

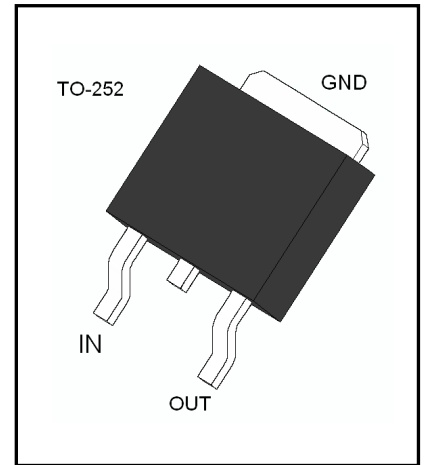
3-terminal 5V 0.5A positive voltage regulator

Features

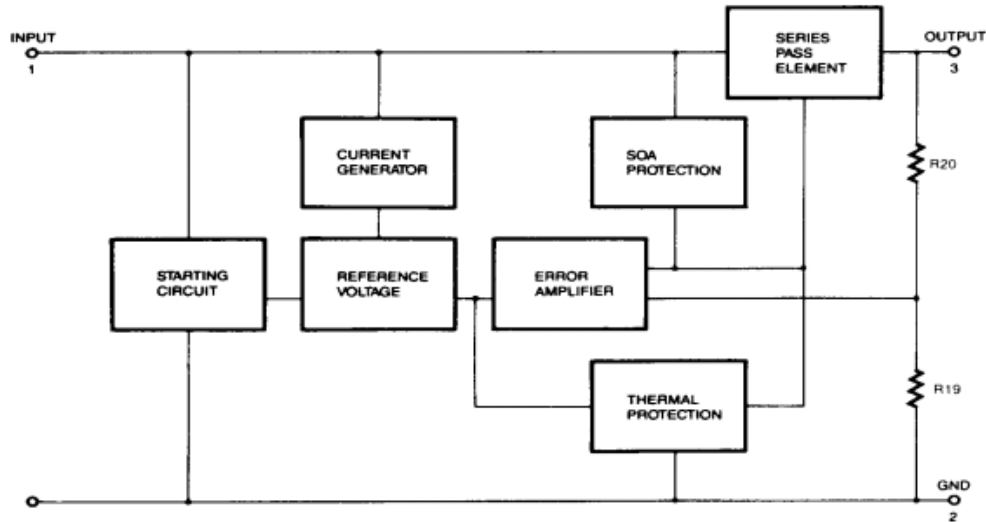
- Output Current up to 0.5A
- Output Voltages of 5V
- Thermal Overload Protection
- Short Circuit Protection
- Output Transistor Safe Operating area (SOA)Protection

Description

The KA78M05 three-terminal positive regulators are available in the TO-252 (D-PAK) package with several fixed output voltages making it useful in a wide range of applications.



Internal Block Diagram



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage	V_{IN}	35	V
Out put Voltage	V_O	5	V
Continuous total dissipation	P_D	1.25	W
Operating Temperature Range	T_{OPR}	0 ~ + 125	°C
Storage Temperature Range	T_{STG}	-55 ~ + 150	°C



Electrical Characteristics

Parameter	Symbol	Conditions	Value			Unit
			MIN	TYP	MAX	
Output Voltage	V_O	$V_I = 7 \sim 20V, I_O = 5 \sim 350mA$	4.8	5	5.2	V
		$V_I = 10V, I_O = 5 \sim 350mA$	4.8	5	5.2	
Line Regulation	ΔV_O	$V_I = 7 \sim 25V, T_J = 25^\circ C$			100	mV
		$V_I = \sim 25V, T_J = 25^\circ C$			50	
Load Regulation	ΔV_O	$I_O = 5 \sim 500mA, T_J = 25^\circ C$			100	mV
		$I_O = 5 \sim 200mA, T_J = 25^\circ C$			50	
Quiescent Current	I_Q	$T_J = 25^\circ C$			6	mA
Quiescent Current Change	ΔI_Q	$I_O = 5 \sim 350mA$			0.5	mA
		$I_O = 200mA, V_I = 8 \sim 18V$			0.8	
Output Voltage Drift	$\Delta V / \Delta T$	$I_O = 5mA$ $T_J = 0 \text{ to } +125^\circ C$		-0.5		mV/ $^\circ C$
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$		40		μV
Ripple Rejection	RR	$f = 120Hz, I_O = 300mA$ $V_I = 8 \text{ to } 18V$	62			dB
Dropout Voltage	V_d			1.7		V
Short Circuit Current	I_{SC}	$T_J = +25^\circ C, V_I = 35V$		300		mA
Peak Current	I_{PK}			700		mA

Notes:

*Load and line regulation are specified at constant junction temperature. Change in V_O due to heating effects must be taken into account separately. Pulse testing with low duty is used.

Typical Performance Characteristics

