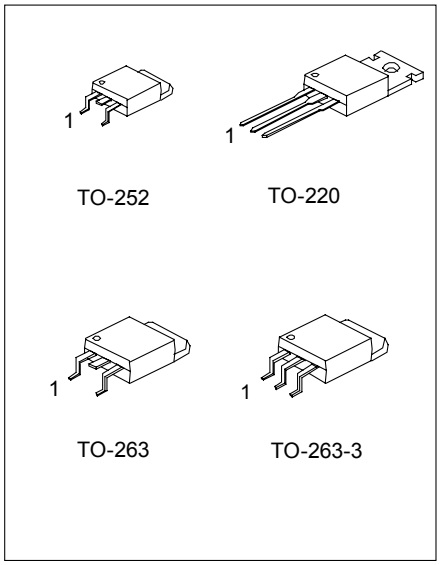
5A ADJUSTABLE/FIXED LOW DROPOUT LINEAR REGULATOR



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

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

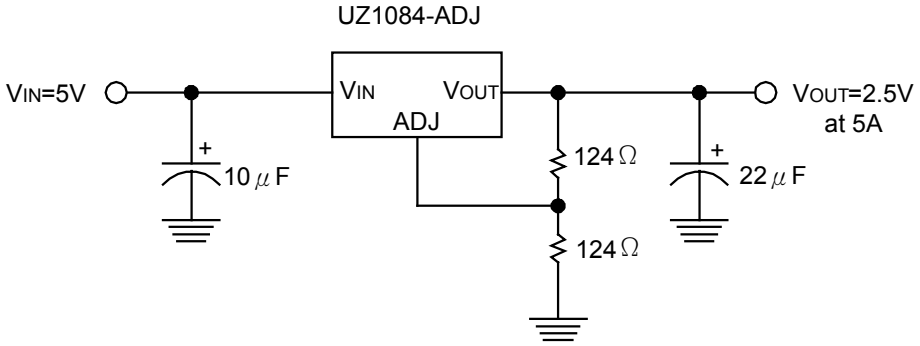
*Fast transient response
*Low dropout Voltage at up to 5A
*Load regulation : 0.5% typical
*On-chip thermal limiting

APPLICATIONS

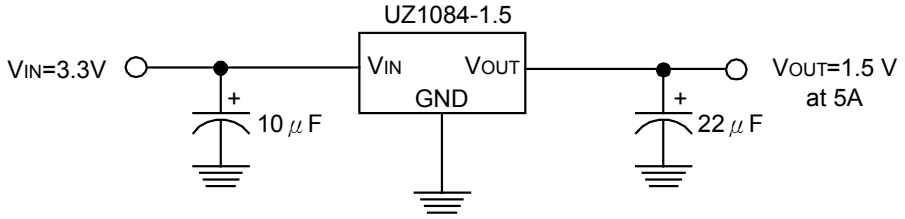
*Desktop PCs, RISC and embedded processors' supply
*GTI, SSTL logic Reference bus supply
*Low voltage VCC logic supply
*Battery-powered circuitry
*Post regulator for switching supply
*Cable and ADSL modems' DSP core supply
*Set Top Boxes and Web Boxes modules' supply

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 : $4.75 \leqq V_{IN} \leqq 5.25$,Tj=25℃ 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	$10mA \leqq I_O \leqq 5A$		0.5	2.5	%
Dropout Voltage	$\triangle V_{REF}$%=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	$1.5V \leqq (V_{IN}-V_{OUT}) \leqq 5.75V$		5	10	mA
Thermal Resistance, Junction to Case			3		℃/W
Thermal shutdown			150		℃

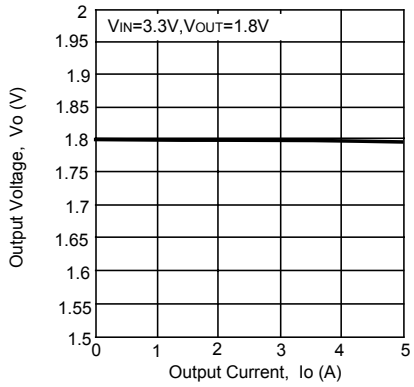
UTC UZ1084-X.X(FIXED VOLTAGE) ELECTRICAL CHARACTERISTICS

(Operating Conditions : 1.5V≦(V_{IN}-V_{OUT})≦5.75V,Tj=25℃ unless otherwise specified)

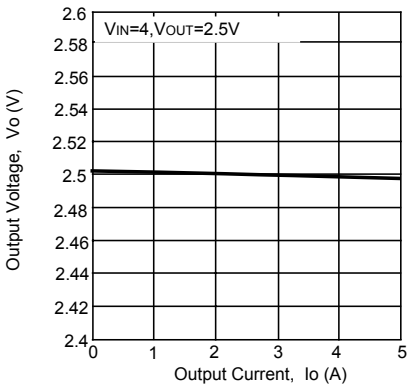
PARAMETER	CONDITIONS		MIN.	TYP.	MAX.	UNIT
Output Voltage	I_O=10mA	±1%	1.485	1.5	1.515	V
		±2%	1.470	1.5	1.530	
	I_O=10mA	±1%	1.782	1.8	1.818	
		±2%	1.764	1.8	1.836	
	I_O=10mA	±1%	2.475	2.5	2.525	
		±2%	2.450	2.5	2.550	
	I_O=10mA	±1%	3.267	3.3	3.333	
		±2%	3.234	3.3	3.366	
	I_O=10mA	±1%	4.950	5.0	5.050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

TYPICAL PERFORMANCE CHARACTERISTICS

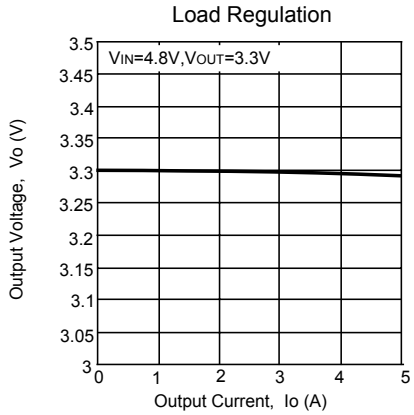
Load Regulation



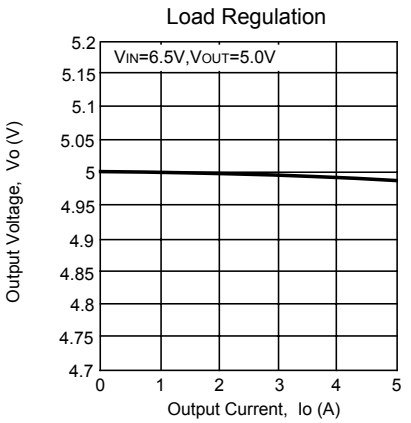
Load Regulation



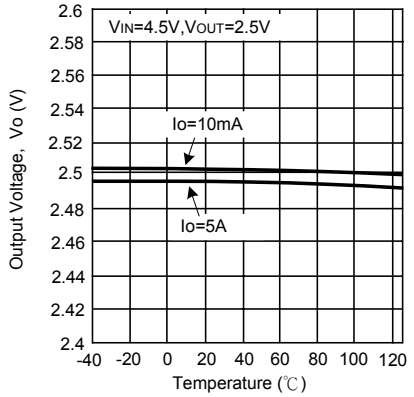
Load Regulation



Load Regulation



Output Voltage v.s. Temperature



Quiescent Current v.s. Temperature