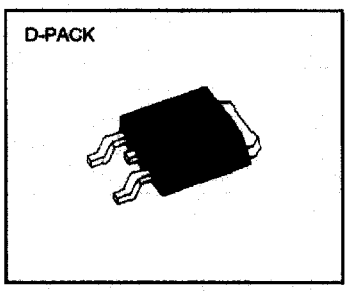
3-TERMINAL 0.5A POSITIVE VOLTAGE REGULATORS

The KA78MXXR/I sefies of three - terminal positive regulators are available in the D—PAK package with several fixed output voltage making it useful in a wide range of applications.



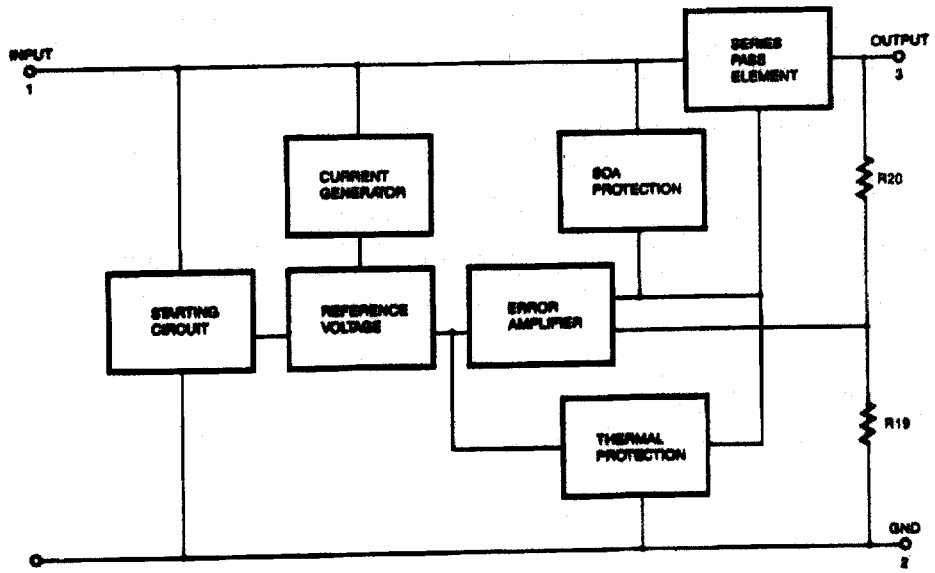
FEATURES

- Output Current up to 0.5A
- Output Voltage of 5; 6; 8; 10; 12; 15; I8; 20; 24V
- Thermal Overload Protection
- Short Circuit Protection
- Output Transistor SOA Protection
- Industrial and commercial temperature range

ORDERING INFORMATION

Device	Package	Operating Temperature
KA78MXXR	D—PAK	0 ~ + 125℃
KA78MXXRI	D—PAK	- 40 ~ + 125℃

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS (Ta = 25℃,unless otherwise specified)

Characteristic	Symbol	Value	Unit
Input Voltage (for V_O = 5V to 18V) (for V_O = 24V)	V_I V_I	35 40	V V
Thermal Resistance Junction—Cases	$R_{\theta JC}$	5	℃/W
Thermal Resistance Junction—Air	$R_{\theta JA}$	40	℃/W
Operating Temperature Range KA78MXXRI KA78MXXR	T_{OPR}	-40 ~ + 125 0 ~ + 125	℃ ℃
Storage Temperature Range	T_{STG}	-65 ~ + 150	℃
Output Peak Current (T_J = 25℃)	T_{STG}	0 ~ + 150	℃

KA78M05R/RI ELECTRICAL CHARACTERISTICS

(Refer to the test circuits, $T_{min} \leq T_J \leq 125℃$, I_O = 350mA, V_I = 10V,unless otherwise specified,C_I = 0.33uF, C_O =0.1uF)

Characteristic	Symbol	Test Conditions		MIN	TYP	MAX	Unit
Output Voltage	V_O	T_J = 25℃		4.8	5	5.2	V
		I_O = 5 to 350mA V_I = 7 to 20V		4.75	5	5.25	
Line Regulation	ΔV_O	I_O = 200mA	V_I = 7 to 25V			100	mV
		T_J = 25℃	V_I = 8 to 25V			50	
Load Regulation	ΔV_O	I_O =5mA to 0.5A, T_J = 25℃				100	mV
		I_O = 5mA to 0.2A, T_J = 25℃				50	
Quiescent Current	I_Q	T_J = 25℃			4.0	6.0	mA
Quiescent Current Change	ΔI_Q	I_O = 5 to 350mA				0.5	mA
		I_O = 200mA V_I = 8 to 25V				0.8	
Output Voltage Drift	$\frac{\Delta V_O}{\Delta T}$	I_O = 5mA T_J = 0 to 25℃			- 0.5		mV/℃
Output Noise Voltage	V_N	f = 10Hz, 100KHz			40		uV
Ripple Rejection	RR	f = 120Hz, I_O = 300mA V_I = 8 to 18V		62			dB
Dropout Voltage	V_D	T_J = 25℃, I_O = 500mA			2		V
Short Circuit Current	I_{SC}	T_J = 25℃, V_I = 35V			300		mA
Peak Current	I_{PK}	T_J = 25℃			700		mA

* $T_{MIN} < T_J < T_{MAX}$
  KA78MXXRI : T_{MIN} = -40℃, T_{MAX} = +125℃
  KA78MXXR : T_{MIN} = 0℃, T_{MAX} = +125℃
* 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.