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

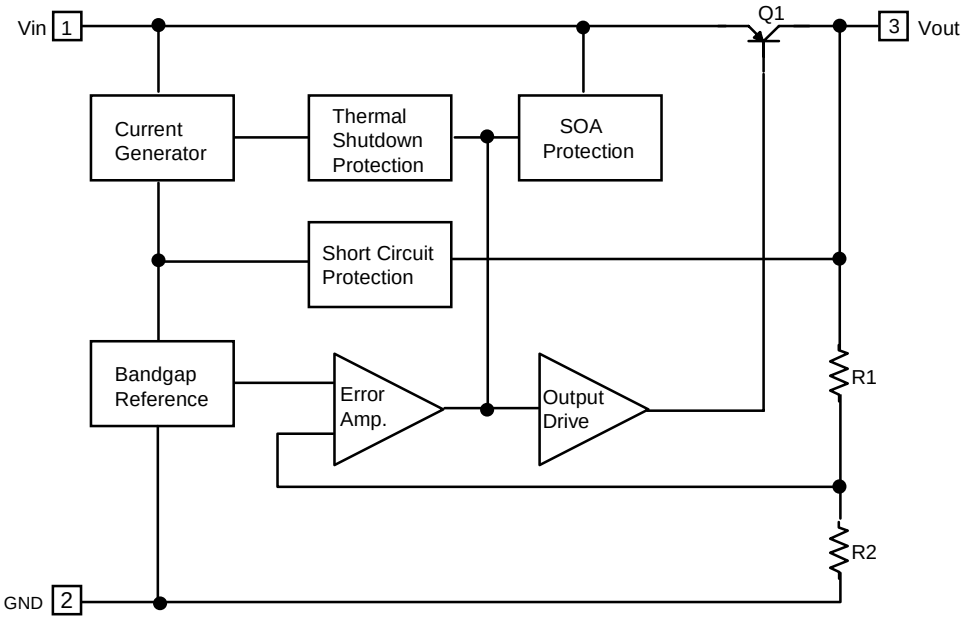
The KA78RM33 is a low-dropout voltage regulator suitable for various electronic equipment. It provide constant voltage power source with surface mount type package (D-PAK). dropout voltage of KA78RM33 is below 0.6V in full rated current(0.5A). This regulator has various function such as over current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

D-PAK

TO-220

1. Vin 2. GND 3. Vout

Internal Block Digram



Rev. 1.0.1

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	$R_{\theta JA}$	110	°C/W	No Heatsink
Power Dissipation	Pd	Interally limited	–	-
Junction Temperature	Tj	150	°C	-
Operating Temperature	T_{OPR}	-25~ + 125	°C	-

Electrical Characteristics

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

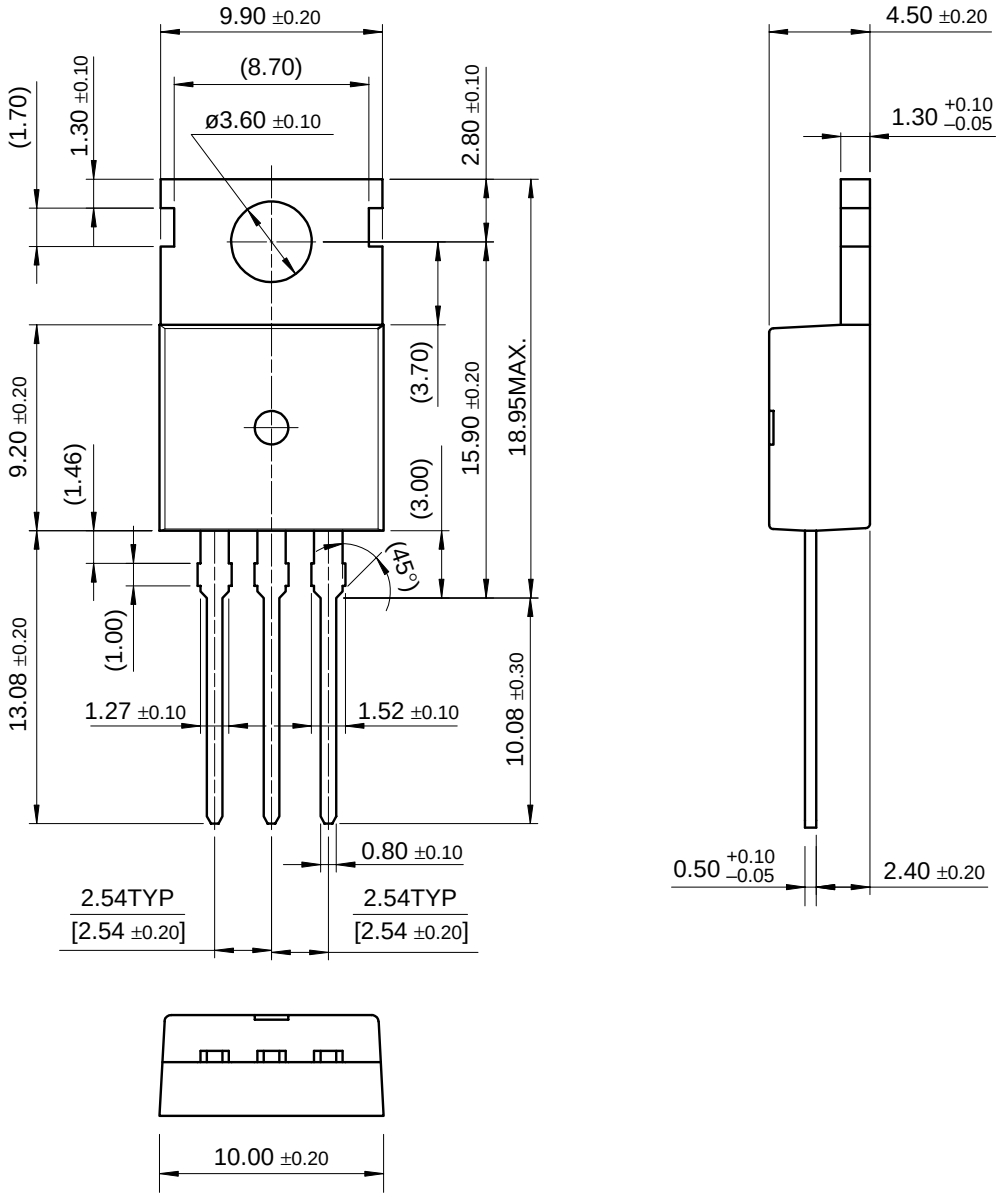
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	V_{Out}	I_O =10mA	3.22	3.3	3.38	V
Load Regulation	RI_{Oad}	5mA < I_O < 0.5A	-	2	20	mV
Line Regulation	R_{line}	4.3V <Vin < 16V	-	2	20	mV
Ripple Rejection Ratio	RR	f=120Hz, Vin=5V ±0.5Vrms	55	-	-	dB
Dropout Voltage	V_{drop}	I_O=0.5A	-	-	0.6	V
Quiescent Current	I_q	I_O = 0A	-	5	10	mA
Peak Current	I_{PK}	Vin = 5V	0.5	1	-	A
Output Noise Voltage	V_n	10Hz < f < 100KHz	-	50	-	uVrms
Temperature Coefficient of Output Voltage	$\Delta V_{OUT}/\Delta T$	-25°C < Tj < 125°C I_O = 100mA	-	-0.2	-	mV/°C

Mechanical Dimensions

Package

Dimensions in millimeters

TO-220

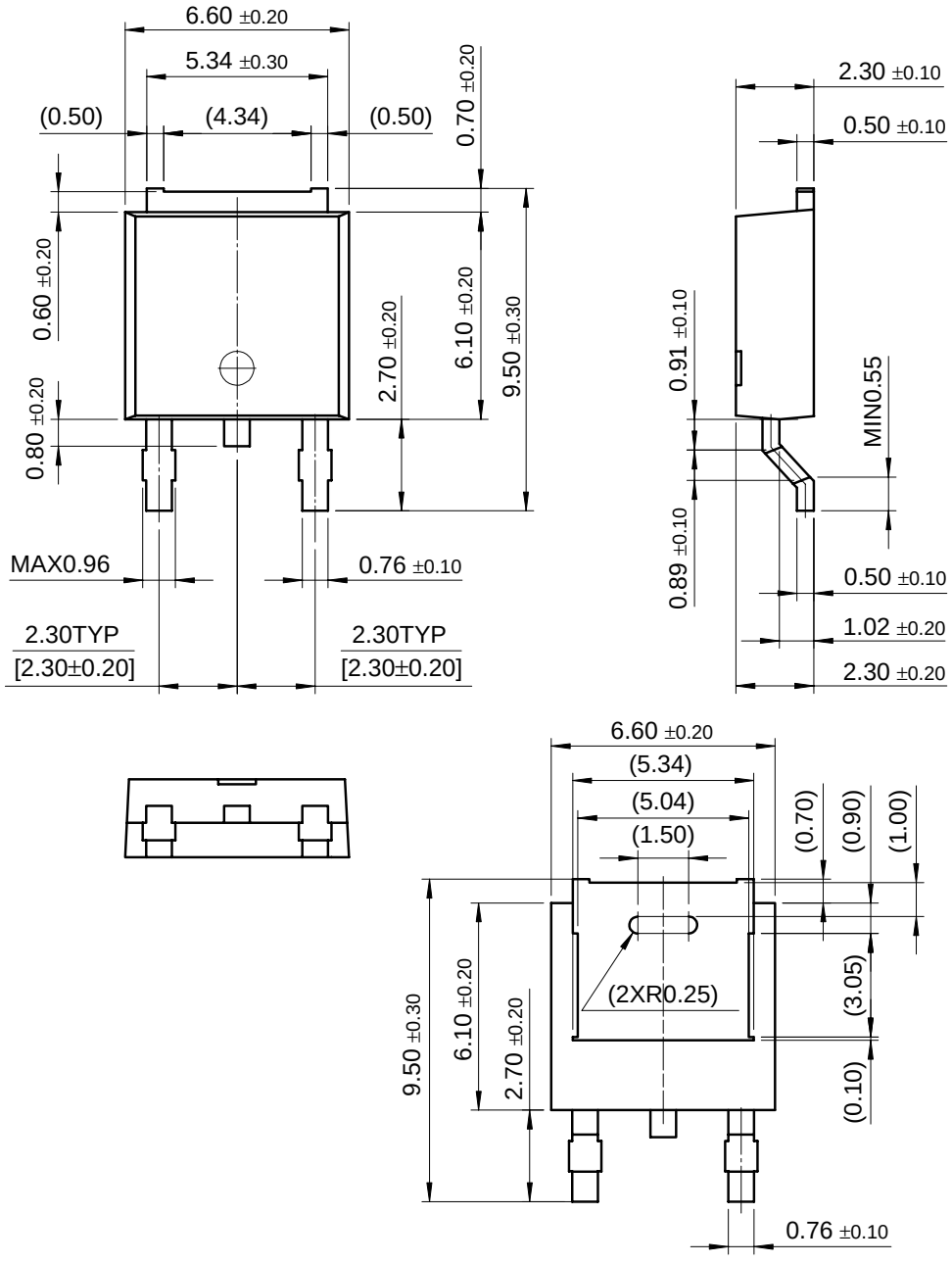


Mechanical Dimensions (Continued)

Package

Dimensions in millimeters

D-PAK



Ordering Information

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