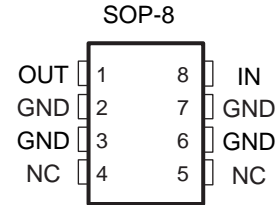




## FEATURES

- Wide range of available, fixed output voltage.
- Low cost.
- Internal short-circuit current limiting.
- Internal thermal overload protection.
- No external components required.

## PIN DESCRIPTION



## APPLICATIONS

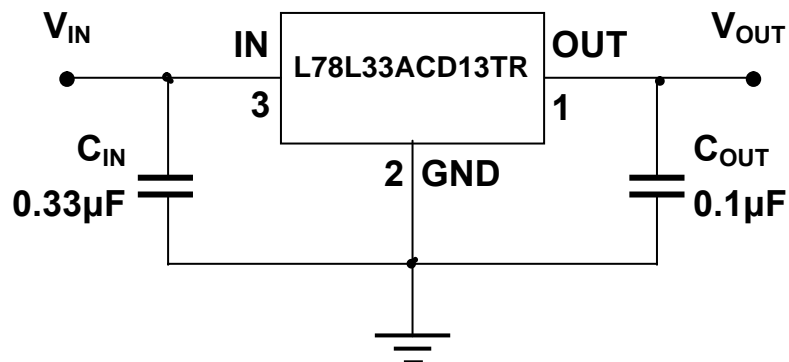
- Three-terminal positive voltage regulator.

## MAXIMUM RATING

operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
$V_I$	Input voltage	30	V
$I_{CM}$	Maximum output current	100	mA
$P_D$	Power dissipation	500	mW
$T_{OPR}$	Operating junction temperature	0 to +125	°C
$T_j, T_{stg}$	Storage temperature range	-40 to +150	°C

## TYPICAL APPLICATION CIRCUIT



**Conventional Circuit**



## ELECTRICAL CHARACTERISTICS

( $V_{IN}=10V, I_O=40mA, 0^{\circ}C < T_j < 125^{\circ}C, C_I=0.33\mu F, C_O=0.1\mu F$ , unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	$V_O$	$T_j=25^{\circ}C$ $5.3V \leq V_i \leq 20V, I_O=1mA-40mA$ $V_i=8.3V, I_O=1mA-70mA$	3.168 3.135 3.135	3.3	3.432 3.465 3.465	V
Load regulation	$Reg_{load}$	$T_j=25^{\circ}C, I_O=1mA-100mA$ $T_j=25^{\circ}C, I_O=1mA-40mA$			60 30	mV
Line regulation	$Reg_{line}$	$5.3V \leq V_i \leq 20V, T_j=25^{\circ}C$ $6.3V \leq V_i \leq 20V, T_j=25^{\circ}C$			150 100	mV
Input Bias Current	$I_{IB}$	$T_j=25^{\circ}C$ $T_j=125^{\circ}C$			6.0 5.5	mA
Input Bias Current Change	$\Delta I_{IB}$	$6.3V \leq V_i \leq 20V$ $1mA \leq I_O \leq 40mA$			1.5 0.1	mA
Output noise voltage	$V_N$	$10Hz \leq f \leq 100KHz$		40		$\mu V$
Ripple rejection	RR	$I_O=40mA, 6.3V \leq V_i \leq 16.3V$ $f=120Hz, T_j=25^{\circ}C$	41	49		dB
Dropout voltage	$V_I-V_O$	$T_j=25^{\circ}C$		1.7		V



TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified

Figure 1. Dropout Characteristics

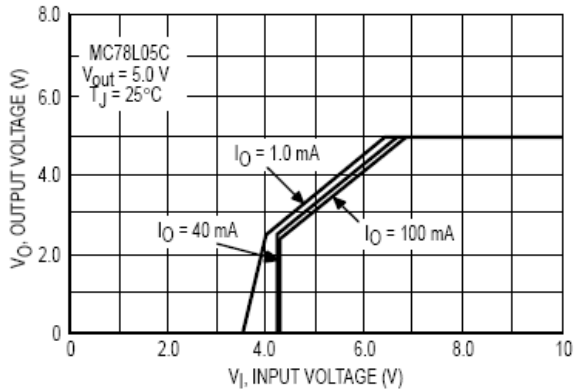


Figure 2. Dropout Voltage versus Junction Temperature

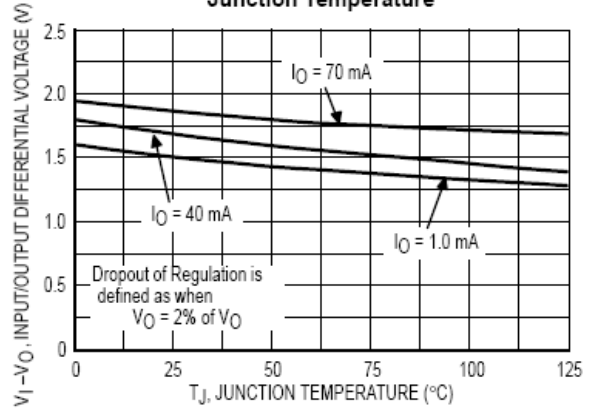


Figure 3. Input Bias Current versus Ambient Temperature

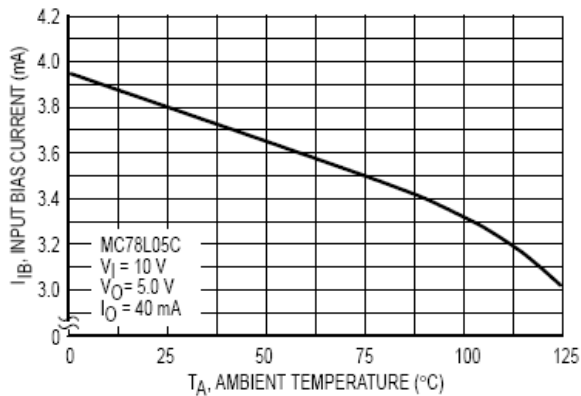
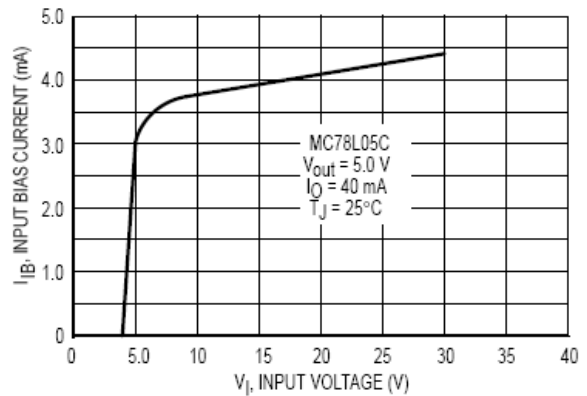
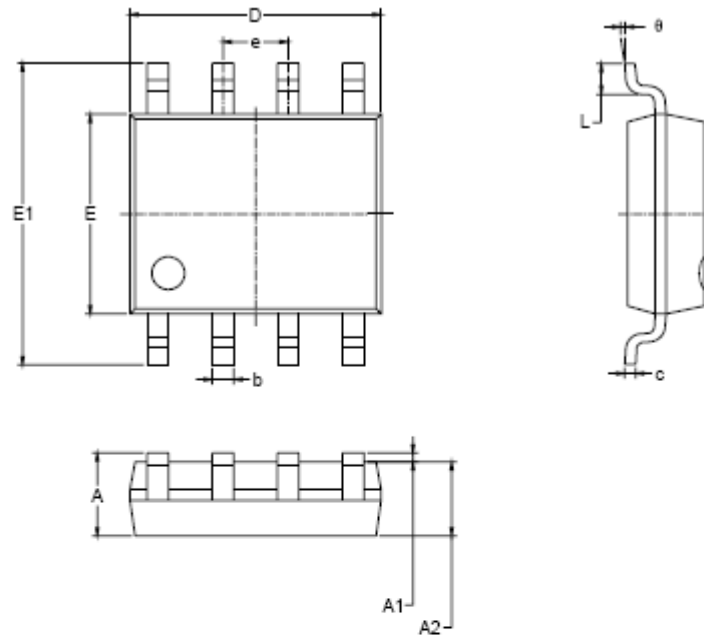


Figure 4. Input Bias Current versus Input Voltage





**SOP-8**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.008	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.27 BSC		0.050 BSC	
L	0.400	1.270	0.016	0.050
theta	0°	8°	0°	8°



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