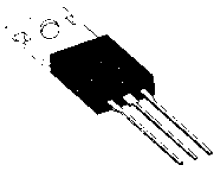
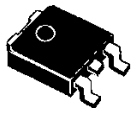
LOW DROPOUT VOLTAGE REGULATOR

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 peak current protection, thermal shut down and SOA (Safe Operating Area) protection.

TO-220



D-PAK



1. Vin
2. GND
3. Vout

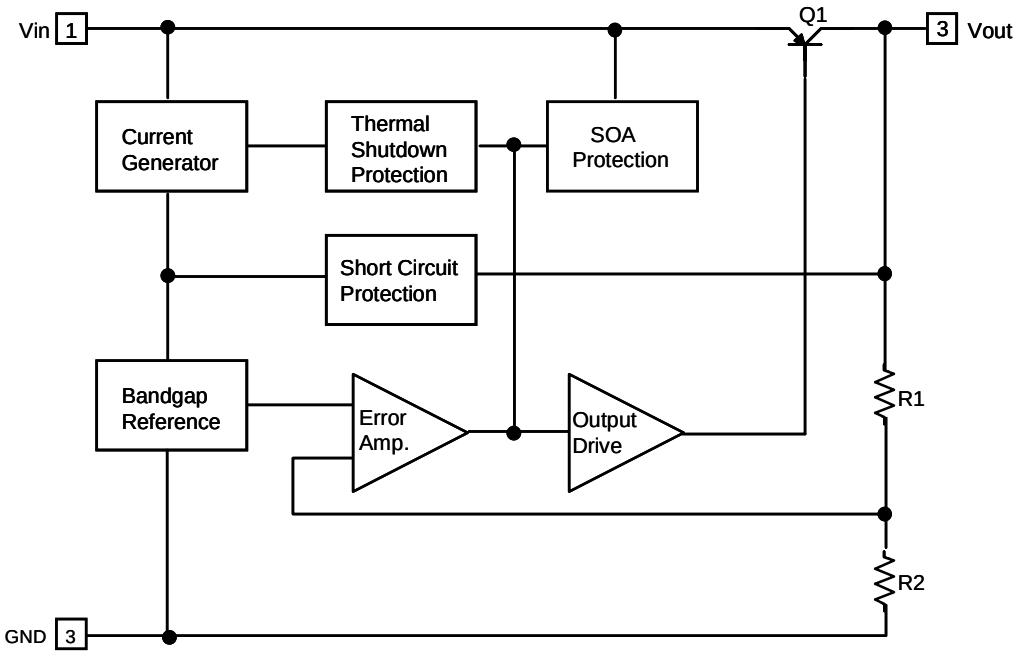
FEATURES

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

ORDERING INFORMATION

Device	Package	Operating Temperature
KA78RM33R	D-PAK	–25 ~ + 125°C
KA78RM33T	TO-220	

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Value	Unit
Input Voltage	V_{IN}	20	V
Output Current	I_O	0.5	A
Power Dissipation	Pd	Internally limited	-
Junction Temperature	Tj	+150	°C
Operating Temperature	Topr	–25 ~ +125	°C

ELECTRICAL CHARACTERISTICS

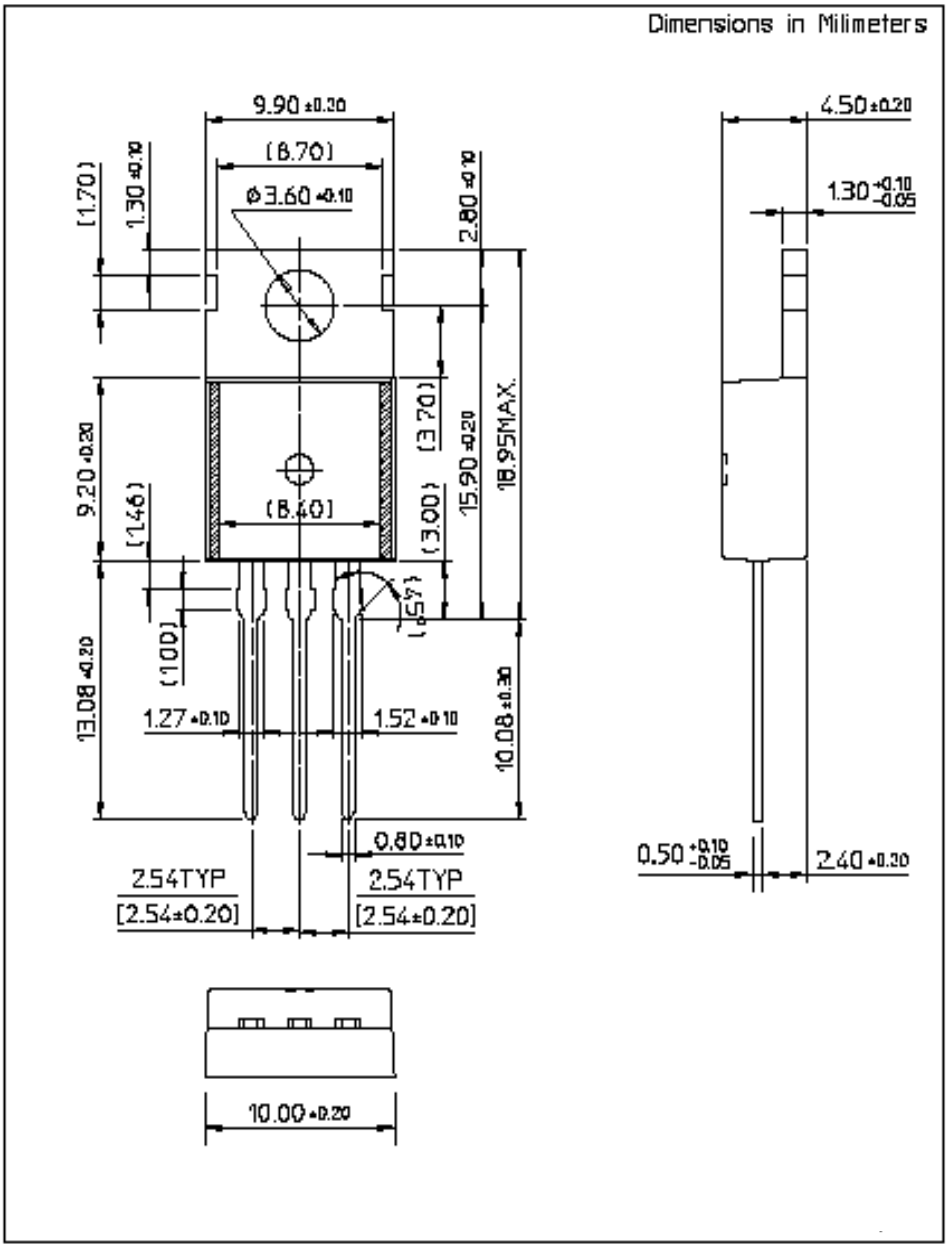
(V_{IN} = 5V, I_O = 0.25A, Ta = 25°C, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Output Voltage	Vout	I_O = 0mA	3.22	3.3	3.38	V
Load Regulation	Rload	5mA < I_O < 0.5A	–	2	33	mV
Line Regulation	Rline	4.3V < Vin < 16V I_O = 10mA	–	2	20	mV
Ripple rejection Ratio	RR	f = 120Hz, V_{IN} = 5 ± 0.5Vrns	55	–	–	dB
Dropout Voltage	Vdrop	I_O = 0.5A	–	–	0.6	V
Quiescent Current	I_Q	Vin = 5V, I_O = 0mA	–	5	10	mA
Peak Output Current	I_{PK}	Vin = 5V	0.7	1	1.7	A
Output Noise Voltage note	V_N	10Hz < f < 100KHz	–	50	–	μVrms
Temperature Coefficient of Output Voltage	ΔVout/ ΔT	–25°C < Tj < 125°C I_O = 10mA	–	–0.2	–	mV/°C

NOTE: This parameter, although guaranteed, is not 100% tested in production.

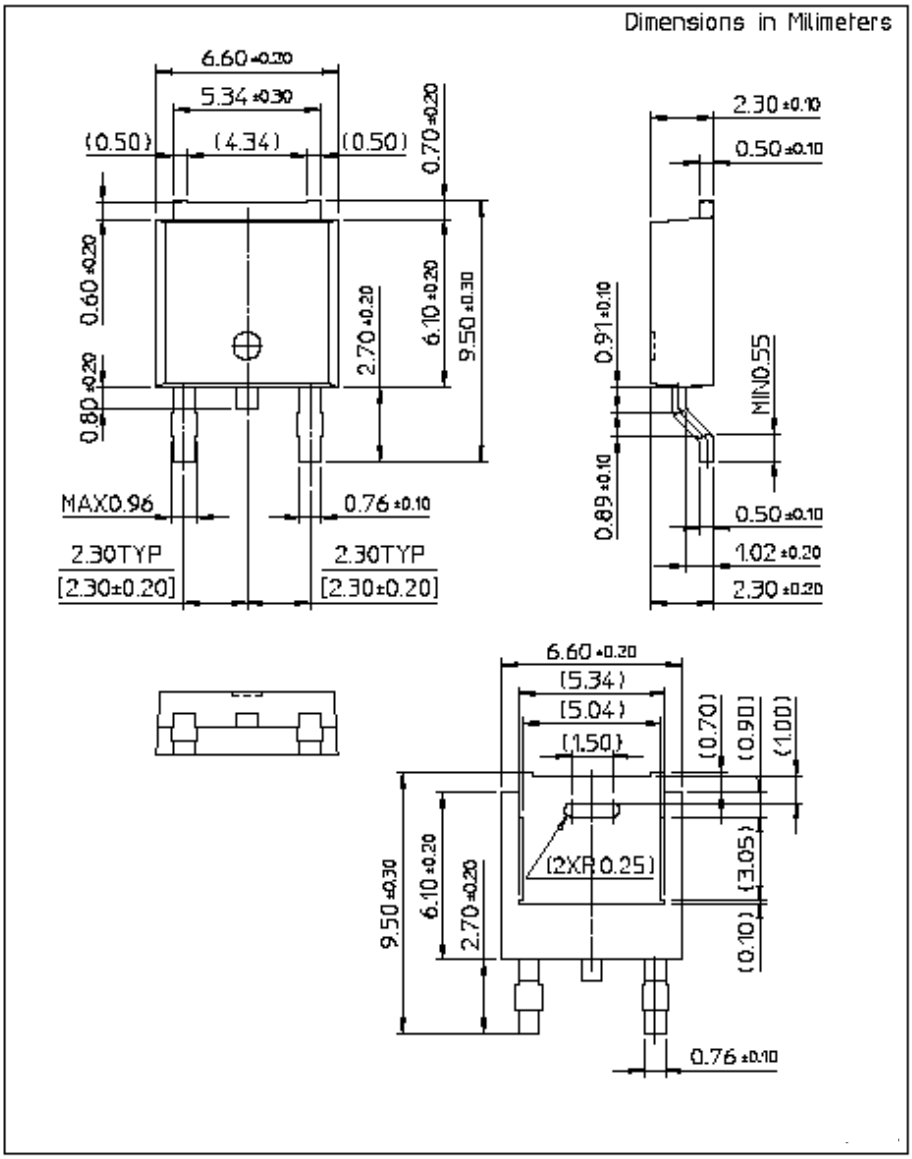
PACKAGE DIMENSION

TO-220



PACKAGE DIMENSION (Continued)

D-PAK



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