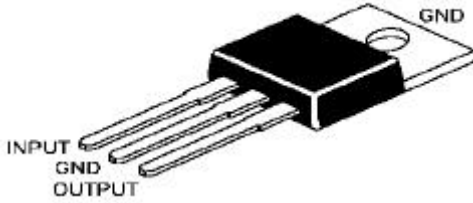


3-TERMINAL POSITIVE VOLTAGE REGULATOR

LM7808

TO-220

Plastic Package



The Voltages available allow these Regulators to be used in Logic Systems, Instrumentation, Hi-Fi Audio Circuits and other Solid State Electronic Equipment

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

DESCRIPTION	SYMBOL	VALUE	UNIT
Input Voltage	V_{IN}	35	V
Power Dissipation at $T_a=25^\circ\text{C}$	P_D	2	W
Power Dissipation at $T_c=25^\circ\text{C}$	P_D	15	W
Operating Free Air, Case, or Virtual Junction Temperature Range	T_j	0 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to +150	$^\circ\text{C}$
Lead Temperature 1.6mm (1/16 inch) from Case for 10 seconds	T_L	260	$^\circ\text{C}$

Recommended Operating Conditions

DESCRIPTION	SYMBOL	MIN	TYP	MAX	UNIT
Input Voltage	V_I	10.5		25	V
Output Current	I_O			1.5	A
Operating Junction Temperature	T_j	0		125	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless specified otherwise)

$V_{IN}=14\text{V}$, $I_O=500\text{mA}$, $T_a=25^\circ\text{C}$

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Output Voltage	V_O	25°C	7.7		8.3	V
		$I_O=5\text{mA} \sim 1\text{A}$ $V_{IN}=10.5 \sim 23\text{V}$, $P_D \leq 15\text{W}$, $0^\circ\text{C} \sim 125^\circ\text{C}$	7.6		8.4	V
Line Regulation	R_{EGV}	$V_{IN}=10.5 \sim 25\text{V}$, 25°C			160	mV
		$V_{IN}=11 \sim 17\text{V}$, 25°C			80	mV
Ripple Rejection	R_R	$V_{IN}=11.5 \sim 21.5\text{V}$, $f=120\text{Hz}$, $0^\circ\text{C} \sim 125^\circ\text{C}$	55			dB
Load Regulation	R_{EGL}	$I_O=5\text{mA} \sim 1.5\text{A}$, 25°C			160	mV
		$I_O=250\text{mA} \sim 750\text{mA}$, 25°C			80	mV
Output Resistance	r_O	$f=1\text{KHz}$, $0^\circ\text{C} \sim 125^\circ\text{C}$		0.016		Ω
Temperature Coefficient of Output Voltage	$\Delta V_O/\Delta T$	$I_O=5\text{mA}$, $0^\circ\text{C} \sim 25^\circ\text{C}$		-0.8		$\text{mV}/^\circ\text{C}$
Output Noise Voltage	V_{NO}	$f=10\text{Hz} \sim 100\text{KHz}$, 25°C		52		μV
Dropout Voltage	$V_{DIF}(\text{min})$	$I_O=1\text{A}$, 25°C		2.0		V
Quiescent Current	I_Q	25°C			8.0	mA
Quiescent Current Change	ΔI_{QIN}	$V_{IN}=10.5 \sim 25\text{V}$, $0^\circ\text{C} \sim 150^\circ\text{C}$			1.0	mA
		$I_O=5\text{mA} \sim 1\text{A}$, $0^\circ\text{C} \sim 150^\circ\text{C}$			0.5	mA
Short Circuit Output Current	I_{SC}	25°C		450		mA
Peak Output Current	I_{Omax}	25°C		2.2		A

LM7808Rev_1 070306E

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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