

# MC7808CT

## Three-Terminal Positive Voltage Regulators

### Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Output current in excess of 1.0 Ampere
- No external components required
- Internal thermal overload protection
- Internal short-circuit current limiting
- Output voltage offered in 2% tolerance
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Mounting Torque: 5 in-lbs Maximum

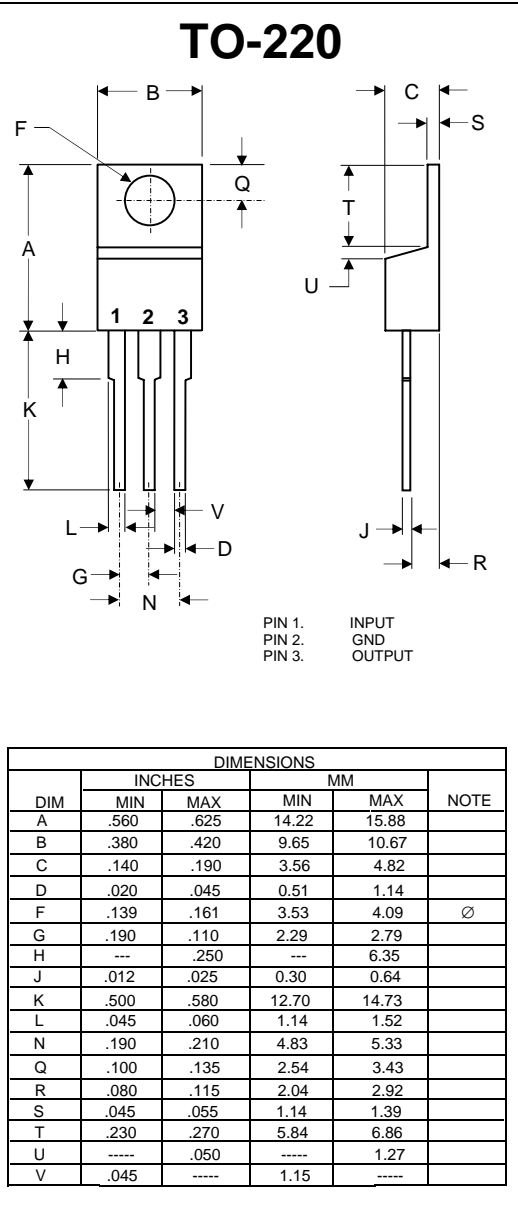
**Maximum Ratings @ T<sub>A</sub>=25°C, Unless Otherwise Noted**

Parameter	Symbol	Value	Unit
Input Voltage	V <sub>I</sub>	30	V
Operating Ambient Temperature	P <sub>D</sub>	15	W
Operating Junction Temperature	T <sub>OPR</sub>	-20---+75	°C
Storage Temperature Range	T <sub>STG</sub>	-55---+125	°C

**Electrical Characteristics (V<sub>I</sub>=14V, I<sub>O</sub>=500mA, 0°C<T<sub>J</sub><125°C, C<sub>i</sub>=0.33uF, C<sub>o</sub>=0.1uF, Unless Otherwise Specified)**

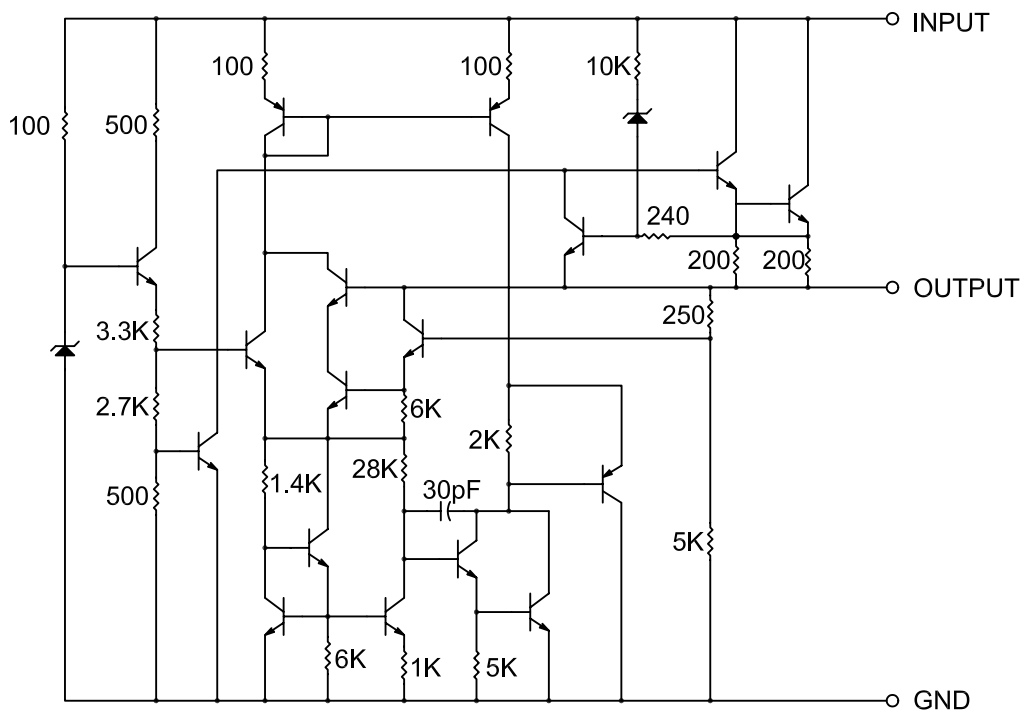
Parameter	Sym	Min	Typ	Max	Test conditions
Output Voltage	V <sub>O</sub>	7.84V	8.0V	8.16V	T <sub>J</sub> =25°C
		7.74V		8.26V	10.5V ≤ V <sub>I</sub> ≤ 23V, 5mA ≤ I <sub>O</sub> ≤ 1.0A, P <sub>D</sub> =15W
Load Regulation	ΔV <sub>O</sub>		12mV	160mV	5mA ≤ I <sub>O</sub> ≤ 1.5A, T <sub>J</sub> =25°C,
			4.0mV	80mV	250mA ≤ I <sub>O</sub> ≤ 750mA, T <sub>J</sub> =25°C
Line regulation	ΔV <sub>O</sub>		6.0mV	160mV	10.5V ≤ V <sub>I</sub> ≤ 25V, T <sub>J</sub> =25°C
			2.0mV	80mV	11V ≤ V <sub>I</sub> ≤ 17V, T <sub>J</sub> =25°C
Quiescent Current	I <sub>q</sub>		4.3mA	8.0mA	T <sub>J</sub> =25°C, I <sub>O</sub> =0
Quiescent Current Change	ΔI <sub>q</sub>			1.0mA 0.5mA	10.5V ≤ V <sub>I</sub> ≤ 25V 5mA ≤ I <sub>O</sub> ≤ 1.0A
Output Noise Voltage	V <sub>N</sub>		52μV		10Hz ≤ f ≤ 100KHz T <sub>J</sub> =25°C
Ripple Rejection	RR	56dB	72dB		f=120Hz
Dropout Voltage	V <sub>d</sub>		2.0V		I <sub>O</sub> =1.0A, T <sub>J</sub> =25°C
Output Short Circuit Current	R <sub>O</sub>		16mohm		f=1.0KHz
Output Short Circuit Current	I <sub>OS</sub>		450mA		T <sub>J</sub> =25°C
Peak Output Current	I <sub>opeak</sub>		2.2A		T <sub>J</sub> =25°C
Temperature Coefficient of Output voltage	ΔV <sub>O</sub> /ΔT <sub>J</sub>		1.8mV/°C		0°C ≤ T <sub>J</sub> ≤ 125°C, I <sub>O</sub> =5mA

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



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## Representation Schematic Diagram





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### Ordering Information :

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-BP-HF

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