



LD1117AH

LINEAR INTEGRATED CIRCUIT

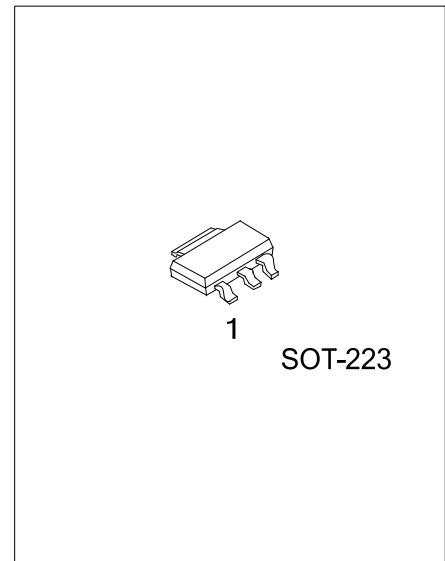
LOW DROP FIXED AND ADJUSTABLE POSITIVE VOLTAGE REGULATORS

■ DESCRIPTION

The UTC **LD1117AH** is a low dropout, 3-terminal positive voltage regulator designed to provide output current up to 1A, There are adjustable version ($V_{REF}=1.25V$) and various fixed versions.

■ FEATURES

- * Low dropout voltage
- * Suitable for SCSI-2 active termination if V_{OUT} set to 2.85V
- * Output current up to 1.0A
- * Built-in current limit and over temperature protection
- * Low current consumption
- * Support MLCC



■ ORDERING INFORMATION

Ordering Number		Package	① Pin Assignment				② Packing
Lead Free	Halogen Free		Pin Code	1	2	3	R: Tape Reel
LD1117AHL-xx-AA3-①-R	LD1117AHG-xx-AA3-①-R	SOT-223	A	G	O	I	
			B	O	G	I	
			C	G	I	O	
			D	I	G	O	

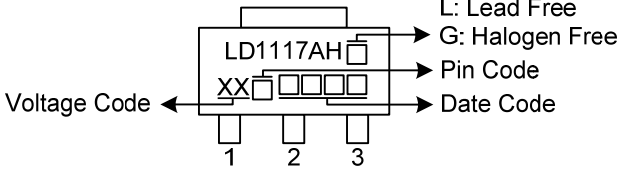
Notes: 1. Pin Assignment: I: V_{IN} O: V_{OUT} G: GND
 2. xx: Output Voltage, Refer to Marking Information.

<p>LD1117AHG-xx-AA3-①-②</p>	<p>(1) Packing Type (2) Pin Assignment (3) Package Type (4) Output Voltage Code (5) Green Package</p>	<p>(1) R: Tape Reel (2) refer to Pin Assignment (3) AA3: SOT-223 (4) xx: refer to Marking Information (5) G: Halogen Free and Lead Free, L: Lead Free</p>
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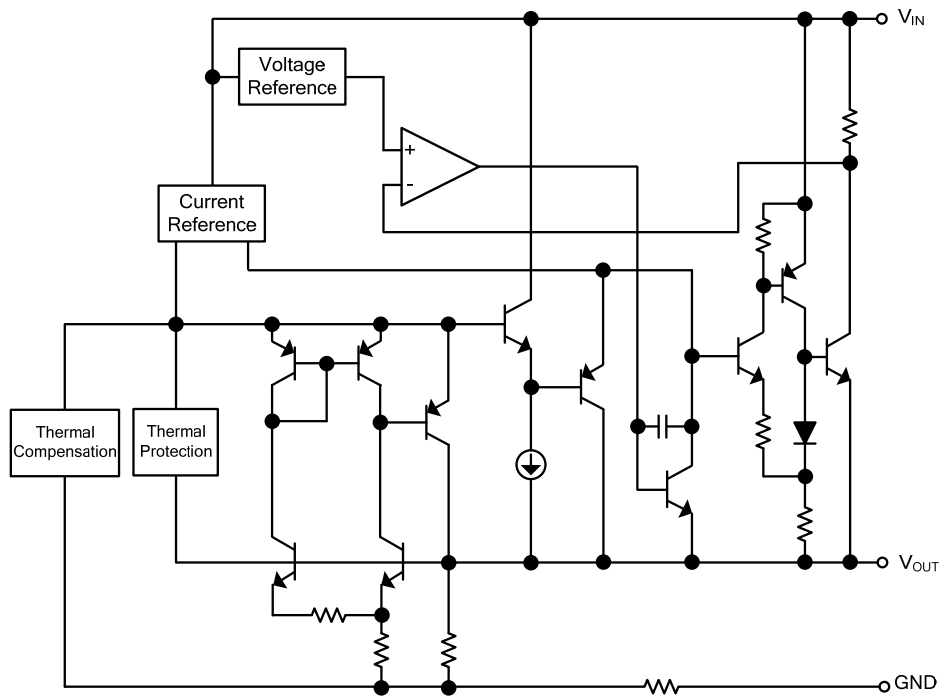
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MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
SOT-223	33 : 3.3V	

BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
DC Input Voltage	V _{IN}	20	V
Power Dissipation	P _D	Internally limited	
Junction Temperature	T _J	+150	°C
Operating Temperature (Note 2)	T _{OPR}	-20 ~ +125	°C
Storage temperature	T _{STG}	-65 ~ +150	°C

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. This condition is only determined from design. It can't be 100% tested in mass production.

■ RECOMMENDED OPERATING RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	V _{IN}	15	V
Operating Junction Temperature	T _J	-20 ~ +125	°C

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ _{JA}	165	°C/W
Junction to Case	θ _{JC}	15	°C/W

■ ELECTRICAL CHARACTERISTICS

(T_A=25°C, refer to the test circuits, T_J=0 ~ 125°C, C_O=10μF unless otherwise specified)

For LD1117AH-3.3

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Output Voltage	V _{OUT}	V _{IN} =5.3V, I _{OUT} =10mA, T _J =25°C	3.234	3.300	3.366	V
Output Voltage	V _{OUT}	V _{IN} =4.75 to 10V, I _{OUT} =0~1000mA	3.234	3.300	3.366	V
Line Regulation	ΔV _{OUT}	V _{IN} =4.75 to 15V, I _{OUT} =0mA		1	6	mV
Load Regulation	ΔV _{OUT}	V _{IN} =4.75V, I _{OUT} =0~1000mA		1	10	mV
Temperature stability	ΔV _{OUT}			0.5		%
Long Term Stability	ΔV _{OUT}	1000 hrs, T _J =125°C		0.3		%
Operating Input Voltage	V _{IN}	I _{OUT} =100mA			15	V
Quiescent Current	I _Q	V _{IN} ≤15V		5	10	mA
Current Limit	I _{LIMIT}	V _{IN} =8.3V, T _J =25°C	1000			mA
Output Noise Voltage	e _N	B=10Hz to 10KHz, T _J =25°C		100		μV
Supply Voltage Rejection	SVR	I _{OUT} =40mA, f=120Hz, T _J =25°C, V _{IN} =6.3V, V _{RIPPLE} =1V _{PP}	60	75		dB
Dropout Voltage	V _D	I _{OUT} =100mA		1.00	1.10	V
		I _{OUT} =500mA		1.15	1.25	
		I _{OUT} =800mA		1.20	1.30	
		I _{OUT} =1A		1.20	1.30	
Thermal Regulation		T _A =25°C, 30ms Pulse		0.01	0.10	%/W

■ TYPICAL APPLICATIONS

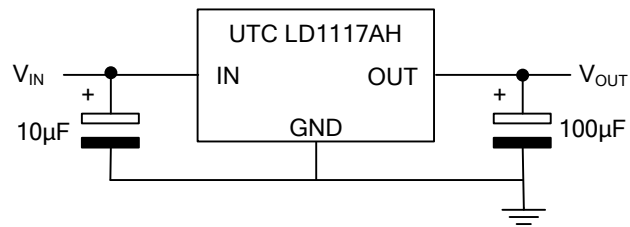


Fig.1 Tynca Application Circuit

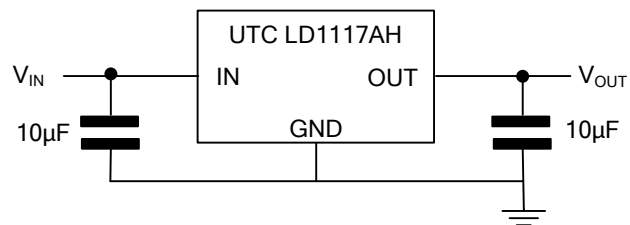


Fig.2 Tynca Application Circuit (FOR MLCC)

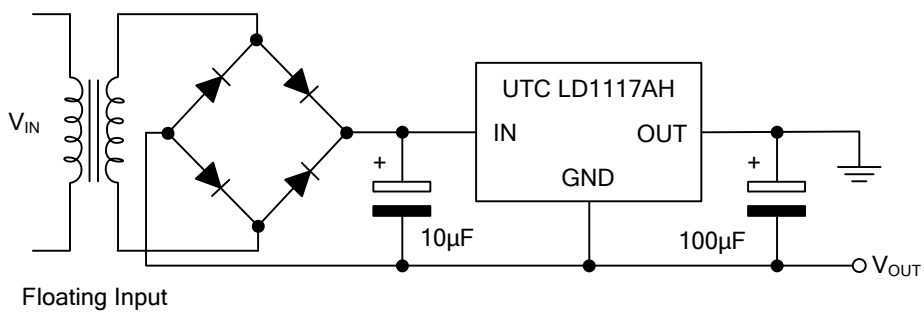


Fig.3 Negative Supply

■ TYPICAL APPLICATIONS(Cont.)

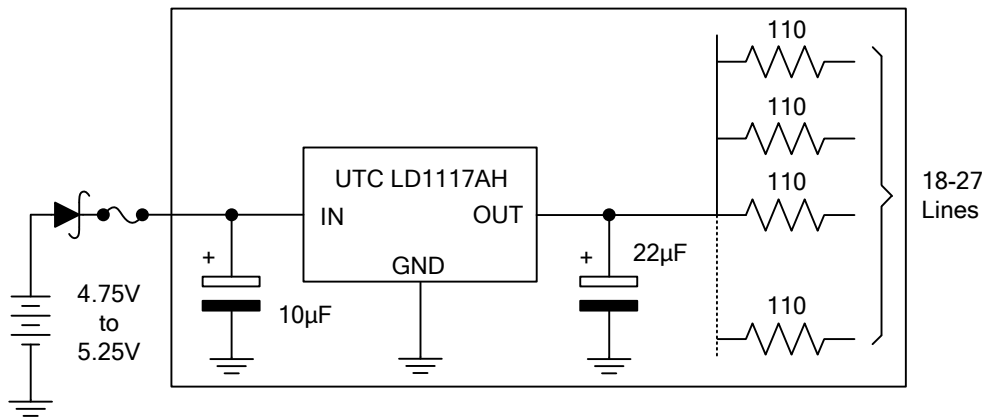


Fig.4 Active Terminator for SCSI-2 BUS

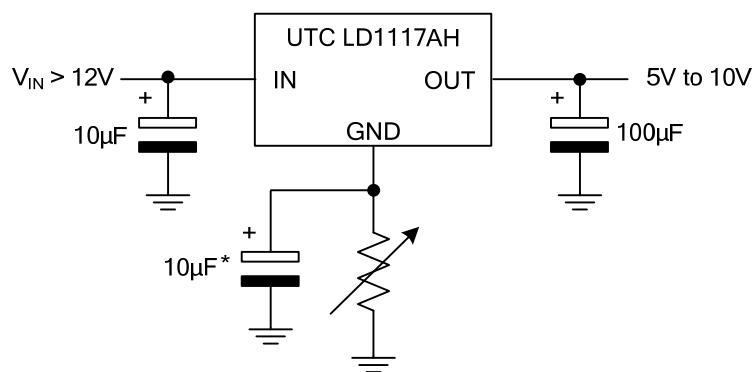
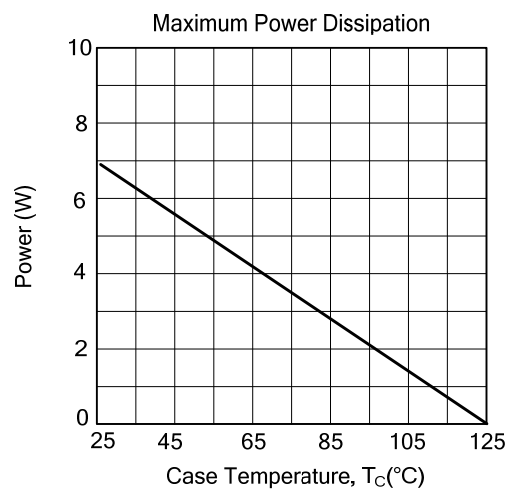
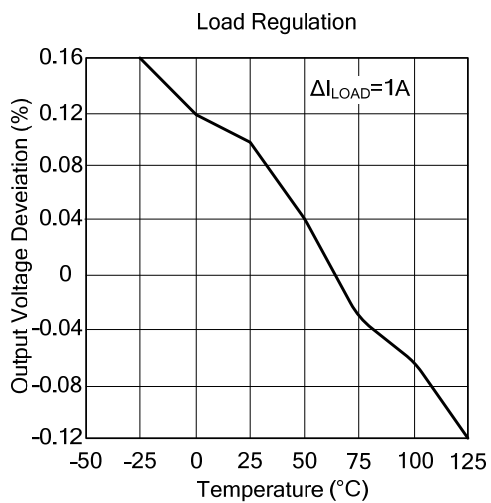
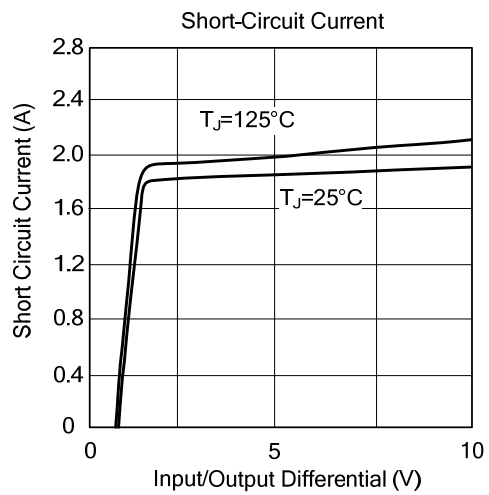
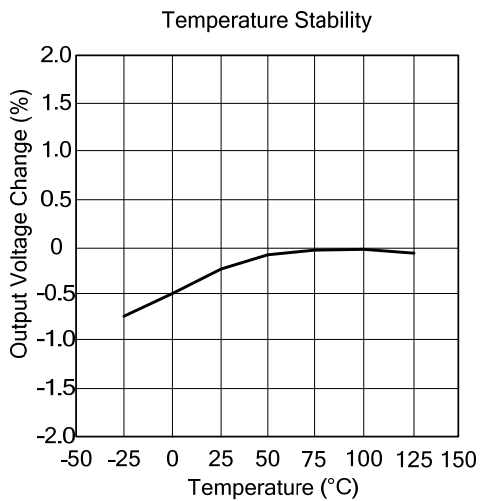
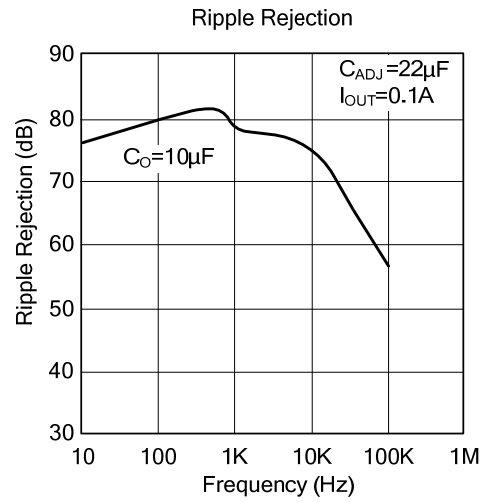
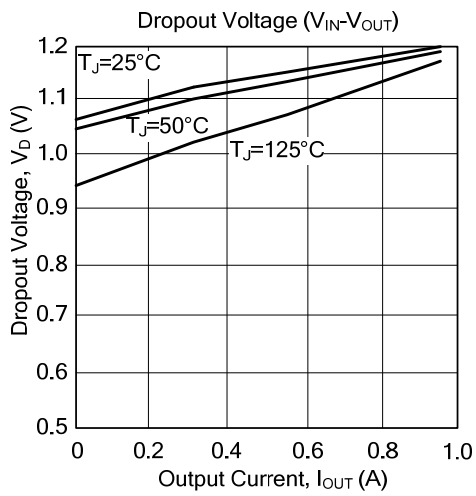
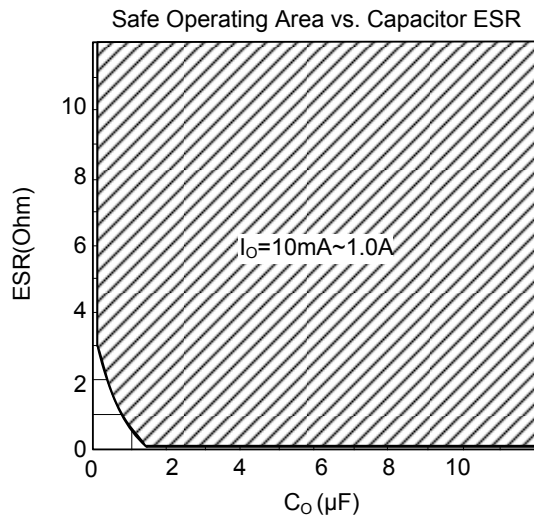


Fig.5 Circuit for Increasing Output Voltage

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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