

KA78RM33

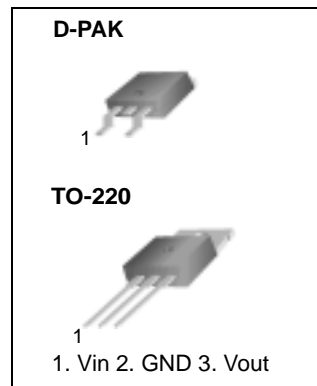
Low Dropout Voltage Regulator

Features

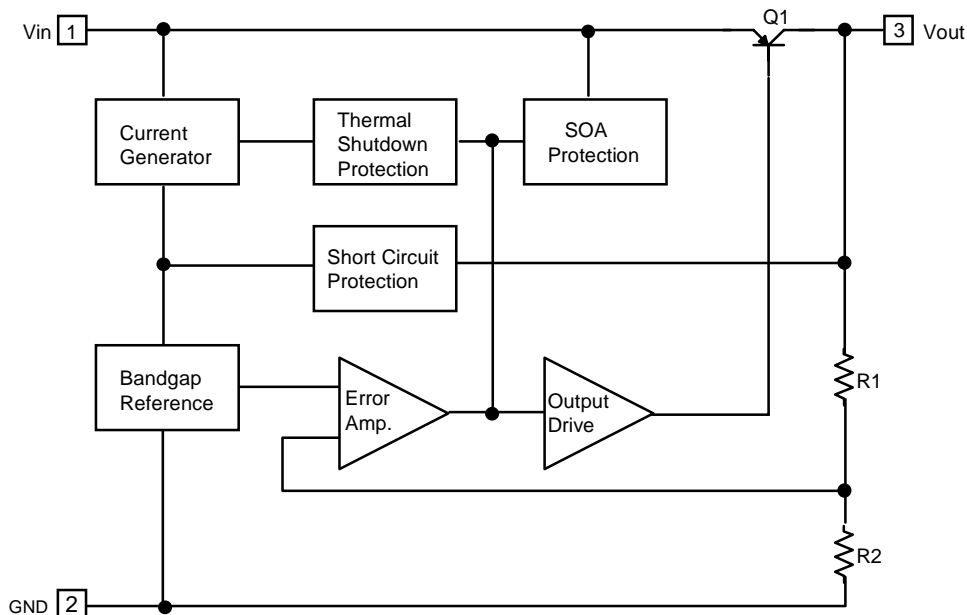
- 0.5A / 3.3V Output low dropout voltage regulator
- Low dropout voltage (Max. 0.6V)
- Over current protection, Thermal shutdown
- SOA protection, Shortcircuit protection

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



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	$^{\circ}C/W$	No Heatsink
Power Dissipation	P_d	Internally limited	-	-
Junction Temperature	T_j	150	$^{\circ}C$	-
Operating Temperature	T_{OPR}	-25~ + 125	$^{\circ}C$	-

Electrical Characteristics

($V_{in} = 5V$, $I_O = 0.25A$, $T_a = 25^{\circ}C$, unless otherwise specified)

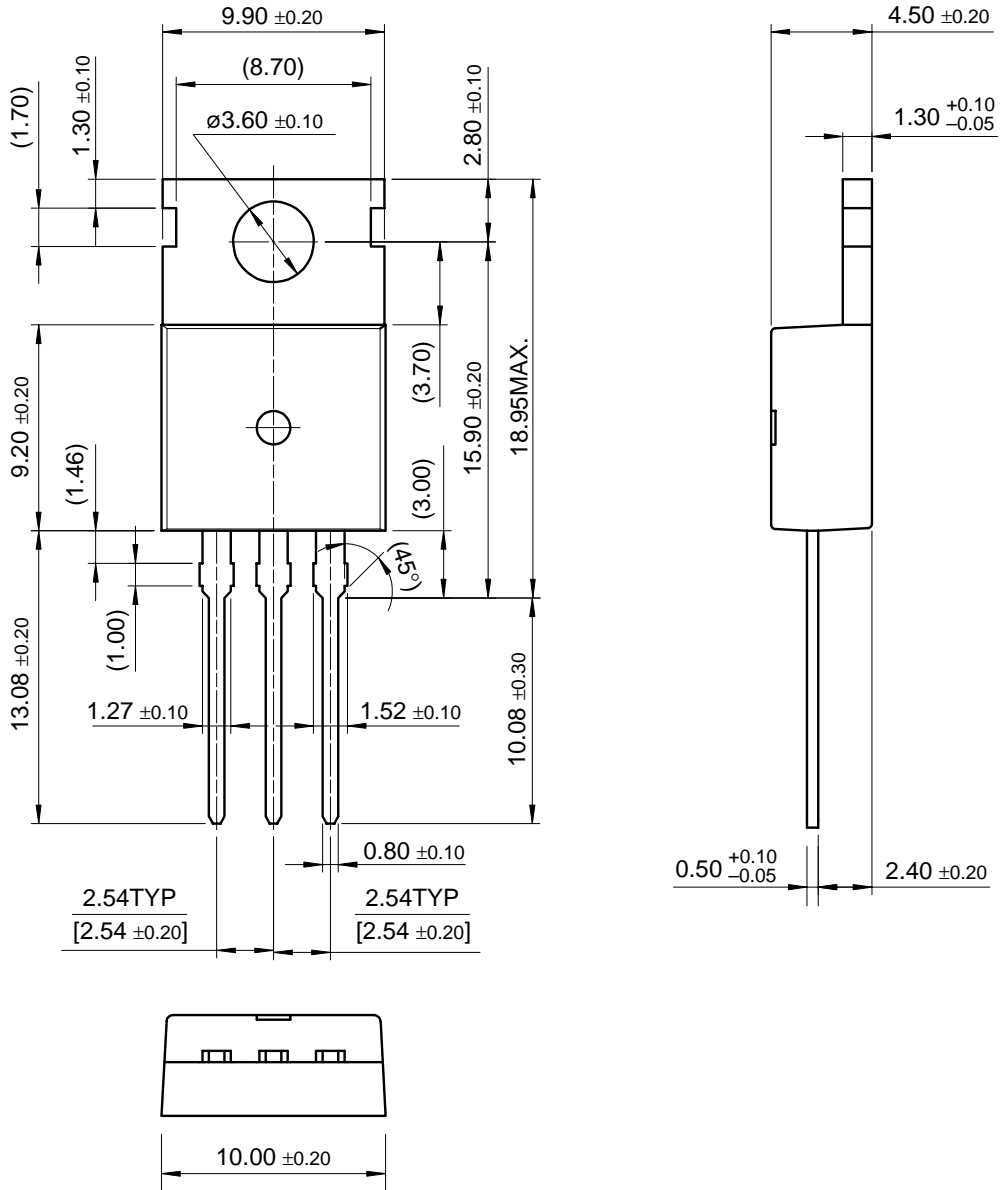
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	V_{Out}	$I_O = 10mA$	3.22	3.3	3.38	V
Load Regulation	R_{LOad}	$5mA < I_O < 0.5A$	-	2	20	mV
Line Regulation	R_{line}	$4.3V < V_{in} < 16V$	-	2	20	mV
Ripple Rejection Ratio	RR	$f=120Hz$, $V_{in}=5V \pm 0.5V_{rms}$	55	-	-	dB
Dropout Voltage	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	-	μV_{rms}
Temperature Coefficient of Output Voltage	$\Delta V_{OUT}/\Delta T$	$-25^{\circ}C < T_j < 125^{\circ}C$ $I_O = 100mA$	-	-0.2	-	$mV/^{\circ}C$

Mechanical Dimensions

Package

Dimensions in millimeters

TO-220

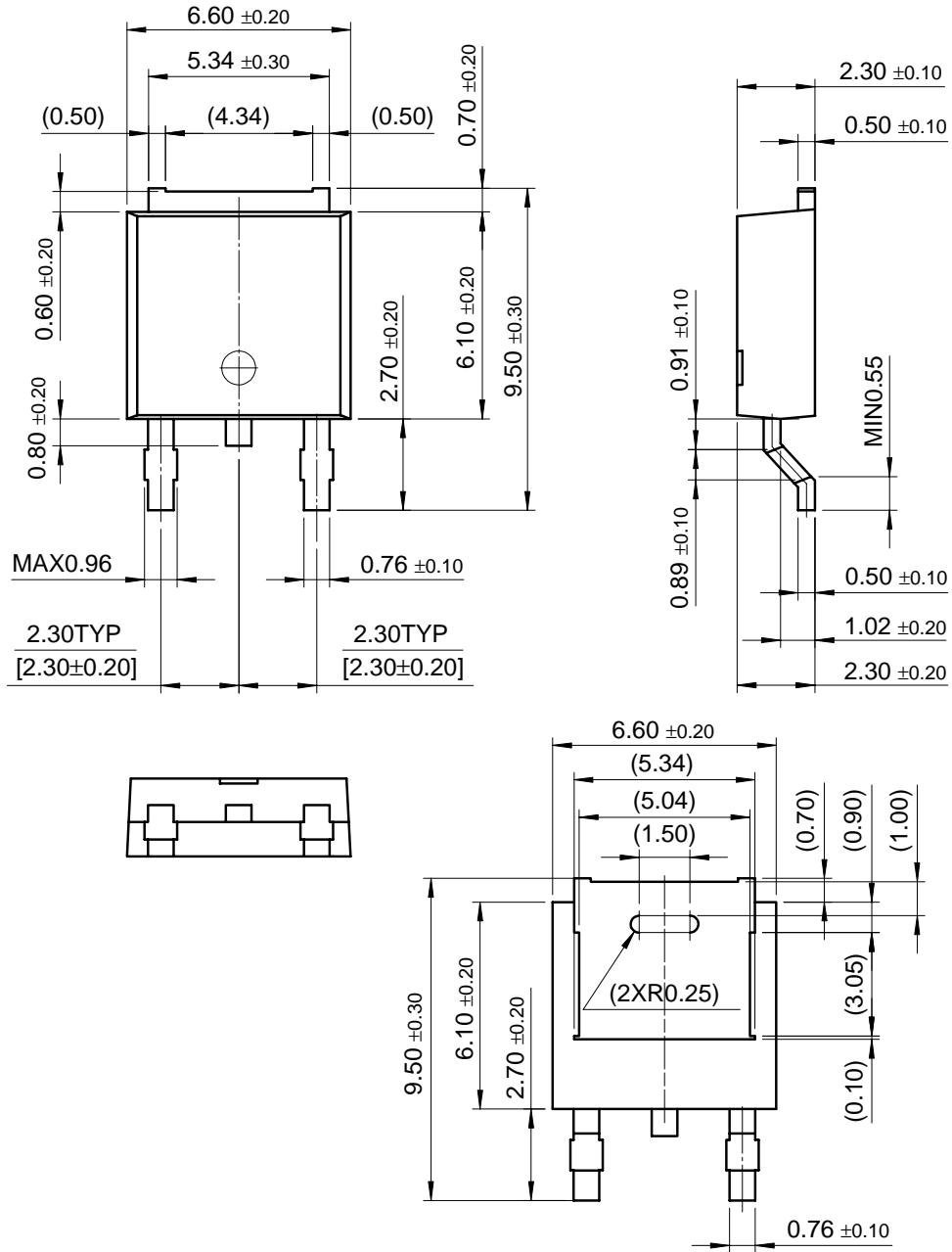


Mechanical Dimensions (Continued)

Package

Dimensions in millimeters

D-PAK



Ordering Information

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

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