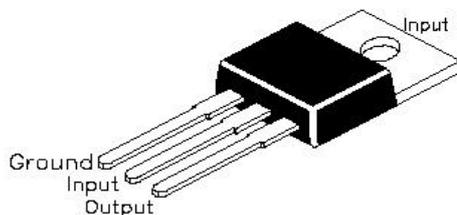


## NEGATIVE VOLTAGE REGULATOR

LM7924

TO-220  
Plastic Package



Fixed Voltage Regulators, these Device can be used with External Components to obtain Adjustable Output Voltage and Current and also as the Power Pass Element in Precision Regulators

### ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
Input Voltage	$V_{IN}$	-40	V
Power Dissipation $T_a=25^\circ\text{C}$	$P_D$	2.0	W
Power Dissipation $T_c=25^\circ\text{C}$	$P_D$	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 3.2mm (1/8 inch) from Case for 10 seconds	$T_L$	260	$^\circ\text{C}$

### Recommended Operating Conditions

DESCRIPTION	SYMBOL	MIN	TYP	MAX	UNIT
Input Voltage	$V_I$	-27		-38	V
Output Current	$I_O$			1.5	A
Operating Junction Temperature	$T_j$	0		125	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS

(At Specified Virtual Junction Temperature,  $V_I = -33\text{V}$ ,  $I_O = 500\text{mA}$ , (unless specified otherwise))

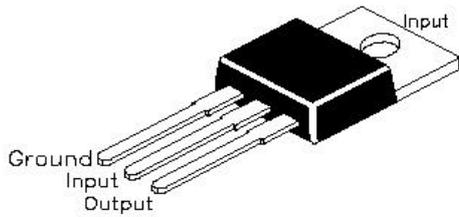
DESCRIPTION	SYMBOL	*TEST CONDITION	MIN	TYP	MAX	UNIT
Output Voltage	$V_O$	25 $^\circ\text{C}$	-23		-25	V
		$I_O = 5\text{mA to } 1\text{A}$ , 0 $^\circ\text{C to } 125^\circ\text{C}$ $V_I = -27\text{V to } -38\text{V}$ , $P \leq 15\text{W}$ , 0 $^\circ\text{C to } 125^\circ\text{C}$	-22.8		-25.2	V
Line Regulation	$R_{BGIN}$	$V_I = -27\text{V to } -38\text{V}$ , 25 $^\circ\text{C}$			480	mV
		$V_I = -30\text{ to } -36\text{V}$ , 25 $^\circ\text{C}$			240	mV
Ripple Rejection	$R_R$	$V_I = -28\text{V to } -38\text{V}$ , $f = 120\text{Hz}$ , 0 $^\circ\text{ to } 125^\circ\text{C}$	54			dB
Load Regulation	$R_{BGL}$	$I_O = 5\text{mA to } 1.5\text{A}$ , 25 $^\circ\text{C}$			480	mV
		$I_O = 250\text{mA to } 750\text{mA}$ , 25 $^\circ\text{C}$			240	mV
Temperature Coefficient of Output Voltage	$\Delta V_O / \Delta T$	$I_O = 5\text{mA}$ , 0 $^\circ\text{C to } 125^\circ\text{C}$		-1		mV/ $^\circ\text{C}$
Output Noise Voltage	$V_{NO}$	$f = 10\text{Hz to } 100\text{KHz}$ , 25 $^\circ\text{C}$		600		$\mu\text{V}$
Dropout Voltage	$V_{DIF (min)}$	$I_O = 1\text{A}$ , 25 $^\circ\text{C}$		1.1		V

\*Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible. Thermal effects must be taken into account separately.

\*\*This specification applies only for dc power dissipation permitted by absolute maximum rating.

# NEGATIVE VOLTAGE REGULATOR

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## ELECTRICAL CHARACTERISTICS

(At Specified Virtual Junction Temperature,  $V_I = -33V$ ,  $I_O = 500mA$ , (unless specified otherwise))

DESCRIPTION	SYMBOL	*TEST CONDITION	MIN	TYP	MAX	UNIT
Quiescent Current	$I_Q$	25°C			3.0	mA
Quiescent Current Change	$\Delta I_{QIN}$	$V_I = -27V$ to $-38V$ , 0°C to 125°C			1.0	mA
	$\Delta I_{QL}$	$I_O = 5mA$ to 1A, 0°C to 125°C			0.5	mA
Peak Output Current	$I_{Omax}$	25°C		2.1		A

\*Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible. Thermal effects must be taken into account separately.

LM7924Rev220306E

**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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