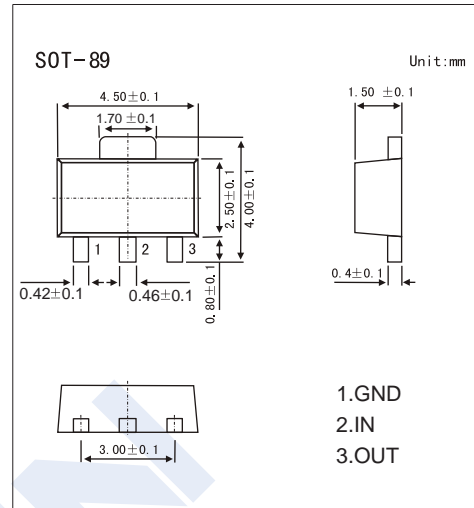


Three-Terminal Negative Voltage Regulator

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	ΔV_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	ΔV_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°C		4	6	mA
Quiescent current change	ΔI_q	$0^\circ\text{C} < T_j < 125^\circ\text{C}$, $-14\text{V} \leq V_i \leq -25\text{V}$			1.5	mA
		$0^\circ\text{C} < T_j < 125^\circ\text{C}$, $1\text{mA} \leq I_o \leq 40\text{mA}$			0.1	mA
Output noise voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$, $T_j = 25^\circ\text{C}$		54		μV
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

