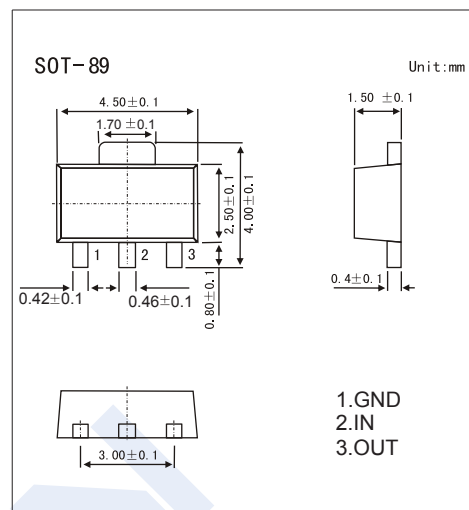


Three-Terminal Negative Voltage Regulator

KA090Q05

■ Features

- Maximum Output current I_{OM} : 0.1 A
- Output voltage V_O : -5 V
- Continuous total dissipation P_D : 0.5 W
- Marking Code: Q95

■ 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 ($V_i = -10\text{V}$, $I_O = 40\text{mA}$, $0^\circ\text{C} < T_j < 125^\circ\text{C}$, $C_i = 0.33\ \mu\text{F}$, $C_o = 0.1\ \mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	V_O	$T_j = 25^\circ\text{C}$	-4.8	-5.0	-5.2	V
		$-7\text{V} \leq V_i \leq -20\text{V}$, $I_O = 1\text{mA} - 40\text{mA}$	-4.75	-5.0	-5.25	V
		$I_O = 1\text{mA} - 70\text{mA}$	-4.75	-5.0	-5.25	V
Load regulation	ΔV_O	$T_j = 25^\circ\text{C}$, $I_O = 1\text{mA} - 100\text{mA}$		11	60	mV
		$T_j = 25^\circ\text{C}$, $I_O = 1\text{mA} - 40\text{mA}$		5.0	30	mV
Line regulation	ΔV_O	$-7\text{V} \leq V_i \leq -20\text{V}$, $T_j = 25^\circ\text{C}$		32	150	mV
		$-8\text{V} \leq V_i \leq -20\text{V}$, $T_j = 25^\circ\text{C}$		26	100	mV
Quiescent current	I_q	$T_j = 25^\circ\text{C}$		3.8	6	mA
Quiescent current change	ΔI_q	$0^\circ\text{C} < T_j < 125^\circ\text{C}$, $-8\text{V} \leq V_i \leq -20\text{V}$			1.5	mA
	ΔI_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	$10\text{Hz} \leq f \leq 100\text{KHz}$, $T_j = 25^\circ\text{C}$		42		μV
Ripple rejection	RR	$-8\text{V} \leq V_i \leq -18\text{V}$, $f = 120\text{Hz}$	41	49		dB
Dropout voltage	V_d	$T_j = 25^\circ\text{C}$,		1.7		V

■ Typical Application

