

KA78RM33

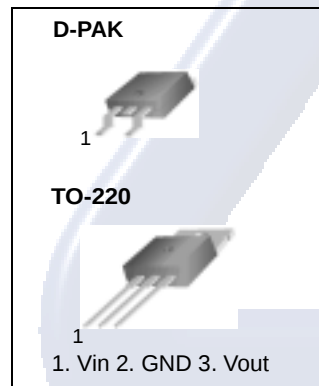
Low Dropout Voltage Regulator

Features

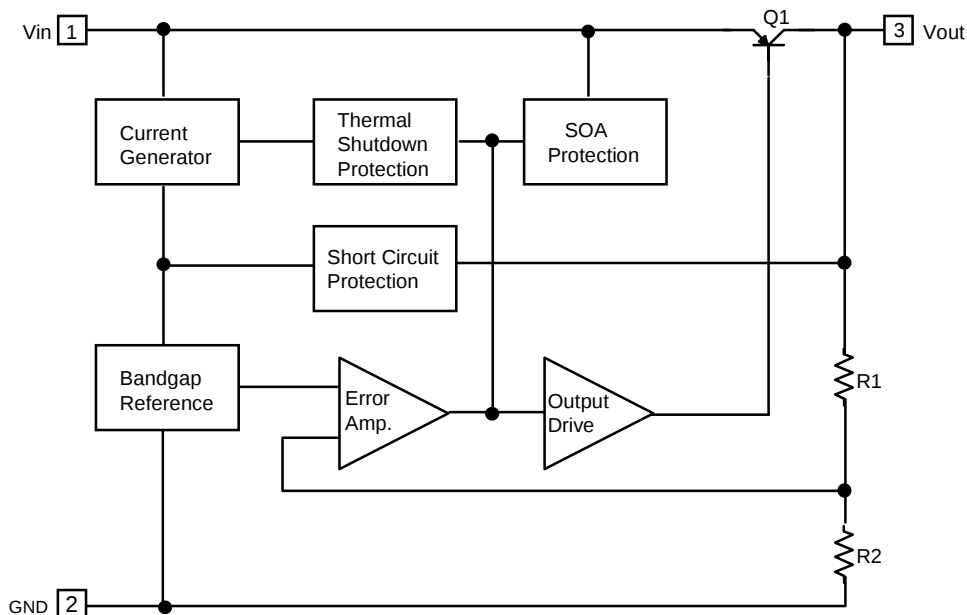
- 0.5A / 3.3V Output low dropout voltage regulator
- Low dropout voltage (Max. 0.6V)
- Over current protection, Thermal shutdown
- SOA protection, Shortcircuit protection

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 Diagram



Rev. 1.0.1

KA78RM33

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit	Remark
Input Voltage	V _{in}	20	V	-
Output Current	I _O	0.5	A	-
Thermal Resistance Junction-Air	R _{θJA}	110	°C/W	No Heatsink
Power Dissipation	P _d	Internally limited	—	-
Junction Temperature	T _J	150	°C	-
Operating Temperature	T _{OPR}	-25~ + 125	°C	-

Electrical Characteristics

(V_{in} = 5V, I_O = 0.25A, T_a = 25°C , unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	V _{Out}	I _O = 10mA	3.22	3.3	3.38	V
Load Regulation	R _{LOad}	5mA < I _O < 0.5A	-	2	20	mV
Line Regulation	R _{line}	4.3V < V _{in} < 16V	-	2	20	mV
Ripple Rejection Ratio	RR	f=120Hz, V _{in} =5V ±0.5V _{rms}	55	-	-	dB
Dropout Voltage	V _{drop}	I _O =0.5A	-	-	0.6	V
Quiescent Current	I _q	I _O = 0A	-	5	10	mA
Peak Current	I _{PK}	V _{in} = 5V	0.5	1	-	A
Output Noise Voltage	V _n	10Hz < f < 100KHz	-	50	-	uV _{rms}
Temperature Coefficient of Output Voltage	ΔV _{OUT} /ΔT	-25°C < T _J < 125°C I _O = 100mA	-	-0.2	-	mV/°C

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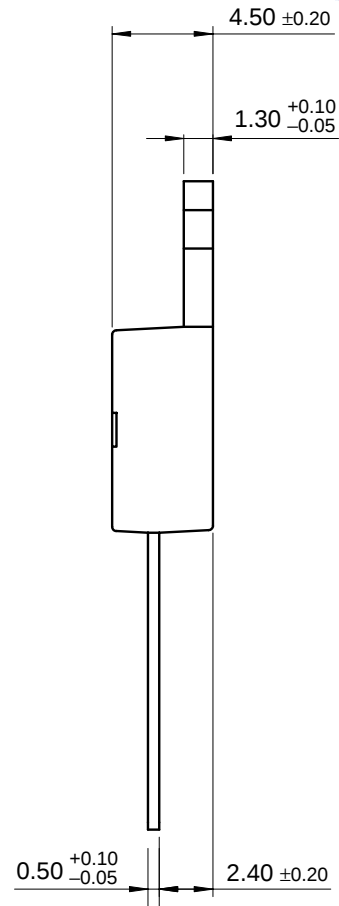
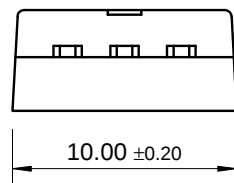
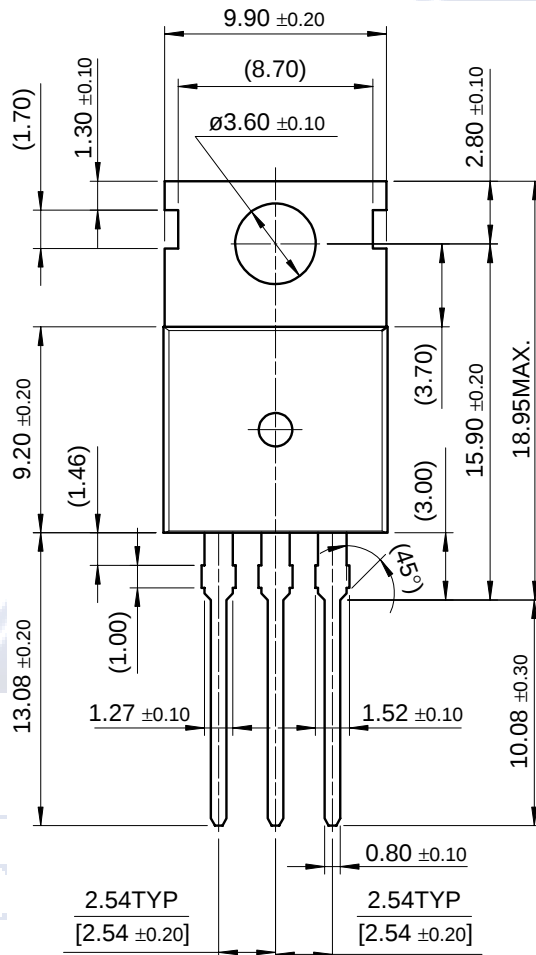
KA78RM33

Mechanical Dimensions

Package

Dimensions in millimeters

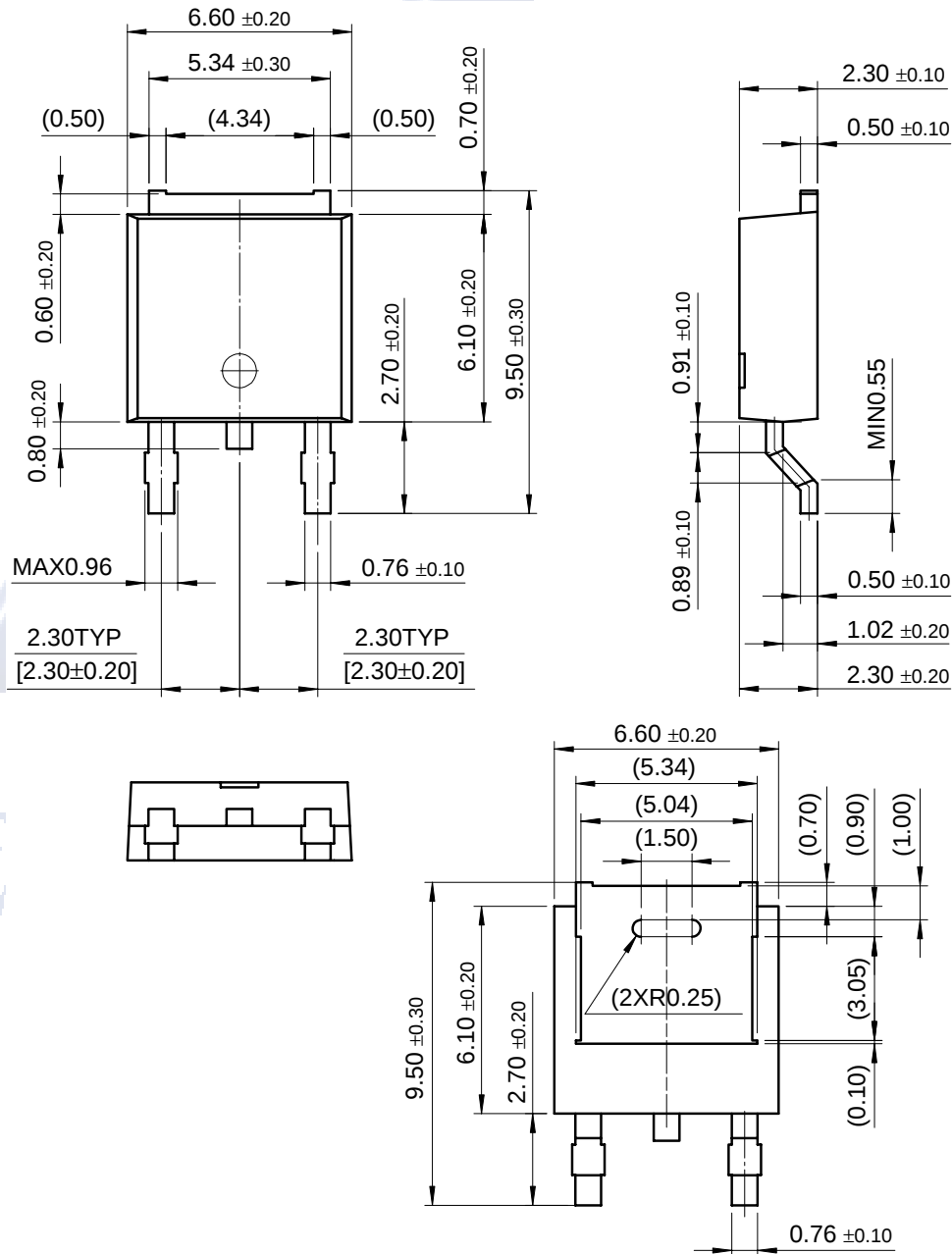
TO-220



KA78RM33

Mechanical Dimensions (Continued)**Package**

Dimensions in millimeters

D-PAK

Ordering Information

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

A large, light blue, 3D-style logo consisting of the letters 'A' and 'G' in a bold, sans-serif font. The letters have a slight shadow and a glossy finish.

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