200mA LOW DROPOUT LINEAR VOLTAGE REGULATOR

DESCRIPTION

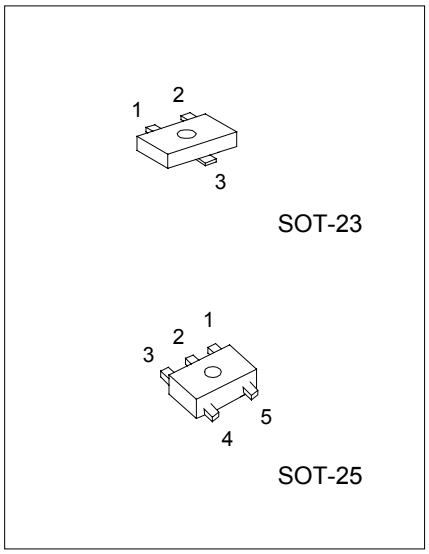
The UTC UR132 is a 200mA fixed output voltage low dropout linear regulator. Wide range of available output voltage fits most of applications. Built-in output current-limiting most thermal-limiting provide maximal protection against any fault conditions.

FEATURES

*Guaranteed 200mA output current
*Input voltage range up to 12V
*Extremely tight load regulation
*Fast transient response
*Current-limiting and Thermal-limiting
*Three-terminal adjustable or fixed
1.5V,1.8V,2.2V,2.5V, 3.3V, 5V.

APPLICATIONS

*Voltage regulator for LAN Card, CD-ROM, and DVD
*Wireless communication systems

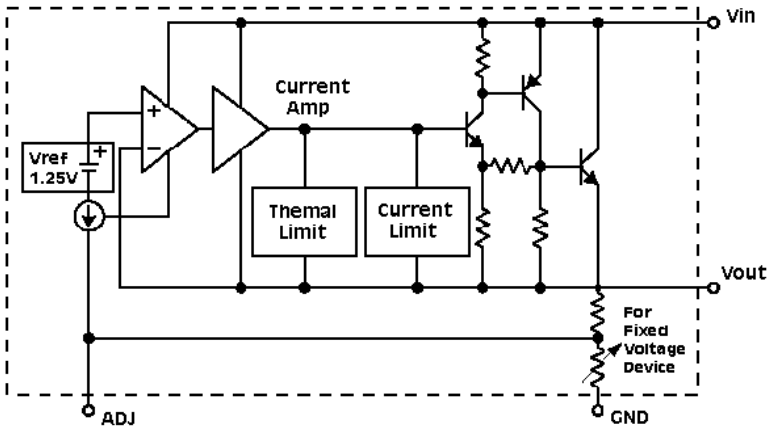


SOT-23 : 1: V_{OUT} 2: GND 3: V_{IN}
SOT-25 : 1: V_{IN} 2: GND 3: NC 4: NC 5: V_{OUT}

PIN DESCRIPTION

NAME	FUNCTION
VOUT	Output
GND	Ground/Adjustable
VIN	Positive Power Input

Function Block Diagram



ABSOLUTE MAXIMUM RATINGS

PARAMETER	MIN.	TYP.	MAX.	UNIT
Input Voltage Vin	-0.3		12	V
Operating Junction Temperature Range	-40		125	°C
Storage Temperature Range	-65		150	°C
Power Dissipation			0.3	W

UTC UR132/A 1.5V, 1.8V, 2.2V, 2.5V
ELECTRICAL CHARACTERISTICS (Ta=25°C, C_{IN}=1μF, C_{OUT}=10μF, unless otherwise specified)

PARAMETER	TEST CONDITIONS	MIN	TYP.	MAX	UNITS
Output Voltage	I_L=1mA, V_{IN}-V_{OUT}=1.4V	1.47 1.77 2.16 2.45	1.50 1.80 2.20 2.50	1.53 1.83 2.24 2.55	V
Output Voltage Temperature Coefficient			50	150	PPM/°C
Line Regulation	I_L=1mA, V_{IN}-Vout=2V~Vin=9V			0.5	%V_{OUT}
Load Regulation (note 2)	I_L=1mA~200mA, V_{IN}-Vout =2V		10	30	mV
Current Limit (note 3)	$V_{IN-Vout}$=2V, V_{OUT}=0V	300			mA
Dropout Voltage (note 4,5)				1.3	V
Standby current	I_L=0, V_{IN}=9V			3.0	mA

UTC UR132 ADJ, 3.3V, 5.0V
ELECTRICAL CHARACTERISTICS (Ta=25°C, C_{IN}=1μF, C_{OUT}=10μF, unless otherwise specified)

PARAMETER	TEST CONDITIONS	MIN	TYP.	MAX	UNITS
Adjustable (R1=120Ω,R2=200Ω,Vout=3.3V)					
Reference Voltage	Vin-Vo=2V, I_L=1mA	1.238	1.250	1.262	V
Output Voltage	I_L=1mA, V_{IN}-V_{OUT}=1.4V	3.23 4.90	3.30 5.00	3.37 5.10	V
Output Voltage Temperature Coefficient			50	150	PPM/°C
Line Regulation	I_L=1mA, V_{IN}-Vout=2V~Vin=12V			0.5	%V_{OUT}
Load Regulation (note 2)	I_L=1mA~200mA, V_{IN}-Vout =2V		10	30	mV
Current Limit (note 3)	$V_{IN-Vout}$=2V, V_{OUT}=0V	300			mA
Dropout Voltage (note 4,5)				1.3	V
Standby current	I_L=0, V_{IN}=12V			5.0	mA

Note 1: Guaranteed by design.

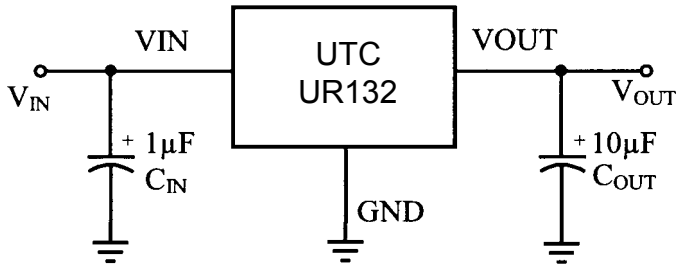
Note 2: Regulation is measured at constant junction temperature, using pulsed ON time.

Note 3: Current Limit is measured at constant junction temperature, using pulsed ON time.

Note 4: Dropout is measured at constant junction temperature, using pulsed ON time, and the criterion is V_{OUT} inside target value±2%.

Note 5: Dropout test is skipped at the condition of V_{IN}<3V.

TYPICAL APPLICATION CIRCUIT

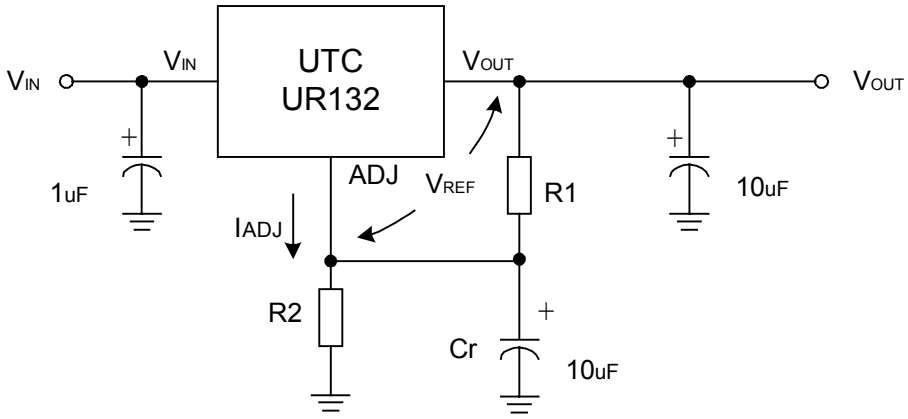


APPLICATION INFORMATION

A 10μF (or larger) capacitor is recommended between VOUT and GND for stability. The part may oscillate without the capacitor. Any type of capacitor can be used, but not Aluminum electrolytics when operating below -25°C. The capacitance may be increased without limit.

A 1μF capacitor (or larger) should be placed between VIN to GND.

UR132 ADJUSTABLE



Cr:10uF to improve ripple rejection

$V_{OUT}=V_{REF}(1+R2/R1)+I_{ADJ}*R2$