

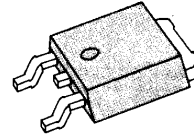
KA78MXXR/I

FIXED VOLTAGE REGULATOR (POSITIVE)

3-TERMINAL 0.5A POSITIVE VOLTAGE REGULATORS

The KA78MXXR/I series 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.

D-PAK



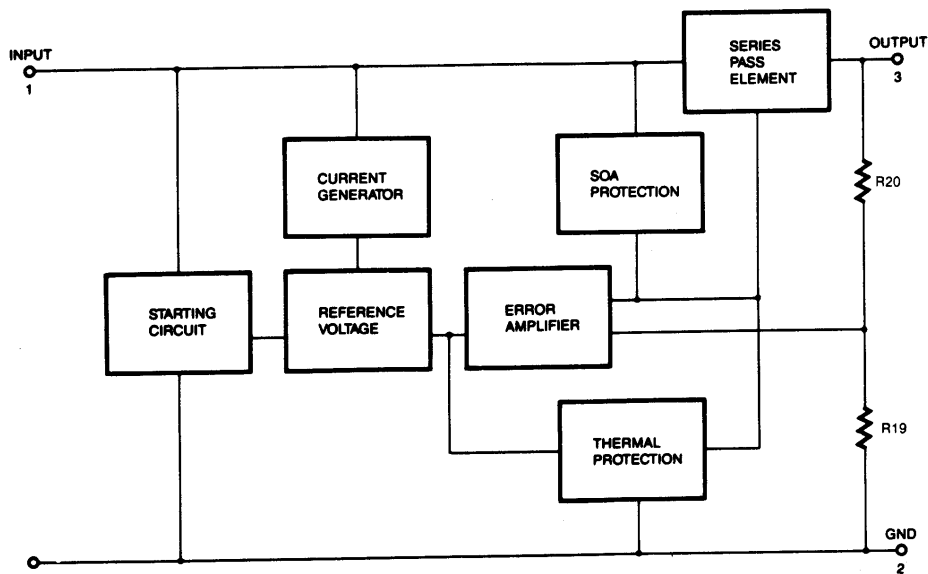
FEATURES

- Output Current up to 0.5A
- Output Voltage of 5; 6; 8; 10; 12; 15; 18; 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°C
KA78MXXRI	D-PAK	- 40 ~ + 125°C

BLOCK DIAGRAM



KA78MXXR/I

FIXED VOLTAGE REGULATOR (POSITIVE)

ABSOLUTE MAXIMUM RATINGS (T_a = 25 °C, unless otherwise specified)

Characteristic	Symbol	Value	Unit
Input Voltage (for V _O = 5V to 18V) (for V _O = 24V)	V _I	35	V
	V _I	40	V
Thermal Resistance Junction—Cases	R _{θ JC}	5	°C/W
Thermal Resistance Junction—Air	R _{θ JA}	40	°C/W
Operating Temperature Range KA78MXXRI KA78MXXR	T _{OPR}	-40 ~ +125	°C
		0 ~ +125	°C
Storage Temperature Range	T _{STG}	-65 ~ +150	°C

KA78M05R/RI ELECTRICAL CHARACTERISTICS

(Refer to the test circuits, T_{min} ≤ T_J ≤ 125 °C, I_O = 350mA, V_I = 10V, unless otherwise specified, C₁ = 0.33μF, C_O = 0.1μF)

Characteristic	Symbol	Test Conditions	MIN	TYP	MAX	Unit
Output Voltage	V _O	T _J = 25 °C	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 T _J = 25 °C	V _I = 7 to 25V		100	mV
			V _I = 8 to 25V		50	
Load Regulation	ΔV _O	I _O = 5mA to 0.5A, T _J = 25 °C			100	mV
		I _O = 5mA to 0.2A, T _J = 25 °C			50	
Quiescent Current	I _Q	T _J = 25 °C		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 °C		-0.5		mV/°C
Output Noise Voltage	V _N	f = 10Hz, 100KHz		40		μV
Ripple Rejection	RR	f = 120Hz, I _O = 300mA V _I = 8 to 18V	62			dB
Dropout Voltage	V _D	T _J = 25 °C, I _O = 500mA		2		V
Short Circuit Current	I _{SC}	T _J = 25 °C, V _I = 35V		300		mA
Peak Current	I _{PK}	T _J = 25 °C		700		mA

* T_{MIN} < T_J < T_{MAX}

KA78MXXRI : T_{MIN} = -40 °C, T_{MAX} = +125 °C

KA78MXXR : T_{MIN} = 0 °C, T_{MAX} = +125 °C

* 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.



D-PAK

Dimensions in Millimeters

