



DC COMPONENTS CO., LTD.

INTEGRATED CIRCUIT

DA78L05

TECHNICAL SPECIFICATIONS OF 3-TERMINAL POSITIVE VOLTAGE REGULATOR

Description

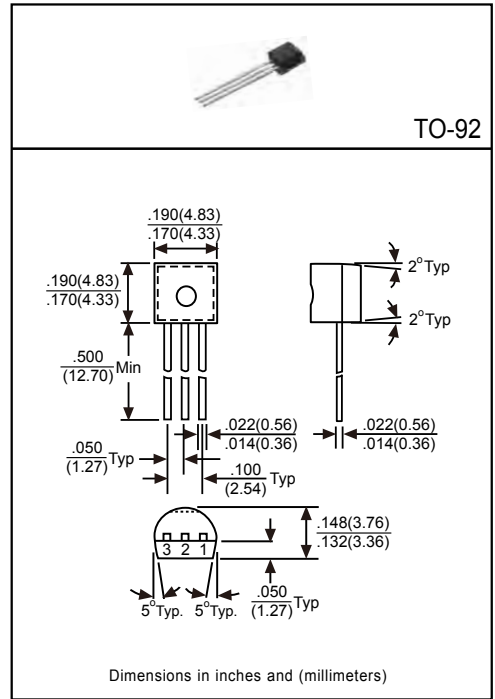
These regulators employ internal current limiting and thermal shutdown, making them essentially indestructible. They can deliver up to 100mA output current, if the case temperature can keep in $T_c=25^{\circ}\text{C}$. They are intended as fixed voltage regulators in a wide range of applications including local (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.

Pinning

- 1 = Output
- 2 = Ground
- 3 = Input

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$)

Characteristic	Symbol	Rating	Unit
Input Voltage	V_i	30	V
Input Current	I_o	100	mA
Operating Temperature Range	T_{opr}	0 to +125	$^{\circ}\text{C}$
Maximum Junction Temperature	T_J	125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}\text{C}$



Electrical Characteristics

($V_{in}=10\text{V}$, $I_{out}=40\text{mA}$, $0^{\circ}\text{C}\leq T_J\leq 125^{\circ}\text{C}$, $C_{in}=0.33\mu\text{F}$, $C_{out}=0.1\mu\text{F}$, unless otherwise specified)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Output Voltage	V_o	4.80	5.00	5.20	mV	$T_J=25^{\circ}\text{C}$
		4.75	-	5.25		$1\text{mA}\leq I_o\leq 70\text{mA}$
		4.75	-	5.25		$1\text{mA}\leq I_o\leq 40\text{mA}$, $7\text{V}\leq V_{in}\leq 20\text{V}$
Line Regulation	Reg _{line}	-	32	150	mV	$T_J=25^{\circ}\text{C}$, $7\text{V}\leq V_{in}\leq 20\text{V}$
		-	26	100		$T_J=25^{\circ}\text{C}$, $8\text{V}\leq V_{in}\leq 20\text{V}$
Load Regulation	Reg _{load}	-	5.0	30	mV	$T_J=25^{\circ}\text{C}$, $1\text{mA}\leq I_o\leq 40\text{mA}$
		-	11	60		$T_J=25^{\circ}\text{C}$, $1\text{mA}\leq I_o\leq 100\text{mA}$
Quiescent Current	I_q	-	3.8	6.0	mA	$T_J=25^{\circ}\text{C}$
Quiescent Current Change	ΔI_q	-	-	0.1	mA	$1\text{mA}\leq I_o\leq 40\text{mA}$
		-	-	1.5		$8\text{V}\leq V_{in}\leq 20\text{V}$
Output Noise Voltage	V_N	-	42	-	μV	$T_J=25^{\circ}\text{C}$, $10\text{Hz}\leq f\leq 100\text{KHz}$
Ripple Rejection	RR	41	49	-	dB	$8\text{V}\leq V_{in}\leq 18\text{V}$, $f=120\text{Hz}$
Dropout Voltage	V_D	-	1.7	-	V	$T_J=25^{\circ}\text{C}$

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