Features

- Maximum Output Current is 1.0A
- Range of Operation Input Voltage: Max 30V
- Line Regulation: 0.03%/V (typ.)
- Standby Current: 2mA (typ.)
- Load Regulation: 0.2%/A (typ.)
- Environment Temperature: -40°C~ 85°C
- 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

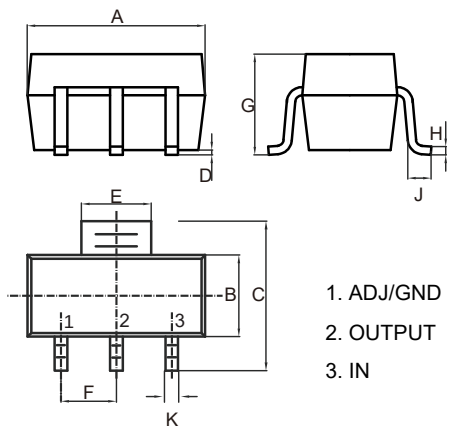
Description

MCT1117C is a series of low dropout three-terminal regulators with a dropout of 1.3V at 1A load current. MCT1117C features a very low standby current 2mA compared to 5mA of competitor.
Other than a fixed version, Vout = 1.2V, 1.5V, 1.8V, 2.5V, 2.85V, 3.3V, and 5V, MCT1117C has an adjustable version, which can provide an output voltage from 1.25 to 12V with only two external resistors.
MCT1117C 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)
MCT1117C-1.2	1117 1.2 YYWW
MCT1117C-1.5	1117 1.5 YYWW
MCT1117C-1.8	1117 1.8 YYWW
MCT1117C-2.5	1117 2.5 YYWW
MCT1117C-2.85	1117 2.8 YYWW
MCT1117C-3.3	1117 3.3 YYWW
MCT1117C-5.0	1117 5.0 YYWW
MCT1117C-ADJ	1117 ADJ YYWW

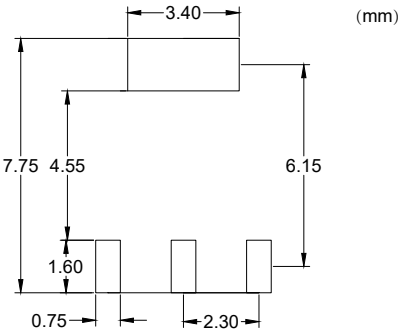
Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. YYWW: Date Code.

SOT-223

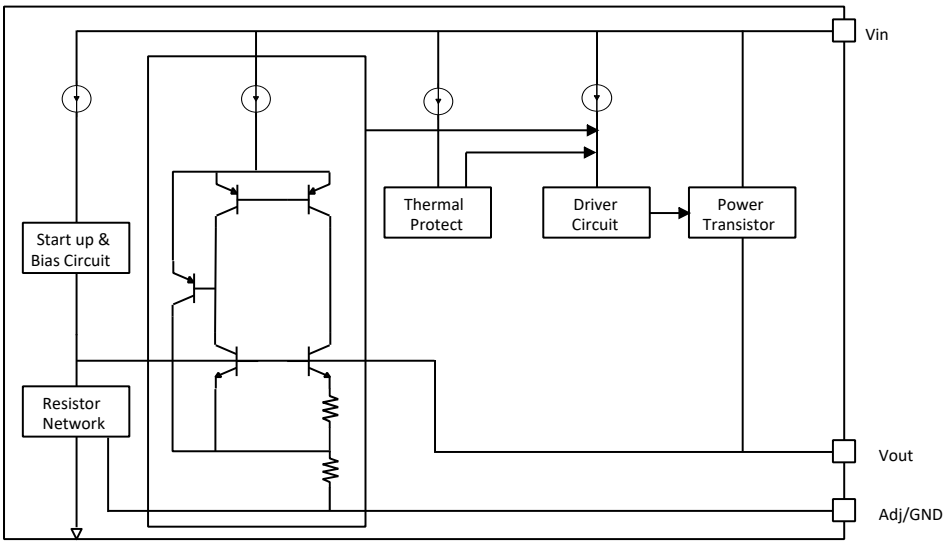


DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.248	0.264	6.30	6.70	
B	0.130	0.146	3.30	3.70	
C	0.264	0.287	6.70	7.30	
D	0.001	0.004	0.02	0.10	
E	0.114	0.122	2.90	3.10	
F	0.091		2.30		TYP.
G	---	0.071	---	1.80	
H	0.009	0.014	0.23	0.35	
J	0.030	---	0.75	---	
K	0.026	0.033	0.66	0.84	

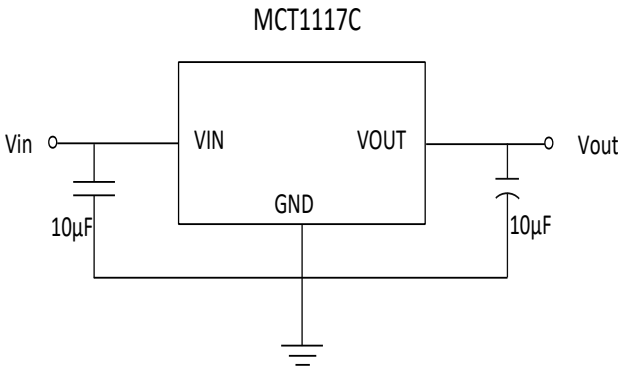
Suggested Solder Pad Layout



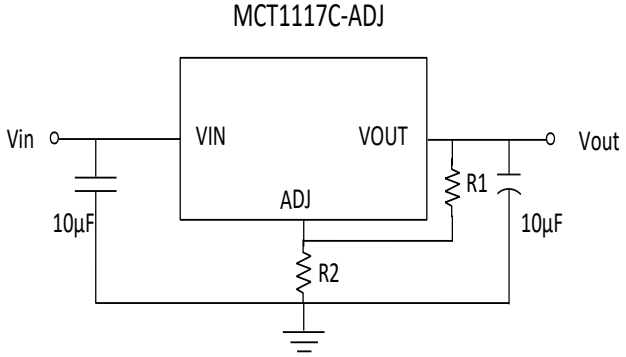
Functional Block Diagram



Typical Application Circuit



Application circuit of MCT1117C fixed version



Application circuit of MCT1117C-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: 18V
- Recommended Operating Junction Temperature: -20~+125°C

Package Thermal Resistance

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

Power Dissipation

- SOT-223 :1.2W

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	1.2V	0≤Iout≤1A , Vin=3.2V	1.176	1.2	1.224	V
		1.5V	0≤Iout≤1A , Vin=3.5V	1.47	1.5	1.53	
		1.8V	0≤Iout≤1A , Vin=3.8V	1.764	1.8	1.836	
		2.5V	0≤Iout≤1A , Vin=4.5V	2.45	2.5	2.55	
		2.85V	0≤Iout≤1A , Vin=4.85V	2.793	2.85	2.907	
		3.3V	0≤Iout≤1A , Vin=5.3V	3.234	3.3	3.366	
		5.0V	0≤Iout≤1A , Vin=7V	4.9	5	5.1	
Line Regulation	ΔVout	ADJ	Iout=10mA, 2.75V≤Vin≤12V		0.03	0.2	%/V
		1.2V	Iout=10mA, 2.7V≤Vin≤10V		0.03	0.2	
		1.5V	Iout=10mA, 3V≤Vin≤10V		0.03	0.2	
		1.8V	Iout=10mA, 3.3V≤Vin≤12V		0.03	0.2	
		2.5V	Iout=10mA, 4.0V≤Vin≤12V		0.03	0.2	
		2.85V	Iout=10mA, 4.35V≤Vin≤12V		0.03	0.2	
		3.3V	Iout=10mA, 4.8V≤Vin≤12V		0.03	0.2	
		5.0V	Iout=10mA, 6.5V≤Vin≤12V		0.03	0.2	

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

Parameter	Symbol	Item	Test Conditions	Min	Typ	Max	Unit
Load Regulation	ΔVout	ADJ	Vin =2.75V, 10mA≤Iout≤1A		2	8	mV
		1.2V	Vin =2.7V, 10mA≤Iout≤1A		2	8	
		1.5V	Vin =3.0V, 10mA≤Iout≤1A		2	8	
		1.8V	Vin =3.3V, 10mA≤Iout≤1A		3	12	
		2.5V	Vin =4.0V, 10mA≤Iout≤1A		4	16	
		2.85V	Vin =4.35V, 10mA≤Iout≤1A		5	20	
		3.3V	Vin =4.8V, 10mA≤Iout≤1A		6	24	
		5.0V	Vin =6.5V, 10mA≤Iout≤1A		9	36	
Dropout Voltage	Vdrop		Iout =100mA		1.15	1.3	V
			Iout=1A		1.3	1.4	
Minimum Load Current	Imin	ADJ			2	10	mA
Quiescent Current	Iq	1.2V	Vin=10V		2	5	mA
		1.5V	Vin=10V		2	5	
		1.8V	Vin=12V		2	5	
		2.5V	Vin=12V		2	5	
		2.85V	Vin=12V		2	5	
		3.3V	Vin=12V		2	5	
		5.0V	Vin=12V		2	5	
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		Vin=4.5V, Iout=10mA VOUT=3.3V 20℃≤Ta≤120℃		±100		ppm
Maximum Output Current	$I_{out(max)}$				1.0	1.2	A
Power Supply Rejection Ratio	PSRR		Ripple 1.0 V_{p-p} V_{IN}=V_{OUT}+2V, I_{OUT} = 100mA, f=120Hz		60		dB
			f=1KHz		62		dB
RMS Output Noise	V_{NOISE}		10Hz ≤ f ≤ 100kHz, No Load		0.005		%
Thermal Shutdown Temperature	T_{OTSD}				220		°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 MCT1117C-ADJ will lead to unstable or oscillation output.

Curve Characteristics

Fig.1 - MCT1117C-ADJ Line regulation

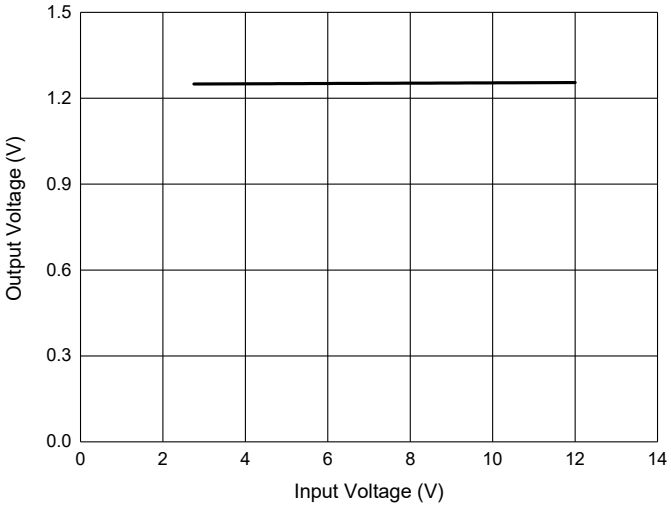


Fig.2 - MCT1117C-ADJ Load Regulation

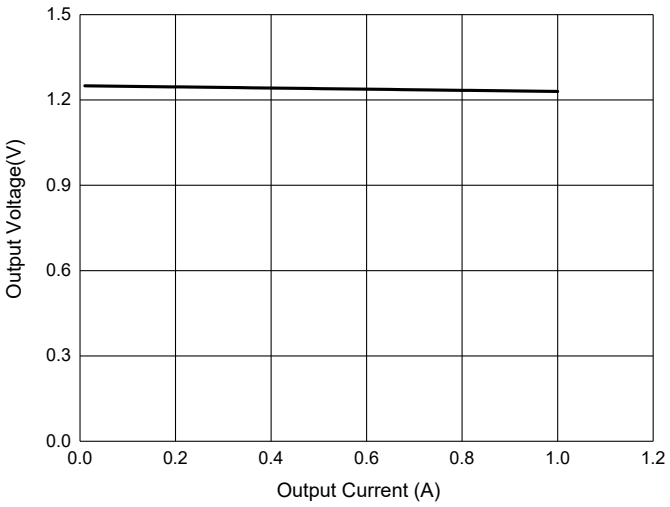


Fig.3 - MCT1117C-ADJ Dropout Voltage

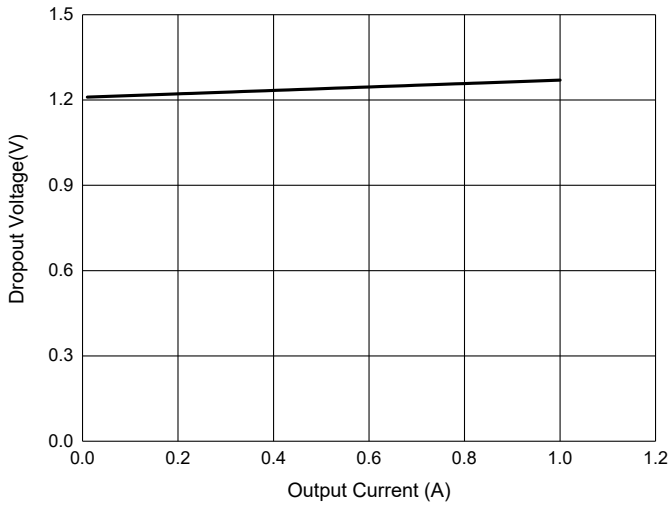
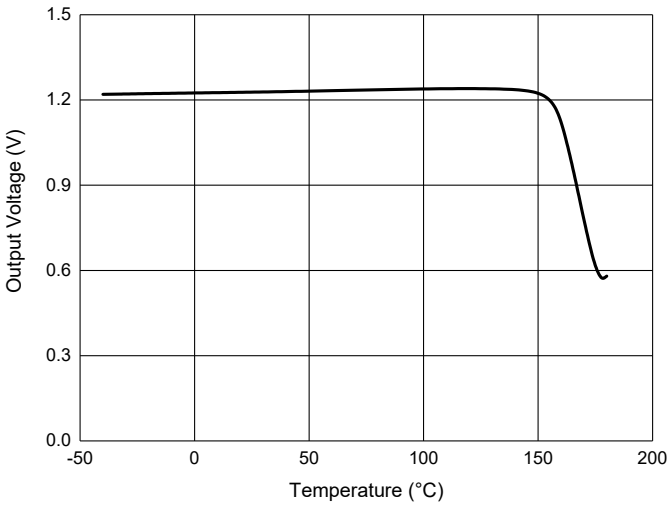


Fig. 4 - MCT1117C-ADJ Thermal Performance with OTP



Ordering Information

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

*****IMPORTANT NOTICE*****

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . ***Micro Commercial Components Corp*** . does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold ***Micro Commercial Components Corp*** . and all the companies whose products are represented on our website, harmless against all damages. ***Micro Commercial Components Corp***. products are sold subject to the general terms and conditions of commercial sale, as published at
https://www.mccsemi.com/Home/TermsAndConditions.

*****LIFE SUPPORT*****

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

*****CUSTOMER AWARENESS*****

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources**. MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

ENTEGRECİ

Bu belge www.entegreci.com üzerinden sunulmaktadır.

Elektronik komponent tedarikinde Entegreci

Entegreci, Eskişehir merkezli, Türkiye geneline satış yapan bir elektronik komponent mağazasıdır. Entegreler (IC), mikrodenetleyiciler, transistörler, diyotlar, pasif elemanlar, konnektörler, modüller ve geliştirme kartları tek adetten seri üretim adetlerine kadar satılır. Ürün sayfalarında güncel stok durumunu, fiyatı ve datasheet bağlantısını bulabilirsiniz.

Parça koduyla arama

Üretici parça numarasını yazın; stok ve fiyatı hemen görün.

www.entegreci.com

Ürün kategorileri

Entegreden kapasitöre tüm elektronik komponent kategorileri.

Kategorilere göz atın

Üreticiler

Aradığınız üreticinin ürünlerini tek sayfada inceleyin.

Üreticileri görün

Toplu alım ve teklif

Listede olmayan ya da yüksek adetli parçalar için teklif isteyin.

Teklif isteyin

www.entegreci.com | **destek@entegreci.com** | **0850 305 90 34**

Entegreci is an online electronic components store based in Türkiye. Search by manufacturer part number to see stock, prices and datasheets for integrated circuits, microcontrollers, transistors, passive components and connectors, or request a quote for parts that are not listed.

Bu sayfa Entegreci tarafından eklenmiştir. Belgenin önceki sayfaları asıl yayıncısına aittir ve içeriği değiştirilmemiştir; en güncel sürüm için belgenin yayıncısına başvurun.