

5A ADJUSTABLE/FIXED LOW DROPOUT LINEAR REGULATOR

DESCRIPTION

The UTC UZ1084-ADJ/Fixed voltage are low dropout three-terminal regulators with 5A output current capability. These devices have been optimized for low voltage applications including V_{TT} bus termination, where transient response and minimum input voltage are critical.

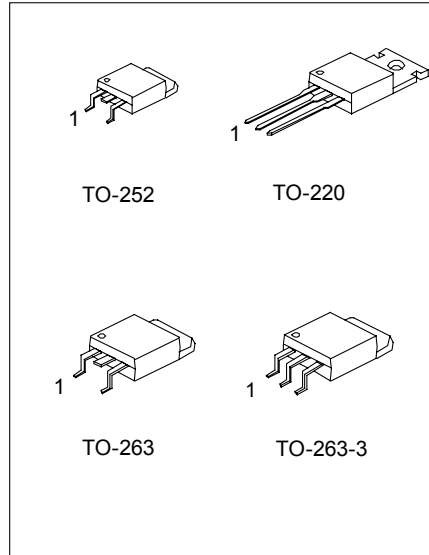
On-chip thermal limiting provides protection against any combination of overload and ambient temperature that would create excessive junction temperatures.

FEATURE

- *Fast transient response
- *Low dropout Voltage at up to 5A
- *Load regulation : 0.5% typical
- *On-chip thermal limiting

APPLICATIONS

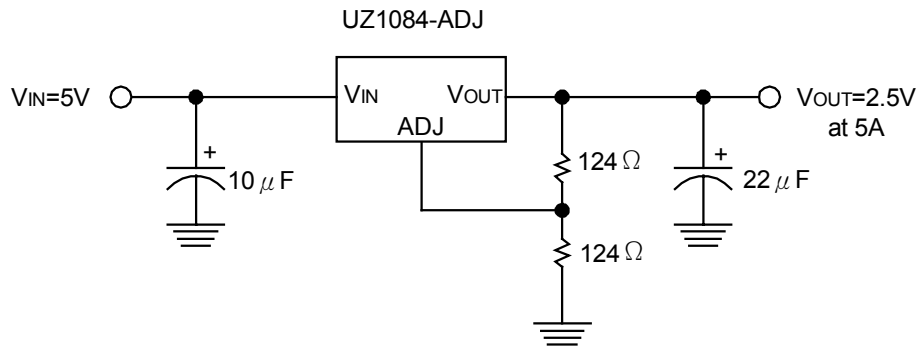
- *Desktop PCs, RISC and embedded processors' supply
- *GTI, SSTL logic Reference bus supply
- *Low voltage VCC logic supply
- *Battery-powered circuitry
- *Post regulator for switching supply
- *Cable and ADSL modems' DSP core supply
- *Set Top Boxes and Web Boxes modules' supply



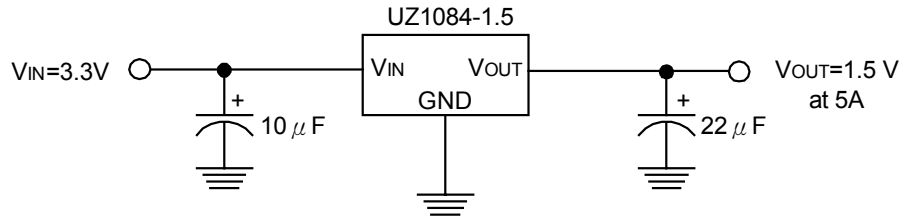
1: ADJ/GND 2: V_{OUT} 3: V_{IN}

TYPICAL APPLICATION CIRCUIT

Adjustable Voltage Regulator



Fixed Voltage Regulator



ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MAX	UNIT
Input Supply Voltage	V _{IN}	15	V
Operating Junction Temperature Range	T _J	0 ~ 125	°C
Storage Temperature Range	T _{STG}	-65 ~ 150	°C
Lead Temperature (soldering, 10 seconds)	T _{LEAD}	300	°C

UTC UZ1084-ADJ(ADJUSTABLE) ELECTRICAL CHARACTERISTICS

(Operating Conditions : 4.75 ≦ V_{IN} ≦ 5.25, T_J=25°C unless otherwise specified)

PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Reference Voltage	I _O =10mA	1.23	1.25	1.27	V
Line Regulation	I _O =10mA		0.5	2	%
Load Regulation	10mA ≦ I _O ≦ 5A		0.5	2.5	%
Dropout Voltage	ΔV _{REF} %=2%, I _O =5A			1.5	V
Current Limit	(V _{IN} -V _{OUT})=2V	5.5	6.5		A
Adjust Pin Current			35	100	μA
Minimum Load Current	1.5V ≦ (V _{IN} -V _{OUT}) ≦ 5.75V		5	10	mA
Thermal Resistance, Junction to Case			3		°C/W
Thermal shutdown			150		°C

UTC UZ1084-X.X(FIXED VOLTAGE) ELECTRICAL CHARACTERISTICS

(Operating Conditions : $1.5V \leq (V_{IN}-V_{OUT}) \leq 5.75V$, $T_J=25^\circ C$ unless otherwise specified)

PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT	
Output Voltage	$I_o=10mA$	$\pm 1\%$	1.485	1.5	1.515	V
		$\pm 2\%$	1.470	1.5	1.530	
	$I_o=10mA$	$\pm 1\%$	1.782	1.8	1.818	
		$\pm 2\%$	1.764	1.8	1.836	
	$I_o=10mA$	$\pm 1\%$	2.475	2.5	2.525	
		$\pm 2\%$	2.450	2.5	2.550	
	$I_o=10mA$	$\pm 1\%$	3.267	3.3	3.333	
		$\pm 2\%$	3.234	3.3	3.366	
	$I_o=10mA$	$\pm 1\%$	4.950	5.0	5.050	
		$\pm 2\%$	4.900	5.0	5.100	
Line Regulation	$I_o=10mA$		0.5	2	%	
Load Regulation	$10mA \leq I_o \leq 5A$		0.5	2.5	%	
Dropout Voltage	$\Delta V_{ref}\%=2\%, I_o=5A$			1.5	V	
Current Limit	$(V_{IN}-V_{OUT})=2V$	5.5	6.5		A	
Minimum Load Current	$1.5V \leq (V_{IN}-V_{OUT}) \leq 5.75V$		5	10	mA	
Quiescent Current	$V_{IN}=12V$		10	13	mA	
Thermal Resistance, Junction to Case			3		$^\circ C/W$	
Thermal shutdown			150		$^\circ C$	

TYPICAL PERFORMANCE CHARACTERISTICS

