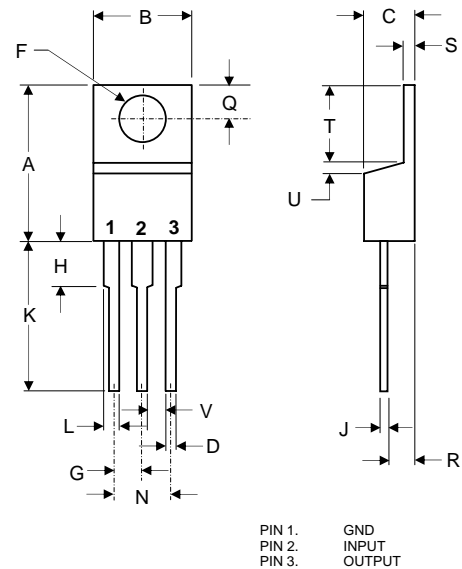
MC7905CT

Electrical Characteristics (V_I=10V, I_o=500mA, 0°C<T_j<125°C,
C_i=2.0uF, C_o=1.0uF, Unless Otherwise Specified)

Parameter	Sym	Min	Typ	Max	Test conditions
Output Voltage	V _o	-4.8V	-5.0V	-5.2V	T _j =25°C
		-4.75V		-5.25V	-7V ≤ V _I ≤ -20V, 5mA ≤ I _o ≤ 1.0A, P _D ≤ 15W
Load Regulation	ΔV _o		15mV	100mV	5mA ≤ I _o ≤ 1.5A, T _j =25°C,
			5.0mV	50mV	250mA ≤ I _o ≤ 750mA, T _j =25°C
Line regulation	ΔV _o		12.5mV 4.0mV	50mV 15mV	-7V ≤ V _I ≤ -25V, T _j =25°C -8V ≤ V _I ≤ -12V, T _j =25°C
Quiescent Current	I _q		1.5mA	2.0mA	T _j =25°C, I _o =0
Quiescent Current Change	ΔI _q			0.5mA	-7V ≤ V _I ≤ -25V
				0.5mA	5mA ≤ I _o ≤ 1.0A
Output Noise Voltage	V _N		120μV		f=120Hz
Ripple Rejection	RR	54dB	60dB		-8V ≤ V _I ≤ -18V f=120Hz, T _j =25°C
Dropout Voltage	V _d		1.1V		I _o =1.0A, T _j =25°C
Peak Output Current	I _{opeak}		2.1A		T _j =25°C
Temperature Coefficient of Output voltage	ΔV _o / ΔT _j		-0.4mV/°C		0°C ≤ T _j ≤ 125°C, I _o =5mA

Notes:1.High Temperature Solder Exemption Applied, see EU Directive Annex 7.

TO-220



PIN 1. GND
PIN 2. INPUT
PIN 3. OUTPUT

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.560	.625	14.22	15.88	
B	.380	.420	9.65	10.67	
C	.140	.190	3.56	4.82	
D	.020	.045	0.51	1.14	
F	.139	.161	3.53	4.09	∅
G	.190	.110	2.29	2.79	
H	---	.250	---	6.35	
J	.012	.025	0.30	0.64	
K	.500	.580	12.70	14.73	
L	.045	.060	1.14	1.52	
N	.190	.210	4.83	5.33	
Q	.100	.135	2.54	3.43	
R	.080	.115	2.04	2.92	
S	.045	.055	1.14	1.39	
T	.230	.270	5.84	6.86	
U	----	.050	----	1.27	
V	.045	----	1.15	----	

MC7906CT

Electrical Characteristics (Vi=11V, Io=500mA, 0°C<Tj<125°C, Ci=2.0uF, Co=1.0uF, Unless Otherwise Specified)

Parameter	Sym	Min	Typ	Max	Test conditions
Output Voltage	Vo	-5.75V	-6.0V	-6.25V	Tj=25°C
		-5.70V		-6.30V	-8V ≤ V1 ≤ -21V, 5mA ≤ Io ≤ 1.0A, Po ≤ 15W
Load Regulation	ΔVo		15mV	160mV	5mA ≤ Io ≤ 1.5A, Tj=25°C,
			5.0mV	80mV	250mA ≤ Io ≤ 750mA, Tj=25°C
Line regulation	ΔVo		12.5mV	160mV	-8.0V ≤ V1 ≤ -25V, Tj=25°C
			4.0mV	80mV	-9V ≤ V1 ≤ -13V, Tj=25°C
Quiescent Current	Iq		1.5mA	2.0mA	Tj=25°C, Io=0
Quiescent Current Change	ΔIq			1.0mA 0.5mA	-10.5V ≤ V1 ≤ -25V 5mA ≤ Io ≤ 1.0A
Output Noise Voltage	VN		200μV		10Hz ≤ f ≤ 100KHz Tj=25°C
Ripple Rejection	RR	54dB	60dB		f=120Hz -9V ≤ V1 ≤ -13V, Tj=25°C
Dropout Voltage	Vd		1.1V		Io=1.0A, Tj=25°C
Peak Output Current	Iopeak		2.1A		Tj=25°C
Temperature Coefficient of Output voltage	ΔVo/ΔTj		-0.5mV/°C		0°C ≤ Tj ≤ 125°C, Io=5mA

MC7908CT

Electrical Characteristics (Vi=14V, Io=500mA, 0°C<Tj<125°C, Ci=2.0uF, Co=1.0uF, Unless Otherwise Specified)

Parameter	Sym	Min	Typ	Max	Test conditions
Output Voltage	Vo	-7.70V	-8.0V	-8.30V	Tj=25°C
		-7.60V		-8.40V	-10.5V ≤ V1 ≤ -23V, 5mA ≤ Io ≤ 1.0A, Po=15W
Load Regulation	ΔVo		12mV	160mV	5mA ≤ Io ≤ 1.5A, Tj=25°C,
			4.0mV	80mV	250mA ≤ Io ≤ 750mA, Tj=25°C
Line regulation	ΔVo		6.0mV	160mV	-10.5V ≤ V1 ≤ -25V, Tj=25°C
			2.0mV	80mV	-11V ≤ V1 ≤ -17V, Tj=25°C
Quiescent Current	Iq		2.2mA	4.5mA	Tj=25°C, Io=0
Quiescent Current Change	ΔIq			1.0mA 0.5mA	-10.5V ≤ V1 ≤ -25V 5mA ≤ Io ≤ 1.0A
Output Noise Voltage	VN		52μV		10Hz ≤ f ≤ 100KHz Tj=25°C
Ripple Rejection	RR	56dB	71dB		f=120Hz -10.5V ≤ V1 ≤ -25V Tj=25°C
Dropout Voltage	Vd		2.0V		Io=1.0A, Tj=25°C
Peak Output Current	Iopeak		2.1A		Tj=25°C
Temperature Coefficient of Output voltage	ΔVo/ΔTj		-0.6mV/°C		0°C ≤ Tj ≤ 125°C, Io=5mA

MC7909CT

Electrical Characteristics ($V_i=15V$, $I_o=500mA$, $0^\circ C < T_j < 125^\circ C$, $C_i=2.0\mu F$, $C_o=1.0\mu F$, Unless Otherwise Specified)

Parameter	Sym	Min	Typ	Max	Test conditions
Output Voltage	V_o	-8.70V	-9.0V	-9.30V	$T_j=25^\circ C$
		-8.60V		-9.40V	$-11.5V \leq V_1 \leq -24V$, $5mA \leq I_o \leq 1.0A$, $P_D \leq 15W$
Load Regulation	ΔV_o		12mV	180mV	$5mA \leq I_o \leq 1.5A$, $T_j=25^\circ C$,
			4.0mV	90mV	$250mA \leq I_o \leq 750mA$, $T_j=25^\circ C$
Line regulation	ΔV_o		10mV	180mV	$-11.5V \leq V_1 \leq -26V$, $T_j=25^\circ C$
			5.0mV	90mV	$-12V \leq V_1 \leq -18V$, $T_j=25^\circ C$
Quiescent Current	I_q		3.0mA	6.0mA	$T_j=25^\circ C$, $I_o=0$
Quiescent Current Change	ΔI_q			1.0mA 0.5mA	$-11.5V \leq V_1 \leq -26V$ $5mA \leq I_o \leq 1.0A$
Output Noise Voltage	V_N		17 μ V		$10Hz \leq f \leq 100KHz$ $T_j=25^\circ C$
Ripple Rejection	RR	54dB	60dB		$f=120Hz$, $-11.5V \leq V_1 \leq -26V$, $T_j=25^\circ C$
Dropout Voltage	V_d		1.1V		$I_o=1.0A$, $T_j=25^\circ C$
Peak Output Current	I_{opeak}		2.1A		$T_j=25^\circ C$
Temperature Coefficient of Output voltage	$\Delta V_o / \Delta T_j$		-0.6mV/ $^\circ C$		$0^\circ C \leq T_j \leq 125^\circ C$, $I_o=5mA$

MC7912CT

Electrical Characteristics (Vi=19V, Io=500mA, 0°C<Tj<125°C, Ci=2.0uF, Co=1.0uF, Unless Otherwise Specified)

Parameter	Sym	Min	Typ	Max	Test conditions
Output Voltage	Vo	-11.50V	-12V	-12.50V	Tj=25°C
		-11.40V		-12.60V	-14.5V ≤ V1 ≤ -27V, 5mA ≤ Io ≤ 1.0A, PD ≤ 15W
Load Regulation	ΔVo		15mV	200mV	5.0mA ≤ Io ≤ 1.5A, Tj=25°C,
			5.0mV	75mV	250mA ≤ Io ≤ 750mA, Tj=25°C
Line regulation	ΔVo		5.0mV 3.0mV	80mV 30mV	-14.5V ≤ V1 ≤ -30V, Tj=25°C -16V ≤ V1 ≤ -22V, Tj=25°C
Quiescent Current	Iq		2.0mA	3.0mA	Tj=25°C, Io=0
Quiescent Current Change	ΔIq			0.5mA 0.5mA	-14.5V ≤ V1 ≤ -30V 5mA ≤ Io ≤ 1.0A
Output Noise Voltage	VN		300μV		10Hz ≤ f ≤ 100KHz Tj=25°C
Ripple Rejection	RR	54dB	60dB		f=120Hz, -14.5V ≤ V1 ≤ -30V, Tj=25°C
Dropout Voltage	Vd		1.1V		Io=1.0A, Tj=25°C
Peak Output Current	Iopeak		2.1A		Tj=25°C
Temperature Coefficient of Output voltage	ΔVo/ΔTj		-0.8mV/°C		0°C ≤ Tj ≤ 125°C, Io=5mA

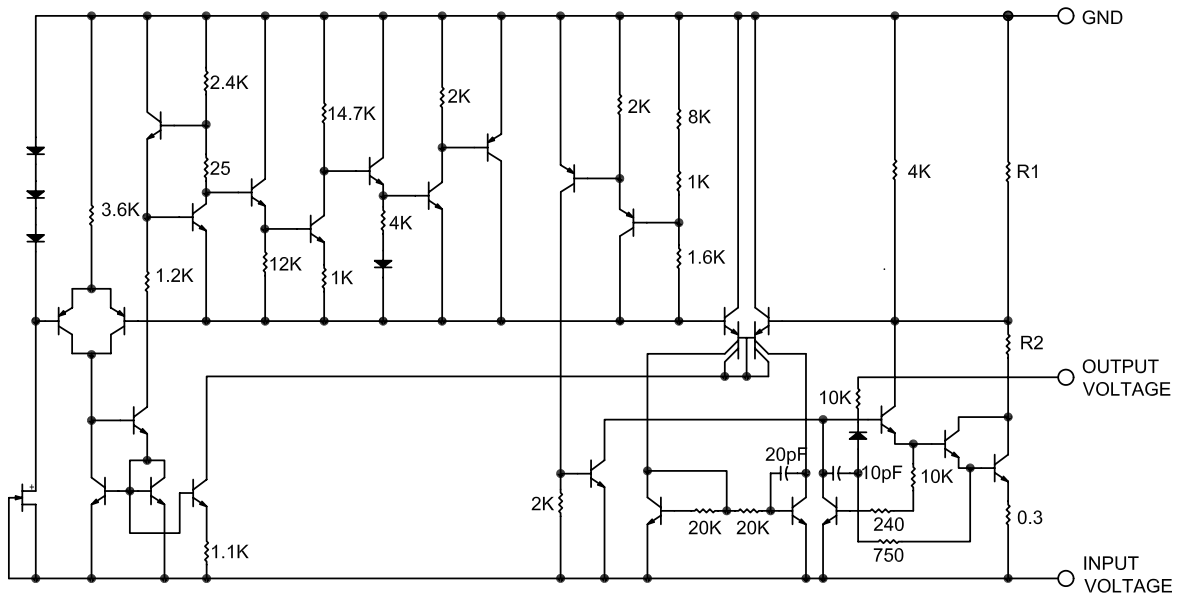
Marking:

MCC
79XXCT

XX:05~12

MC7905CT thru MC7912CT

Representation Schematic Diagram





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Ordering Information :

Device	Packing
Part Number-BP	Bulk; 1Kpcs/Box

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