

Description

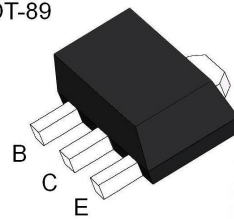
The L79L05ABUTR-CN of three-terminal negative regulators employ internal current limiting and thermal shutdown, making them essentially indestructible. If adequate heat-sink is provided, they can deliver up to 100mA output current.

They are intended as fixed voltage regulators in a wide range of applications including local or oncard 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. The L79L05ABUTR-CN used as Zener diode/resistor combination replacement, offers an effective output impedance improvement of typically two orders of magnitude, along with lower quiescent current and lower noise.

Features

- Output current up to 100 mA
- Output voltages of -5V
- Thermal overload protection
- Short-circuit protection
- No external components are required

SOT-89



Diagram

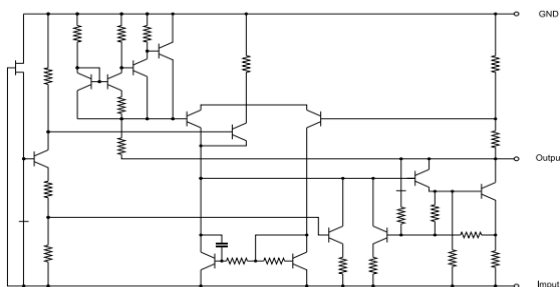


Figure 1: Schematic Diagram

Pin configuration

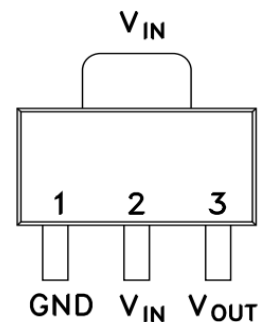


Figure 2: Pin connection (SOT-89)

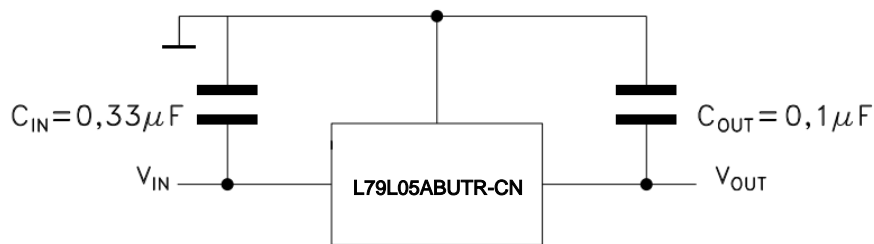


Figure 3: Test circuit

Maximum ratings

Table 1: Absolute maximum ratings

Symbol	Parameter	Conditions	Value	Unit
V_I	DC input voltage	$V_O = -5\text{ V}$	-30	V
I_O	Output current		100	mA
P_D	Power dissipation		Internally limited	mW
T_{STG}	Storage temperature range		-40 to 150	°C
T_{OP}	Operating junction temperature range		-40 to 125	°C

Table 2: Thermal data

Symbol	Parameter	Value	Unit
R_{thJC}	Thermal resistance junction-case (Max)	15	°C/W
R_{thJA}	Thermal resistance junction-ambient (Max)	115	°C/W

Electrical characteristics

Refer to the test circuits, $V_I = -10\text{ V}$, $I_O = 40\text{ mA}$, $C_I = 0.33\text{ }\mu\text{F}$, $C_O = 0.1\text{ }\mu\text{F}$, $T_J = -40$ to $125\text{ }^\circ\text{C}$, unless otherwise specified.

Table 3: Electrical characteristics

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
V_O	Output voltage	$T_J = 25\text{ }^\circ\text{C}$	-4.8	-5	-5.2	V
V_O	Output voltage	$I_O = 1\text{ to }40\text{ mA}$, $V_I = -7\text{ to }-20\text{ V}$	-4.75		-5.25	V
		$I_O = 1\text{ to }70\text{ mA}$, $V_I = -10\text{ V}$	-4.75		-5.25	
ΔV_O	Line regulation	$V_I = -7\text{ to }-20\text{ V}$, $T_J = 25\text{ }^\circ\text{C}$			150	mV
		$V_I = -8\text{ to }-20\text{ V}$, $T_J = 25\text{ }^\circ\text{C}$			100	
ΔV_O	Load regulation	$I_O = 1\text{ to }100\text{ mA}$, $T_J = 25\text{ }^\circ\text{C}$			60	mV
		$I_O = 1\text{ to }40\text{ mA}$, $T_J = 25\text{ }^\circ\text{C}$			30	
I_d	Quiescent current	$T_J = 25\text{ }^\circ\text{C}$			6	mA
		$T_J = 125\text{ }^\circ\text{C}$			5.5	mA
ΔI_d	Quiescent current change	$I_O = 1\text{ to }40\text{ mA}$			0.1	mA
		$V_I = -8\text{ to }-20\text{ V}$			1.5	
eN	Output noise voltage	$B = 10\text{ Hz to }100\text{ kHz}$, $T_J = 25\text{ }^\circ\text{C}$		40		μV
SVR	Supply voltage rejection	$V_I = -8\text{ to }-18\text{ V}$, $f = 120\text{ Hz}$ $I_O = 40\text{ mA}$, $T_J = 25\text{ }^\circ\text{C}$	41	49		dB
V_d	Dropout voltage			1.7		V

Package Dimensions

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
b	0.32	0.52	0.013	0.020
b1	0.38	0.58	0.015	0.023
c	0.35	0.45	0.014	0.018
D	4.40	4.60	0.173	0.181
D1	1.45	1.65	0.057	0.065
D2	1.70	1.80	0.067	0.071
E	2.30	2.60	0.091	0.102
E1	3.95	4.25	0.156	0.167
E2	1.80	2.00	0.071	0.079
e	1.40	1.60	0.055	0.063
e1	2.80	3.20	0.110	0.126
L	0.90	1.20	0.035	0.047

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