Features

- Maximum Output Current is 1.0A
- Range of Operation Input Voltage: Max 15V
- Line Regulation: 0.03%/V (typ.)
- Standby Current: 2mA (typ.)
- Load Regulation: 0.2%/A (typ.)
- Moisture Sensitivity Level 3
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. “Green” Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)

Low Dropout Linear Regulator

Applications

- Power Management for Computer Mother Board, Graphic Card
- CD Monitor and LCD TV
- DVD Decode Board
- ADSL Modem
- Post Regulators For Switching Supplies

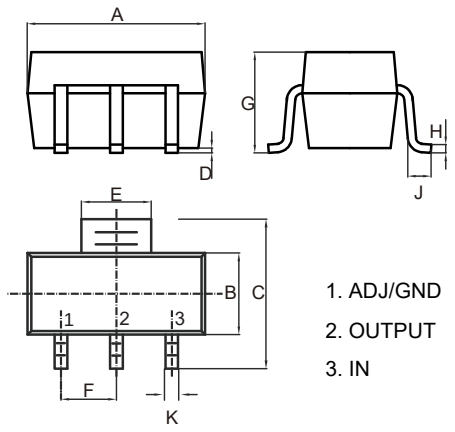
Description

MCT1119C is a series of low dropout three-terminal regulators with a dropout of 1.3V at 1A load current. MCT1119C features a very low standby current 2mA compared to 5mA of competitor.
Other than a fixed version, Vout = 1.5V and adjustable version, which can provide an output voltage from 1.25 to 12V with only two external resistors. MCT1119C offers thermal shut down function, to assure the stability of chip and power system. And it uses trimming technique to guarantee output voltage accuracy within 2%. Other output voltage accuracy can be customized on demand, such as 1%.

MCC Part Number	Device Marking(2)
MCT1119C-1.5	1119 1.5 YYWW
MCT1119C-ADJ	1119 ADJ YYWW

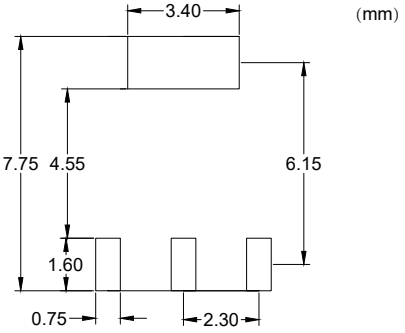
Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. YYWW: Date Code.

SOT-223

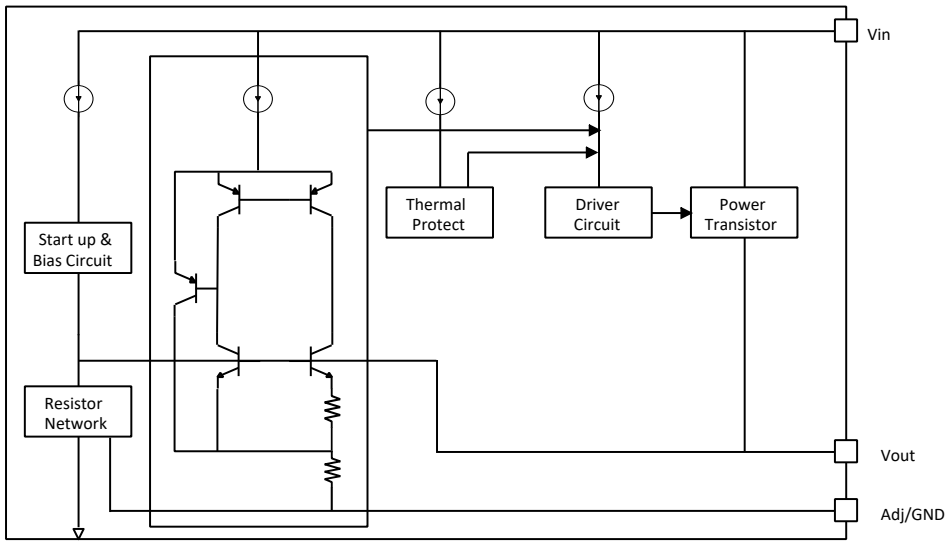


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.248	0.264	6.30	6.70	
B	0.130	0.146	3.30	3.70	
C	0.264	0.287	6.70	7.30	
D	0.001	0.004	0.02	0.10	
E	0.114	0.122	2.90	3.10	
F	0.091		2.30		TYP.
G	---	0.071	---	1.80	
H	0.009	0.014	0.23	0.35	
J	0.030	---	0.75	---	
K	0.026	0.033	0.66	0.84	

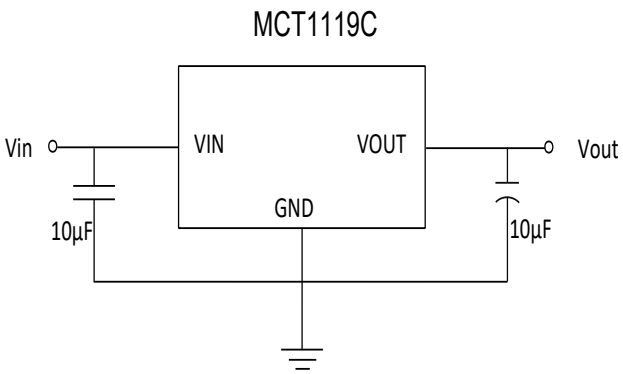
Suggested Solder Pad Layout



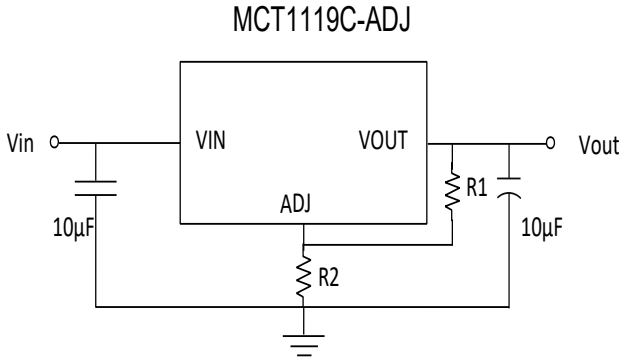
Functional Block Diagram



Typical Application Circuit



Application circuit of MCT1119C fixed version



Application circuit of MCT1119C-ADJ

Absolute Maximum Ratings

- Max Input Voltage: 30V
- Max Operating Junction Temperature: 150°C
- Ambient Temperature Range: -40~+85°C
- Storage Temperature Range: -40~+150°C
- Lead Temperature & Time: 260°C, 10s

Caution: Exceed these limits to damage to the device. Exposure to absolute maximum rating conditions may affect device reliability.

Recommended Work Conditions

- Recommended Maximum Input Voltage: 15V
- Recommended Operating Junction Temperature: -20~+125°C

Package Thermal Resistance

- SOT-223 θ_{JC}:20℃/W
- SOT-223 θ_{JA}:60℃/W

Electrical Characteristics (T_A=25℃, unless otherwise noted.)

Parameter	Symbol	Item	Test Conditions	Min	Typ	Max	Unit
Reference Voltage	Vref	ADJ	10mA≤Iout≤1A , Vin=3.25V	1.225	1.25	1.275	V
Output Voltage	Vout	1.5V	0≤Iout≤1A , Vin=3.5V	1.47	1.5	1.53	V
Line Regulation	ΔVout	ADJ	Iout=10mA, 2.75V≤Vin≤12V		0.03	0.2	%/V
		1.5V	Iout=10mA, 3V≤Vin≤10V		0.03	0.2	
Load Regulation	ΔVout	ADJ	Vin =2.75V, 10mA≤Iout≤1A		2	8	mV
		1.5V	Vin =3.0V, 10mA≤Iout≤1A		2	8	
Dropout Voltage	Vdrop		Iout =100mA		1.05	1.1	V
			Iout=1A		1.1	1.3	
Minimum Load Current	Imin	ADJ			2	10	mA
Quiescent Current	Iq	1.5V	Vin=10V		2	5	mA
Adjust Pin Current	Iadj	ADJ	Vin =5V, 10mA≤Iout≤1A		55	120	μA
Iadj Change	Ichange	ADJ	Vin =5V, 10mA≤Iout≤1A		0.2	10	μA
Temperature Coefficien	ΔV/ΔT				±100		ppm
Maximum Output Current	$I_{out(max)}$				1.0	1.2	A

Electrical Characteristics (T_A=25°C, unless otherwise noted.)

Parameter	Symbol	Item	Test Conditions		Min	Typ	Max	Unit
Power Supply Rejection Ratio	PSRR		Ripple 1.0 V_{p-p} $V_{IN}=V_{OUT}+2V$, I_{OUT} = 100mA	f=120Hz		63		dB
				f=1KHz		63		dB
RMS Output Noise	V_{NOISE}		10Hz ≤ f ≤ 100kHz, No Load			0.006		%
Thermal Shutdown Temperature	T_{OTSD}					190		°C
Thermal Shutdown Hysteresis	T_{HYOTSD}					20		°C

* All test are conducted under ambient temperature 25°C and within a short period of time 20ms.

* Load current smaller than minimum load current of MCT1119C-ADJ will lead to unstable or oscillation output.

Curve Characteristics

Fig.1 - MCT1119C-ADJ Line regulation

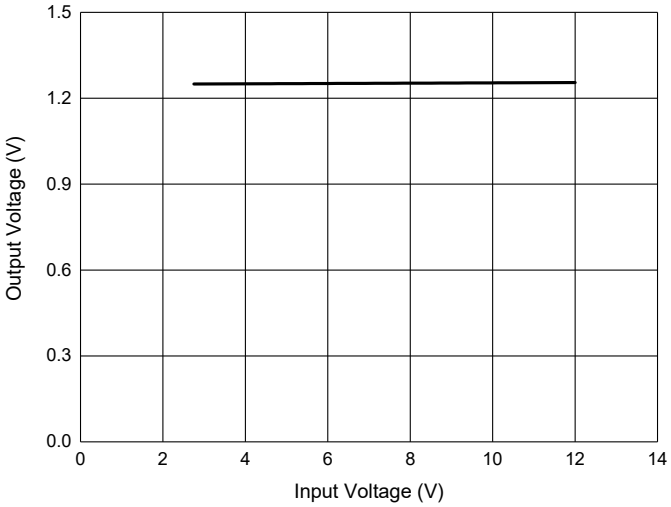


Fig.2 - MCT1119C-ADJ Load Regulation

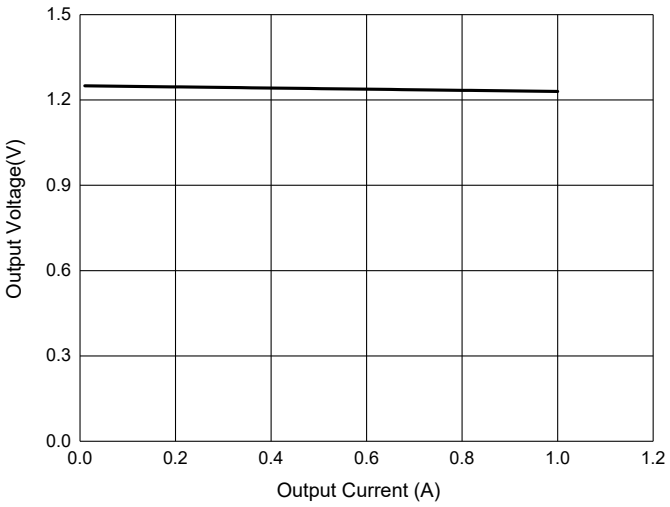


Fig.3 - MCT1119C-ADJ Dropout Voltage

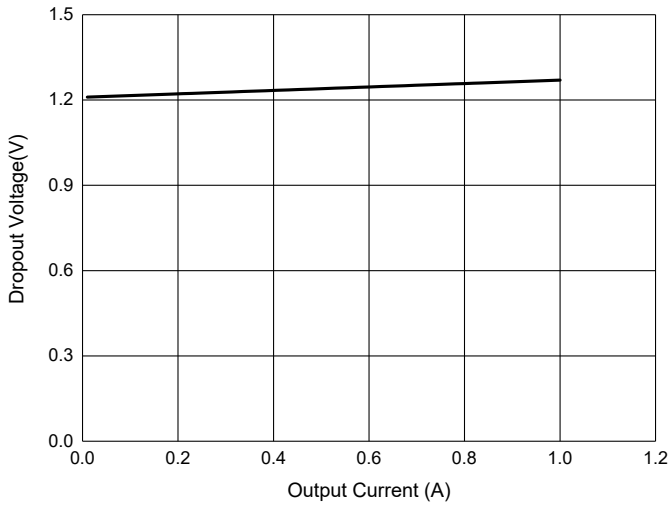
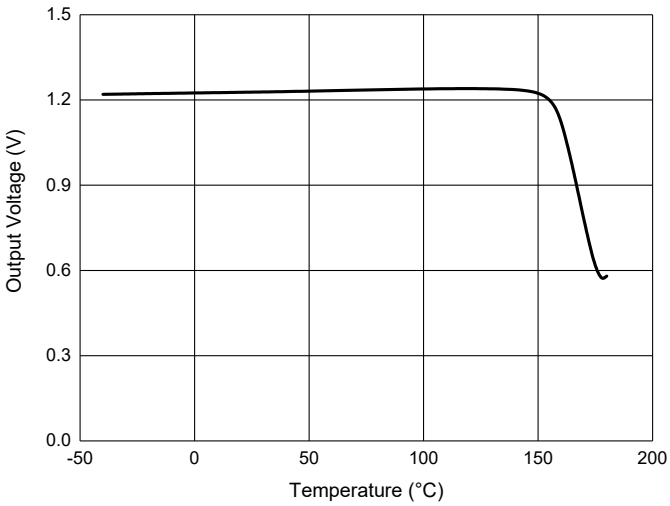


Fig. 4 - MCT1119C-ADJ Thermal Performance with OTP



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

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