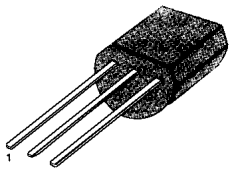
3-TERMINAL LOW DROPOUT VOLTAGE REGULATOR

KA76L05 is an adjustable 3-terminal low dropout voltage regulator designed to need very low quiescent current.
Internally, implemented circuits include 60V load dump protection,
- 50V reverse transient short circuit and thermal over load protection.

TO-92



1: Input 2: GND 3: Output

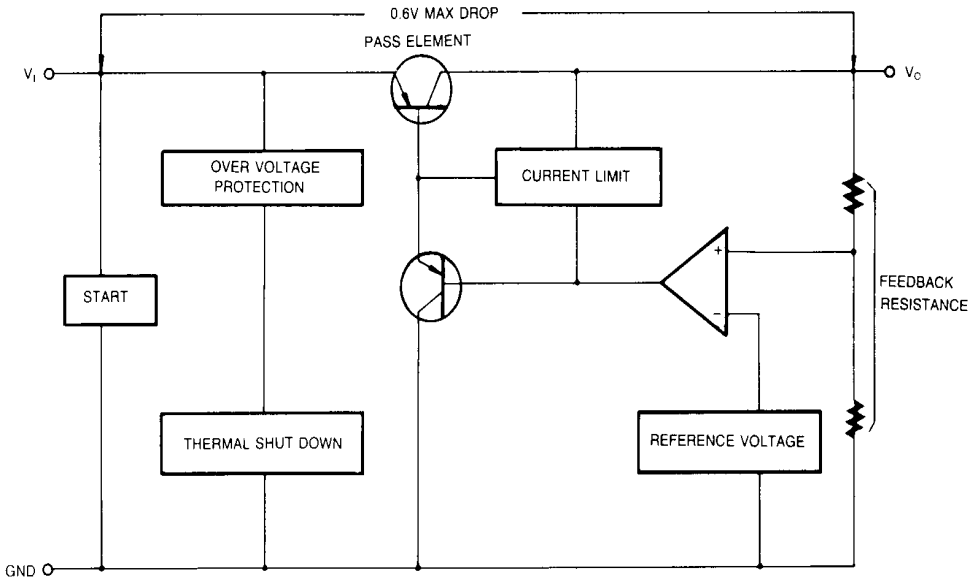
FEATURES

- Limited input voltage and high efficiency.
- Internal thermal over load protection.
- 60V load dump protection.
- Output current up to 0.1A.

ORDERING INFORMATION

Device	Package	Operating Temperature
KA76L05Z	TO-92	-40- +125℃

BLOCK DIAGRAM



FAIRCHILD SEMICONDUCTOR™

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Value	Unit
Input Voltage	V_I	33	V
Over Protection Voltage	$V_{(OP)}$	60	V
Operating Temperature Range	T_{OPR}	-40~ +125	℃
Maximum Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{STG}	- 65 ~ +150	℃

ELECTRICAL CHARACTERISTICS (V_I =14V, I_O =10mA, C_O =1 00 μF, T_A = 25℃)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage (I)	V_O (I)	V_I = 14V, I_O = 10mA	4.81	5.0	5.19	V
Output Voltage (II)	V_O (II)	V_I = 6 ~ 26V, I_O = 100mA T_J = -40 ~ +125℃	4.75	5.0	5.25	V
Line Regulation (I)	ΔV_O (I)	V_I = 9 ~ 16V, I_O = 10mA	—	2.0	10	mV
Line Regulation (II)	ΔV_O (II)	V_I = 6 ~ 26V, I_O = 10mA	—	4.0	30	mV
Load Regulation	ΔV_O (III)	V_I = 14V, I_O = 5 ~ 100mA	—	10	50	mV
Output Impedance	Z_O	V_I = 14V, I_O = 100mA	—	100	600	mΩ
Quiescent Current (I)	I_Q (I)	V_I = 6 ~ 26V, $I_O \leq$ 10mA	—	0.1	1.0	mA
Quiescent Current (II)	I_Q (II)	V_I = 14V, $I_O \leq$ 100mA	—	5.0	30	mA
Output Noise Voltage	V_N	V_I = 14V, I_O = 10mA, f = 10Hz ~ 100KHz	—	150	1000	μVrms
Ripple Rejection	RR	V_I = 14V, I_O = 10mA, f = 120Hz	55	80		dB
Dropout Voltage (I)	V_D (I)	I_O = 10mA, $V_O = V_I - V_O$	—	0.03	0.2	V
Dropout Voltage (II)	V_D (II)	I_O = 100mA, $V_D = V_{IN} - V_O$	—	0.1	0.6	V
Max Operational Input Voltage	V_{IN}	I_O = 10mA	26	33	—	V
Max Line Transient	$V_{LT(MAX)}$	V_I = 14V, I_O =10mA, Time =100ms	60	70	—	V
Revese Polarity Input Voltage DC	$V_{I(DC)}$	V_I = 14V, I_O = 10mA, V_O -0.3V	- 15	- 30	—	V
Reverse Polarity Input Voltage Transient	$V_{I(TR)}$	V_I = 14V, I_O = 10mA, Time $\leq$ 10ms	- 50	- 80		V
Peak Output Current	I_{PK}	V_I = 14V	200	400	600	mA

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