



**THE DATASHEET OF  
MC7805CT-BP**



## Features

- Internal Thermal Overload Protection
- Internal Short Circuit Current Limiting
- No External Components Required
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant(Note1) ("P" Suffix Designates RoHS Compliant. See ordering information)

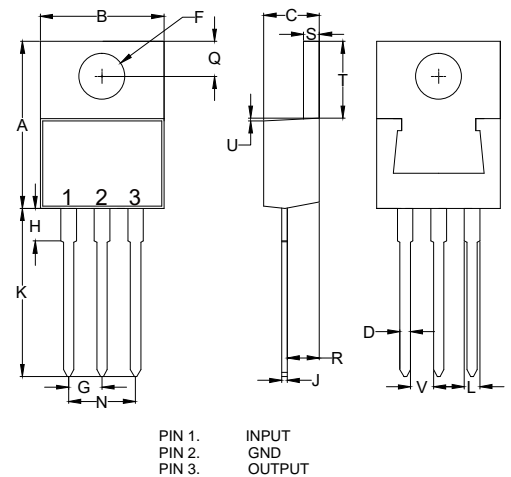
## Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage	$V_I$	35	V
Output Current	$I_o$	1.5	A
Power Dissipation	$P_D$	15	W
Operating Junction Temperature $(\theta_{JA})^* \wedge$	$T_{OPR}$	-20~125	°C
Storage Temperature Range	$T_{STG}$	-55~125	°C

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

# Three-Terminal Positive Voltage Regulators

## TO-220



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

### DIMENSIONS

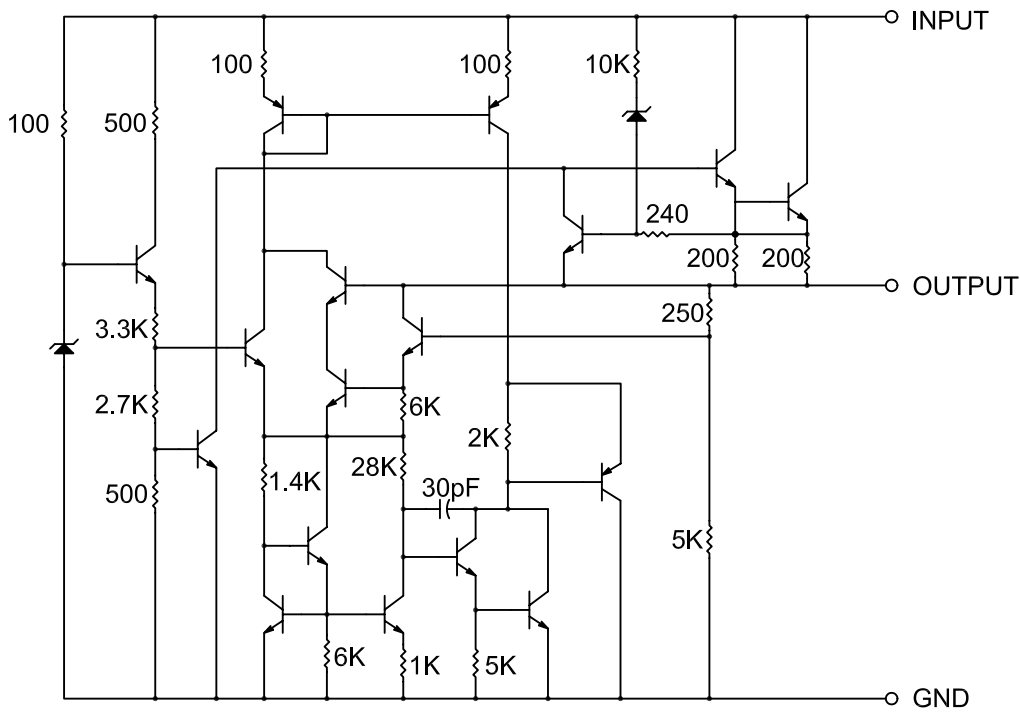
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.560	0.625	14.22	15.88	
B	0.380	0.420	9.65	10.67	
C	0.140	0.190	3.56	4.82	
D	0.020	0.045	0.51	1.14	
F	0.139	0.161	3.53	4.09	Φ
G	0.090	0.110	2.29	2.79	
H	-----	0.250	-----	6.35	
J	0.012	0.025	0.30	0.64	
K	0.500	0.580	12.70	14.73	
L	0.045	0.060	1.14	1.52	
N	0.190	0.210	4.83	5.33	
Q	0.100	0.135	2.54	3.43	
R	0.080	0.115	2.04	2.92	
S	0.045	0.055	1.14	1.39	
T	0.230	0.270	5.84	6.86	
U	-----	0.050	-----	1.27	
V	0.045	-----	1.15	-----	

**Electrical Characteristics**

( $V_i=10V$ ,  $I_o=500mA$ ,  $0^\circ C < T_j < 125^\circ C$ ,  $C_i=0.33\mu F$ ,  $C_o=0.1\mu F$ , Unless Otherwise Specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	$V_o$	$T_j=25^\circ C$	4.8	5.0	5.2	V
		$7V \leq V_i \leq 20V, 5mA \leq I_o \leq 1000mA$ , $P_D=15W$	4.75	-	5.25	V
Load Regulation	$\Delta V_o$	$5mA \leq I_o \leq 1500mA, T_j=25^\circ C$	-	9.0	100	mV
		$250mA \leq I_o \leq 750mA, T_j=25^\circ C$	-	4.0	50	mV
Line Regulation	$\Delta V_o$	$7.0V \leq V_i \leq 25V, T_j=25^\circ C$	-	4.0	100	mV
		$8.0V \leq V_i \leq 12V, T_j=25^\circ C$	-	1.6	50	mV
Quiescent Current	$I_q$	$T_j=25^\circ C, I_o=0$	-	5.0	8.0	mA
Quiescent Current Change	$\Delta I_q$	$7V \leq V_i \leq 25V,$	-	0.3	1.3	mA
		$5mA \leq I_o \leq 1000mA$	-	0.03	0.5	mA
Output Noise Voltage	$V_N$	$10Hz \leq f \leq 100KHz$	-	42	-	$\mu V$
Ripple Rejection	RR	$8V \leq V_i \leq 20V, f=120Hz, T_j=25^\circ C$	62	73	-	dB
Dropout Voltage	$V_d$	$T_j=25^\circ C, I_o=1.0A$	-	2	-	V
Output Short Circuit Current	$R_o$	$f=1.0KHz$	-	10	-	mohm
Output Short Circuit Current	$I_{OS}$	$T_j=25^\circ C$	-	230	-	mA
Peak Output Current	$I_{opeak}$	$T_j=25^\circ C$	-	2.2	-	A
Temperature Coefficient of Output Voltage	$\Delta V_o/\Delta T_j$	$0^\circ C \leq T_j \leq 125^\circ C, I_o=5.0mA$	-	1.1	-	$mV/^\circ C$

**Representation Schematic Diagram**



## Ordering Information

Device	Packing
Part Number-BP	Bulk:50pcs/Tube, 1Kpcs/Box, 5Kpcs/Carton

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-BP-HF

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