

KA78RM33

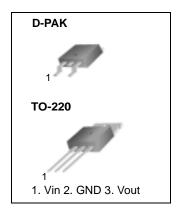
Low Dropout Voltage Regulator

Features

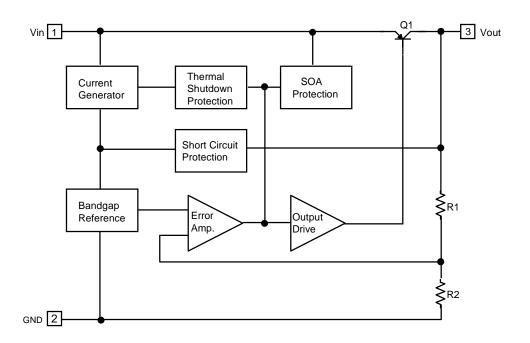
- 0.5A / 3.3V Output low dropout voltage regulator
- Low dropout voltage (Max. 0.6V)
- Over current protection, Thermal shutdown
- SOA protection, Shortcircuit protection

Description

The KA78RM33 is a low-dropout voltage regulator suitable for various electronic equipment. It provide constant voltage power source with surface mount type package (D-PAK). dropout voltage of KA78RM33 is below 0.6V in full rated current(0.5A). This regulator has various function such as over current protection, thermal shut down and SOA (Safe operating Area) protection.



Internal Block Digram



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit	Remark
Input Voltage	Vin	20	V	-
Output Current	I _O	0.5	A	-
Thermal Resistance Junction-Air	R _θ JA	110	°C/W	No Heatsink
Power Dissipation	Pd	Interally limited	_	-
Junction Temperature	Tj	150	°C	-
Operating Temperature	TOPR	-25~ + 125	°C	-

Electrical Characteristics

(Vin = 5V, Io= 0.25A, Ta = 25° C , unless otherwise specified)

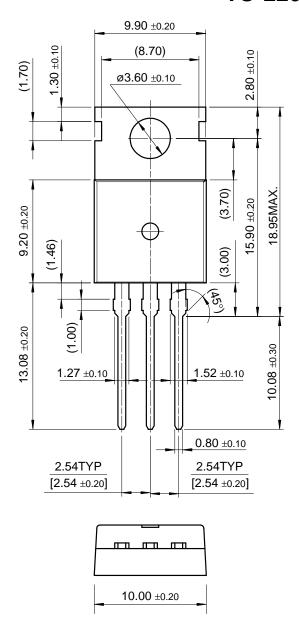
Parameter	Symbol	Conditions	Min.	Тур.	Max.	Unit
Output Voltage	Vout	I _O =10mA	3.22	3.3	3.38	V
Load Regulation	RlOad	5mA < IO < 0.5A	-	2	20	mV
Line Regulation	Rline	4.3V <vin 16v<="" <="" td=""><td>-</td><td>2</td><td>20</td><td>mV</td></vin>	-	2	20	mV
Ripple Rejection Ratio	RR	f=120Hz, Vin=5V ±0.5Vrms	55	-	-	dB
Dropout Voltage	V _{drop}	I _O =0.5A	-	-	0.6	V
Quiescent Current	Iq	IO = 0A	-	5	10	mA
Peak Current	IPK	Vin = 5V	0.5	1	-	Α
Output Noise Voltage	Vn	10Hz < f < 100KHz	-	50	-	uVrms
Temperature Coefficient of Output Voltage	ΔVουτ/ΔΤ	-25°C < Tj < 125°C IO = 100mA	-	-0.2	-	mV/°C

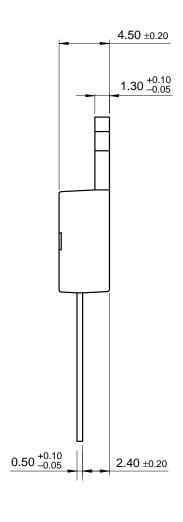
Mechanical Dimensions

Package

Dimensions in millimeters

TO-220





Mechanical Dimensions (Continued)

Package

Dimensions in millimeters

D-PAK 6.60 ±0.20 0.70 ± 0.20 5.34 ± 0.30 2.30 ±0.10 (0.50)(4.34)(0.50) 0.50 ± 0.10 0.60 ± 0.20 $6.10 \; \pm 0.20$ $0.91 \,\, \pm 0.10$ 9.50 ± 0.30 2.70 ± 0.20 MIN0.55 0.80 ±0.20 0.89 ±0.10 MAX0.96 0.76 ± 0.10 0.50 ± 0.10 1.02 ±0.20 2.30TYP 2.30TYP [2.30±0.20] [2.30±0.20] 2.30 ± 0.20 6.60 ±0.20 (5.34)(5.04)(0.70)(0.90)(1.00)(1.50)(3.05) 6.10 ± 0.20 (2XR_{0.25}) 9.50 ±0.30 2.70 ± 0.20 0.76 ± 0.10

Ordering Information

Product Number	Package	Operating Temperature		
KA78RM33D	D-PAK	-25 ∼ + 125°C		
KA78RM33	TO-220	-25 ~ + 125 C		

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