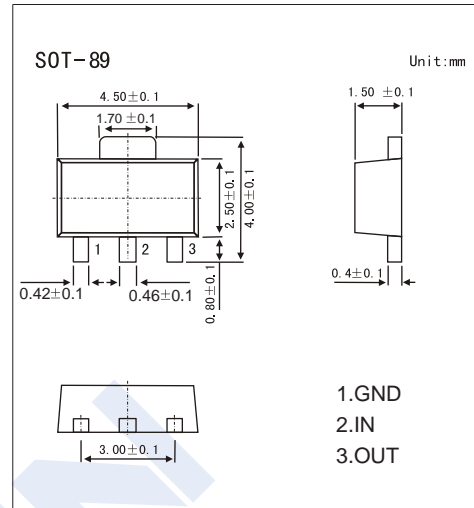


## Three-Terminal Negative Voltage Regulator

## KA190O10

## ■ Features

- Maximum output current  $I_{OM}$ : 0.1A.
- Output voltage:  $V_o$ : -10V.
- Continuous total dissipation  $P_D$ : 0.5 W
- Marking Code: KL10

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit
Input Voltage	$V_i$	-30	V
Operating junction temperature range	$T_{OPR}$	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics ( $V_i = -17\text{V}$ ,  $I_o = 40\text{mA}$ ,  $0^\circ\text{C} < T_j < 125^\circ\text{C}$ ,  $C_i = 0.33 \mu\text{F}$ ,  $C_o = 0.1 \mu\text{F}$ , unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	$V_o$	$T_j = 25^\circ\text{C}$	-9.6	-10	-10.4	V
		$-13\text{V} \leq V_i \leq -25\text{V}$ , $I_o = 1\text{mA} - 40\text{mA}$	-9.5	-10	-10.5	V
		$I_o = 1\text{mA} - 70\text{mA}$	-9.5	-10	-10.5	V
Load regulation	$\Delta V_o$	$T_j = 25^\circ\text{C}$ , $I_o = 1\text{mA} - 100\text{mA}$		30	100	mV
		$T_j = 25^\circ\text{C}$ , $I_o = 1\text{mA} - 40\text{mA}$		15	50	mV
Line regulation	$\Delta V_o$	$-13\text{V} \leq V_i \leq -25\text{V}$ , $T_j = 25^\circ\text{C}$		42	200	mV
		$-14\text{V} \leq V_i \leq -25\text{V}$ , $T_j = 25^\circ\text{C}$		36	150	mV
Quiescent current	$I_q$	$25^\circ\text{C}$		4	6	mA
Quiescent current change	$\Delta I_q$	$0^\circ\text{C} < T_j < 125^\circ\text{C}$ , $-14\text{V} \leq V_i \leq -25\text{V}$			1.5	mA
	$\Delta I_q$	$0^\circ\text{C} < T_j < 125^\circ\text{C}$ , $1\text{mA} \leq I_o \leq 40\text{mA}$			0.1	mA
Output noise voltage	$V_N$	$10\text{Hz} \leq f \leq 100\text{KHz}$ , $T_j = 25^\circ\text{C}$		54		$\mu\text{V}$
Ripple rejection	RR	$-15\text{V} \leq V_i \leq -25\text{V}$ , $f = 120\text{Hz}$	37	46		dB
Dropout voltage	$V_d$	$T_j = 25^\circ\text{C}$		1.7		V

## ■ Typical Application

