



DC COMPONENTS CO., LTD.

INTEGRATED CIRCUIT

DE7808

DE7808A

TECHNICAL SPECIFICATIONS OF 3-TERMINAL POSITIVE VOLTAGE REGULATOR

Description

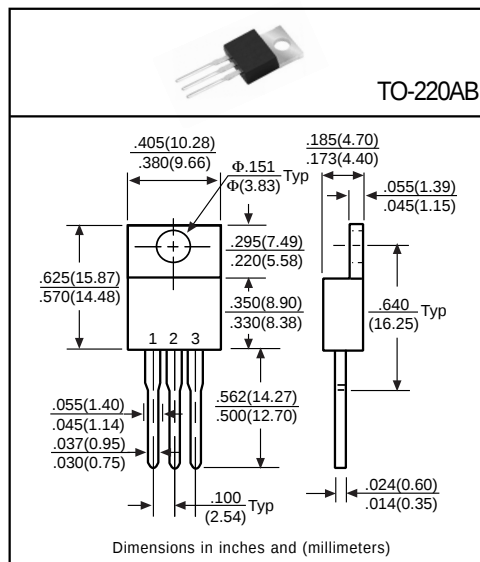
These regulators employ internal current limiting and thermal shutdown, making them essentially indestructible. They can deliver over 1A output current with adequate heatsinking. They are intended as fixed voltage regulators in a wide range of applications including local, on-card regulation for elimination of noise and distribution problems associated with single-point regulation.

Pinning

- 1 = Input
- 2 = Ground
- 3 = Output

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$)

Characteristic	Symbol	Rating	Unit
Input Voltage	V_i	35	V
Total Power Dissipation	P_D	Internal limit	W
Operating Temperature Range	T_{opr}	0 to +125	$^{\circ}\text{C}$
Maximum Junction Temperature	T_J	125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}\text{C}$
Lead Temperature(Soldering 10 Sec.)	T_L	230	$^{\circ}\text{C}$



Electrical Characteristics

($V_{in}=14\text{V}$, $I_{out}=500\text{mA}$, $0^{\circ}\text{C}\leq T_J\leq 125^{\circ}\text{C}$, unless otherwise specified)

Characteristic		Symbol	Min	Typ	Max	Unit	Test Conditions
Output Voltage	DE7808A	V_o	7.76	8.00	8.24	V	$T_J=25^{\circ}\text{C}$ $P_D\leq 15\text{W}$, $5\text{mA}\leq I_o\leq 1\text{A}$
	DE7808		7.70	8.00	8.30		
	DE7808A		7.76	8.00	8.24		
	DE7808		7.60	8.00	8.40		
Line Regulation	DE7808A	Regline	-	5.0	80	mV	$T_J=25^{\circ}\text{C}$, $10.5\text{V}\leq V_{in}\leq 25\text{V}$ $T_J=25^{\circ}\text{C}$, $11.5\text{V}\leq V_{in}\leq 17\text{V}$
	DE7808		-	5.0	160		
	DE7808A		-	5.0	40		
	DE7808		-	2.0	80		
Load Regulation	DE7808A	Regload	-	-	100	mV	$T_J=25^{\circ}\text{C}$, $5\text{mA}\leq I_o\leq 1.5\text{A}$ $T_J=25^{\circ}\text{C}$, $250\text{mA}\leq I_o\leq 750\text{mA}$
	DE7808		-	-	160		
	DE7808A		-	-	50		
	DE7808		-	-	80		
Input Bias Current		I_{IB}	-	5.5	8.0	mA	$T_J=25^{\circ}\text{C}$, $I_o\leq 1\text{A}$
Input Bias Current Change		ΔI_{IB}	-	-	0.5	mA	$5\text{mA}\leq I_o\leq 1\text{A}$
			-	-	1.3		$10.5\text{V}\leq V_{in}\leq 25\text{V}$
Output Noise Voltage	DE7808A	V_n	-	-	200	μV	$T_A=25^{\circ}\text{C}$, $10\text{Hz}\leq f\leq 100\text{KHz}$
	DE7808		-	-	300		
Ripple Rejection	DE7808A	RR	-	68	-	dB	$11.5\text{V}\leq V_{in}\leq 21.5\text{V}$, $f=120\text{Hz}$
	DE7808		62	73	-		
Dropout Voltage	DE7808A	V_D	-	2.0	-	V	$T_J=25^{\circ}\text{C}$, $I_o=1\text{A}$
	DE7808		-	2.5	-		
Short Circuit Current		I_{SC}	-	1.5	-	A	$T_J=25^{\circ}\text{C}$
Peak Output Current		I_{max}	1.7	-	-	A	$T_J=25^{\circ}\text{C}$
Average T_c of V_{out}		$\Delta V_o / \Delta T$	-	-0.8	-	$\text{mV} / ^{\circ}\text{C}$	$0^{\circ}\text{C}\leq T_J\leq +125^{\circ}\text{C}$, $I_o=5\text{mA}$