

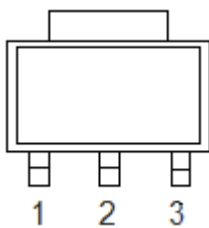
## 1. Description

The KIA79L05 series of three terminal positive regulators is available with several fixed output voltages making them useful in a wide range of applications. KIA79L05 can use as a zener diode/resistor combination replacement, and lower quiescent current. These devices suitable for a multitude of applications that require a regulated supply of up to 100 mA. The voltages available allow the KIA79L05 to be used in logic systems, instrumentation, HiFi, and other solid state electronic equipment. circuit takes over preventing the IC from overheating.

## 2. Applications

- Package SOT-89
- Output voltage tolerances of  $\pm 5\%$  over the temperature range
- Output current of 100mA
- Internal thermal overload protection
- Output voltages of 5.0V

## 3. Pin information



SOT89 Front View

Pin	Description
1	GND
2	V <sub>IN</sub>
3	V <sub>OUT</sub>

#### 4. Maximum ratings

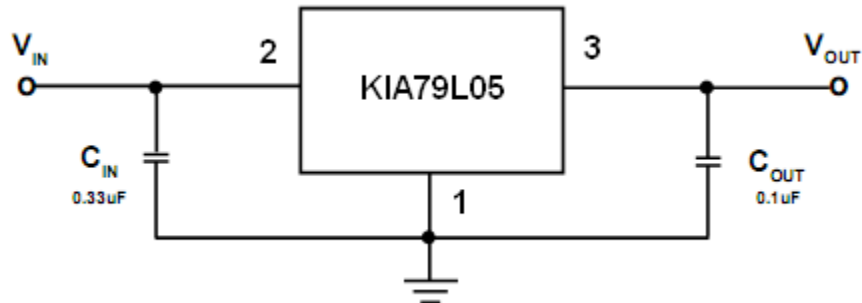
Characteristic	Symbol	Rating	Units
Input voltage	$V_{IN}$	-35	V
Power dissipation ( $T_C=25^\circ\text{C}$ )	$P_D$	500	mW
Operating temperature	$T_{OPR}$	0~+125	$^\circ\text{C}$
Storage temperature	$T_{STG}$	-55~+150	$^\circ\text{C}$

#### 5. Electrical characteristics

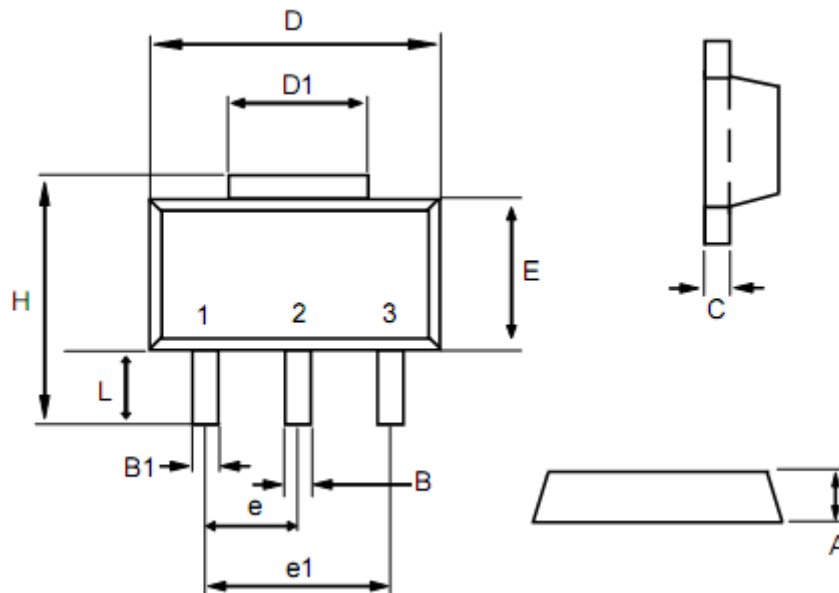
( $V_{IN}=-10\text{V}, I_{OUT}=40\text{mA}, C_{IN}=0.33\mu\text{F}, C_{OUT}=0.1\mu\text{F}, T_J=0^\circ\text{C to }125^\circ\text{C}$ )

Parameter	Symbol	Condition	Min	Typ	Max	Unit	
Output voltage	$V_{OUT}$	$T_J=25^\circ\text{C}$	-5.2	-5.0	-4.8	V	
Input regulation	Reg line	$T_J=25^\circ\text{C}$	$-20\text{V}\leq V_{IN}\leq -7.0\text{V}$	-	55	150	mV
			$-20\text{V}\leq V_{IN}\leq -8.0\text{V}$	-	45	100	mV
Load regulation	Reg load	$T_J=25^\circ\text{C}$	$1.0\text{mA}\leq I_{OUT}\leq 100\text{mA}$	-	11	60	mV
			$1.0\text{mA}\leq I_{OUT}\leq 40\text{mA}$	-	5.0	30	mV
Output voltage	$V_{OUT}$	$-20\text{V}\leq V_{IN}\leq -7.0\text{V}$ $1.0\text{mA}\leq I_{OUT}\leq 40\text{mA}$	-5.25	-	-4.75	V	
		$V_{IN}=-10\text{V}$ , $1.0\text{mA}\leq I_{OUT}\leq 70\text{mA}$	-5.25	-	-4.75	V	
Quiescent current	$I_Q$	$T_J=25^\circ\text{C}$	-	3.1	6.0	mA	
		$T_J=125^\circ\text{C}$	-	-	5.5	mA	
Quiescent current change	$\Delta I_Q$	$-20\text{V}\leq V_{IN}\leq -8.0\text{V}$	-	-	1.5	mA	
		$1.0\text{mA}\leq I_{OUT}\leq 40\text{mA}$	-	-	0.1	mA	
Output noise voltage	$V_{NO}$	$T_a=25^\circ\text{C}$ $10\text{Hz}\leq f\leq 100\text{KHz}$	-	40	-	$\mu\text{V}_{\text{rms}}$	
Long term stability	$\Delta V_{out}/\Delta t$		-	12	-	mV/1.0kHrs	
Ripple rejection ratio	RR	$-18\text{V}\leq V_{IN}\leq -8.0\text{V}$ , $T_J=25^\circ\text{C}, f=120\text{Hz}$	41	49	-	dB	
Dropout voltage	$ V_{IN}-V_{OUT} $	$T_J=25^\circ\text{C}, I_{OUT}=40\text{mA}$	-	1.7	-	V	
Average temperature Coefficient of output voltage	$TC_{VO}$	$I_{OUT}=5\text{mA}$	-	-0.6	-	mV/ $^\circ\text{C}$	

**6. Application circuits**



**7. Package outline**



Dim	min	max
A	1.40	1.60
B	0.40	0.56
B1	0.35	0.48
C	0.35	0.44
D	4.40	4.60
D1	1.35	1.83
e	1.50 BSC	
e1	3.00 BSC	
E	2.29	2.60
H	3.75	4.25
L	0.80	1.20

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