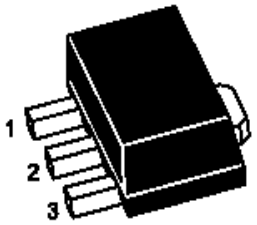
THREE TERMINAL POSITIVE VOLTAGE REGULATOR

LM78L05A



Pin 1. OUT
Pin 2. GND
Pin 3. IN

SOT-89
Surface Mount
Plastic Package

Features :

1). Output Current upto 100mA
2). No. External Components
3). Internal Thermal Overload Protection
4). Internl Short Circuit Limiting
5). Moisture Sensitive Level 3
6). Output Voltage of 5V

Description :

This Series of Fixed-Voltage Monolithic Integrated-Circuit Voltage Regulator is Designed for a wide range of Applications, which include On-Card Regulation for elimination of Noise and distribution problems associated with Single-Point Regulation. In addition, they can be used with Power-Pass elements to make High Current Voltage Regulators. Each of these Regulators can deliverupto 100mA of Output Cuurent. The Internal limiting and Thermal Shutdown features of these Regulators make them essentially immune to overload. Current Limiting is included to limit the Peak Output Current (250mA ~ 300mA) to a safe value. .
When used as replacement for a Zener Diode-Resistor Combination, an effective improvement in Output Impedence obtained together with Lower-Bias Current.

ABSOLUTE MAXIMUM RATINGS (Operating Temperature Range applies unless otherwise specified)

DESCRIPTION	SYMBOL	VALUE	UNITS
Input voltage	V_{IN}	30	V
Lead Temperature (Soldering, 10 sec)	T_{SOL}	260	°C
Operating Junction Temperature Range	T_{JOPR}	-40 to +150	°C
Operating Virtual Junction Temperature	T_J	-40 to +125	°C
Storage Temperature Range	T_{STG}	-65 to +150	°C
Output Current	I_O	100	mA

ELECTRICAL CHARACTERISTICS (at Specified Virtual Junction Temperature)

(Vi=10V, Io=40mA, Ci=0.33µF, Co=0.1µF, Unless Otherwise Specified)

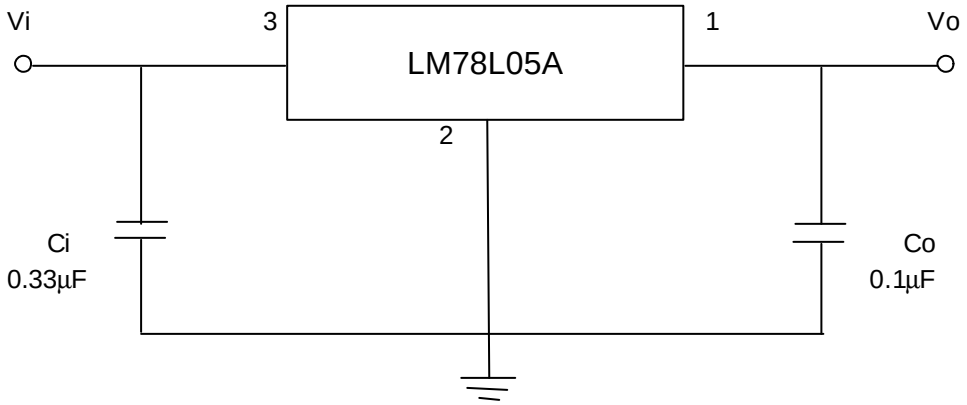
DESCRIPTION	SYMBOL	TEST CONDITION		MIN	TYP	MAX	UNITS
Output Voltage [2]	V_O	25°C		4.8	5	5.2	V
		-30~125°C	7V≤Vi≤20V, Io=1mA-40mA	4.75	5	5.25	V
			Io=1mA - 70mA	4.75	5	5.25	V
Load Regulation	ΔVo	25°C	Io=1mA - 100mA		15	60	mV
		25°C	Io=1mA - 40mA		8	30	mV
Line Regulation	ΔVo	25°C	7V≤Vi≤20V		32	150	mV
		25°C	8V≤Vi≤20V		26	100	mV
Quiescent Current	Iq	25°C			3.8	6.0	mA
		125°C				5.5	mA
Quiescent Current Change	ΔIq	-30~125°C	9V≤Vi≤20V			1.5	mA
	ΔIq		1mA≤Io≤40mA			0.1	mA
Output Noise Voltage	V_N	25°C	f=10Hz to 100KHz		42		µV
Ripple Rejection	R_R	25°C	f=120Hz, 8V≤Vi≤18V	41	49		dB
Dropout Voltage	Vd	25°C			1.7		V

Notes :

1). 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 seperately. All Characteristics are measured with a 0.33µF Capacitor across the Input and a 0.1µF Capacitor across the Output.

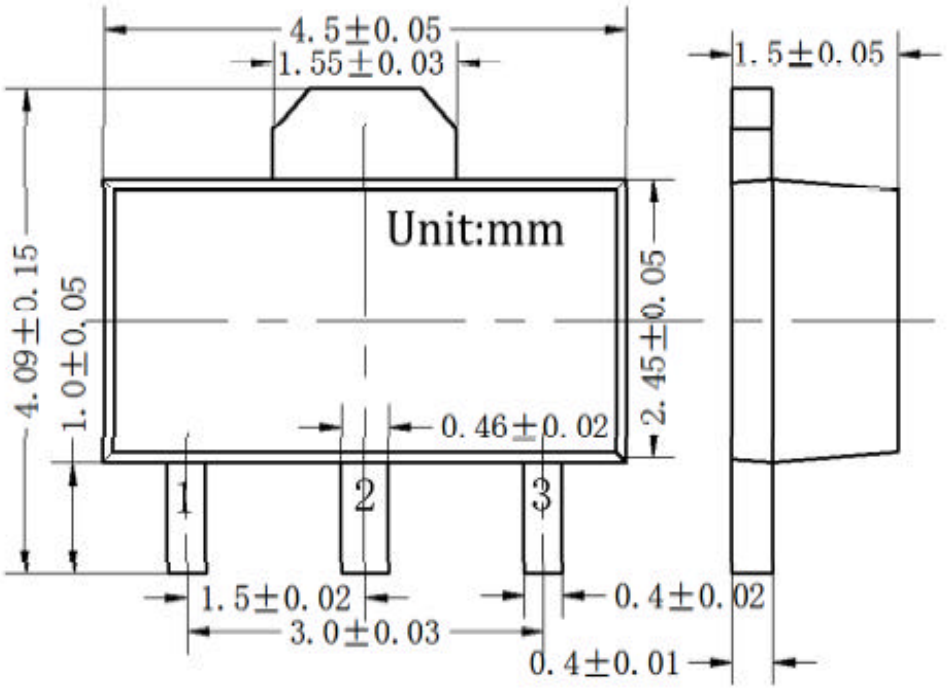
2). The Specification applies only for DC Power Dissipation permitted by Absolute Maximum Ratings.

Typical Application



Note : Bypass Capacitors are Recommended for Optimum Stability and Transient Response and should be located as close as possible to the Regulators.

SOT-89 PACKAGE DIMENSION



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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 Discrete 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 is 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 Discrete 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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