

KA278R33

Low Dropout Voltage Regulator

Features

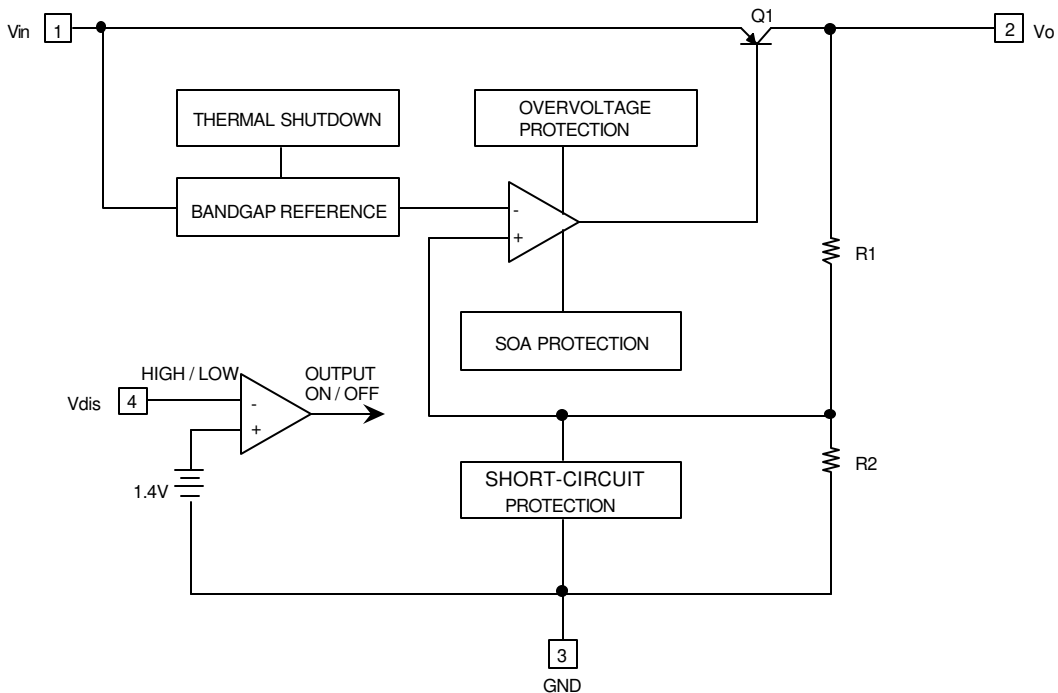
- 2A / 3.3V Output low dropout voltage regulator
- TO220 Full-Mold package (4PIN)
- Overcurrent protection, Thermal shutdown
- Overvoltage protection, Short-Circuit protection
- With output disable function

Description

The KA278R33 is a low-dropout voltage regulator suitable for various electronic equipments. It provides constant voltage power source with TO-220 4 lead full mold package. Dropout voltage of KA278R33 is below 0.5V in full rated current(2A). This regulator has various function such as peak current protection, thermal shut down, overvoltage protection and output disable function.



Internal Block Diagram



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit	Remark
Input Voltage	Vin	35	V	-
Disable Voltage	Vdis	35	V	-
Output Current	Io	2.0	A	-
Power Dissipation 1	Pd1	1.5	W	No Heatsink
Power Dissipation 2	Pd2	15	W	With Heatsink
Junction Temperature	Tj	150	°C	-
Operating Temperature	Topr	-20 ~ +80	°C	-

Electrical Characteristics

(Vin=5V, Io=1.0A, Ta=25 °C, unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	Vo	-	3.22	3.3	3.38	V
Load Regulation	Rload	5mA < Io < 2A	-	0.1	2.0	%
Line Regulation	Rline	4V < Vin < 10V	-	0.5	2.5	%
Ripple Rejection Ratio	RR	note1	45	55	-	dB
Dropout Voltage	Vdrop	Io = 2A	-	-	0.5	V
Disable Voltage High	VdisH	Output Active	2.0	-	-	V
Disable Voltage Low	VdisL	Output Disabled	-	-	0.8	V
Disable Bias Current High	IdisH	Vdis = 2.7V	-	-	20	μA
Disable Bias Current Low	IdisL	Vdis = 0.4V	-	-	-0.4	mA
Quiescent Current	Iq	Io = 0A	-	-	10	mA

Note:

1. These parameters, although guaranteed, are not 100% tested in production.

Typical Performance Characteristics

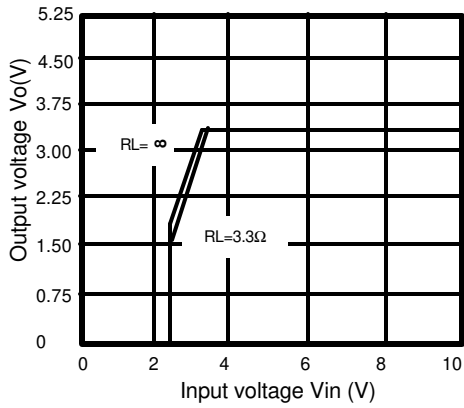


Figure 1. Output Voltage vs. Input Voltage

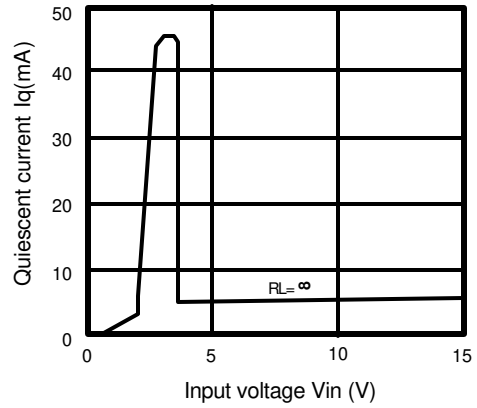


Figure 2. Quiescent Current vs. Input Voltage

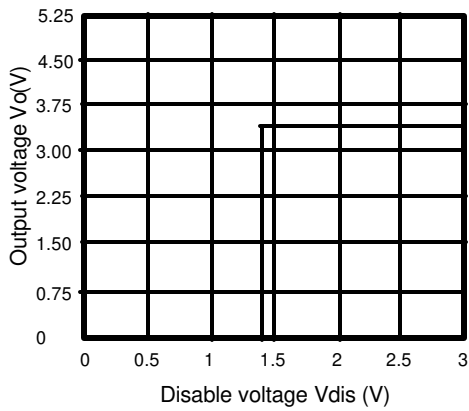


Figure 3. Output Voltage vs. Disable Voltage

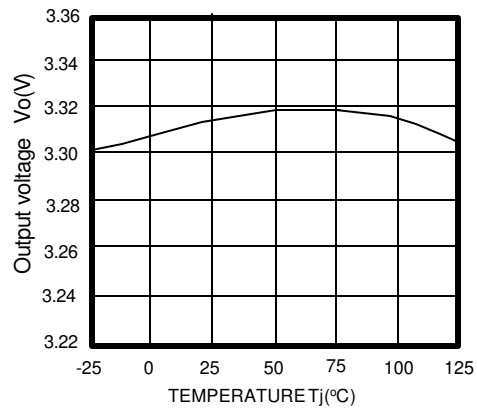


Figure 4. Output Voltage vs. Temperature(Tj)

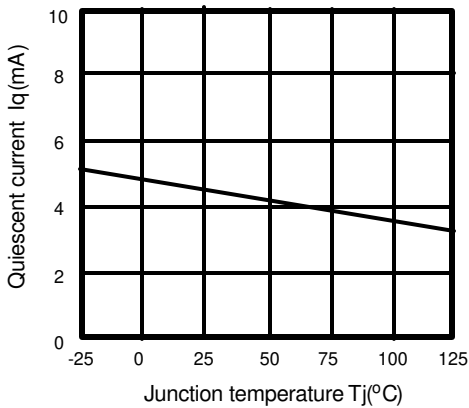


Figure 5. Quiescent Current vs. Temperature(Tj)

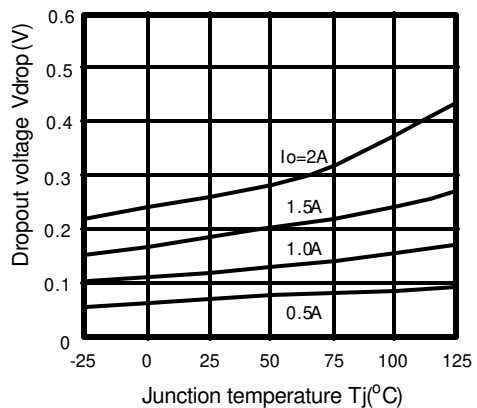


Figure 6. Dropout Voltage vs. Junction Temperature

Typical Performance Characteristics (continued)

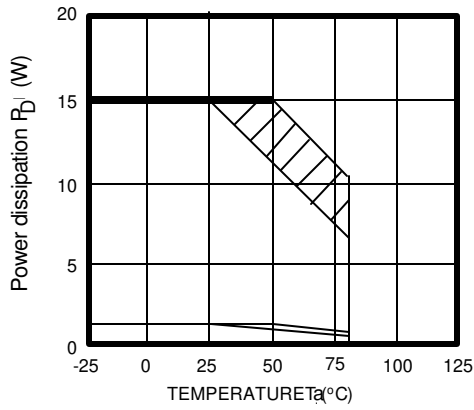


Figure 7. Power Dissipation vs. Temperature (Ta)

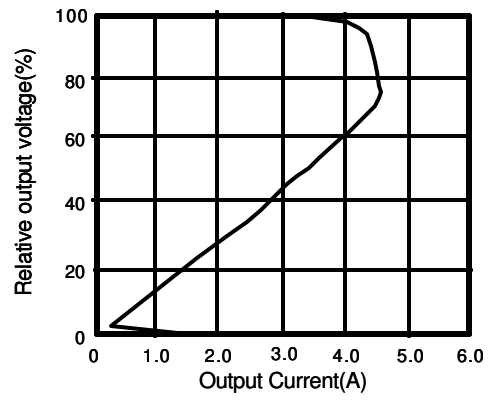


Figure 8. Overcurrent Protection Characteristics (Typical Value)

Typical Application

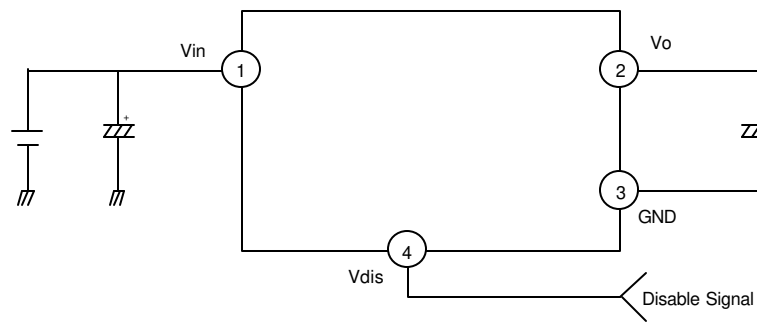


Figure 1. Application Circuit

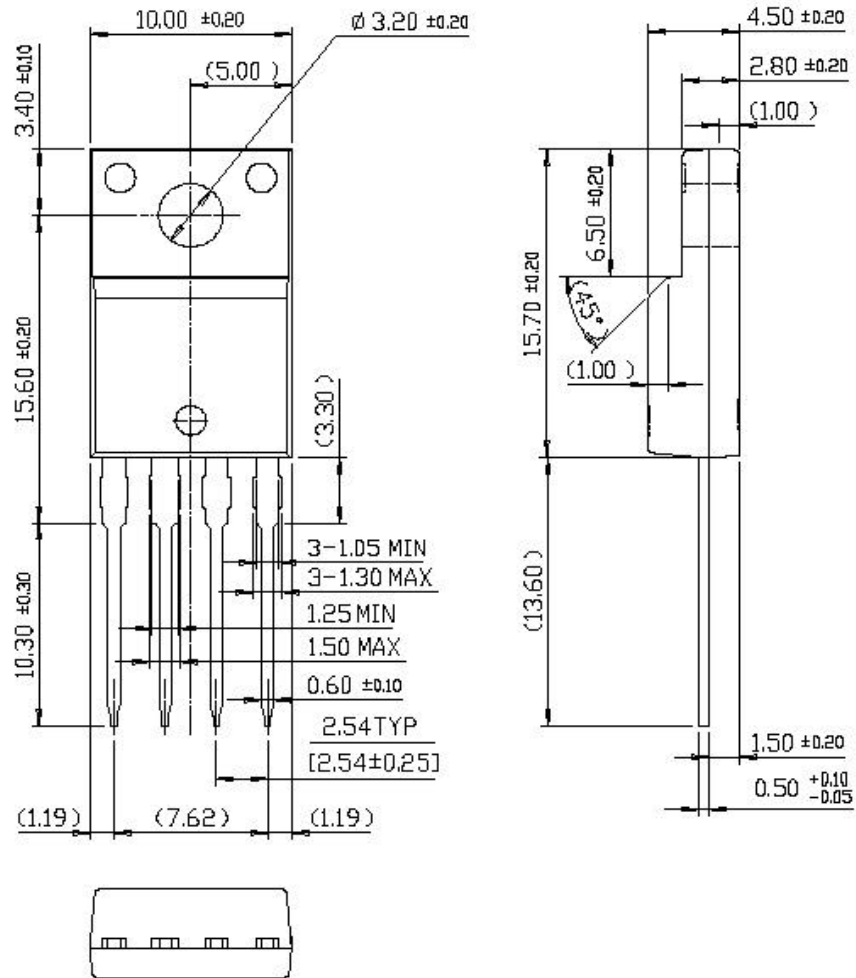
- C_i is required if regulator is located an appreciable distance from power supply filter.
- C_o improves stability and transient response. ($C_o > 47\mu\text{F}$)

Mechanical Dimensions

Package

Dimensions in millimeters

TO-220F-4L



Ordering Information

Product Number	Package	Operating Temperature
KA278R33	TO-220F-4L	-20°C to + 80°C

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KA278R33

2A Fixed 3.3V Low Dropout Voltage Regulator (LDO)

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General description

The KA278R33 is a low-dropout voltage regulator suitable for various electronic equipments. It provides constant voltage power source with TO-220 4 lead full mold package. Dropout voltage of KA278R33 is below 0.5V in full rated current(2A). This regulator has various function such as peak current protection, thermal shut down, overvoltage protection and output disable function.

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Features

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Product status/pricing/packageing

Product	Product status	Package type	Leads	Packing method
KA278R33TU	Full Production	TO-220F	4	RAIL

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