Features

- Low Dropout Voltage: 1.15V(typ.) at 1000mA Output Current
- Moisture Sensitivity Level 1
- 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

Maximum Ratings

- Thermal Resistance: 100°C/W Junction to Ambient
- Storage Temperature Range: -55°C to +150°C
- Operating Junction Temperature : 150°C

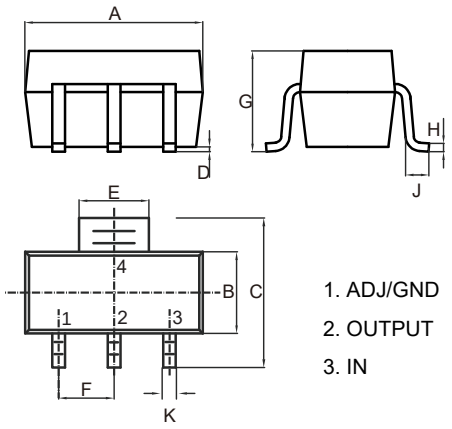
Parameter	Symbol	Value	Unit
Input Voltage	V_1	20	V
ESD Voltage (Machine Model)	V_{ESD}	400	V

Recommended Operating Conditions

Parameter	Symbol	Value	Unit
Input Voltage	V_i	15	V
Operating Junction Temperature	T_j	-25 ~125	°C

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

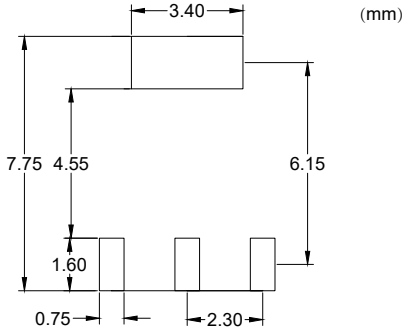
SOT-223



1. ADJ/GND
2. OUTPUT
3. IN

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



Electrical Characteristics(V_{in}≤10,T_J=25 ℃ Unless Otherwise Specified)

Parameter	Symbol	Part Number	Test Conditions	Min	Typ	Max	Unit
Reference Voltage	V_{IROC}	MCT1117B-ADJ	I_{OUT}=10mA, V_{IN} =3.23V	1.231	1.25	1.269	V
			10mA≤I_{OUT}≤1A, 2.75V≤V_{IN} -V_{OUT} ≤ 13.25V	1.225	1.25	1.275	V
Output Voltage	Vo	MCT1117B-1.8	I_{OUT}=10mA, V_{IN}=3.8V	1.773	1.8	1.827	V
			10mA≤I_{OUT}≤1A, 3.3V≤V_{IN} ≤12V	1.764	1.8	1.836	V
		MCT1117B-2.5	I_{OUT}=10mA, V_{IN}=4.5V	2.463	2.5	2.538	V
			10mA≤I_{OUT}≤1A, 4V≤V_{IN} ≤12V	2.45	2.5	2.55	V
		MCT1117B-3.3	I_{OUT}=10mA, V_{IN}=5.3V	3.251	3.3	3.35	V
			10mA≤I_{OUT}≤1A, 4.8V≤V_{IN} ≤12V	3.234	3.3	3.366	V
		MCT1117B-5.0	I_{OUT}=10mA, V_{IN}=7.0V	4.925	5	5.075	V
			10mA≤I_{OUT}≤1A, 6.5V≤V_{IN} ≤12V	4.9	5	5.1	V
Line Regulation	LNR	MCT1117B-ADJ	I_{OUT}=10mA, 1.5V≤V_{IN} -V_{OUT} ≤12V	-	-	0.2	%
		MCT1117B-1.8	I_{OUT}=10mA, 1.5V≤V_{IN} -V_{OUT} ≤10.2V	-	-	7	mV
		MCT1117B-2.5	I_{OUT}=10mA, 1.5V≤V_{IN} -V_{OUT} ≤9.5V	-	-	7	mV
		MCT1117B-3.3	I_{OUT}=10mA, 1.5V≤V_{IN} -V_{OUT} ≤8.7V	-	-	7	mV
		MCT1117B-5.0	I_{OUT}=10mA, 1.5V≤V_{IN} -V_{OUT} ≤7V	-	-	10	mV
Load Regulation	LDR	MCT1117B-ADJ	V_{IN}-V_{OUT}=1.5V, 10mA≤I_{OUT} ≤1A	-	-	0.4	%
		MCT1117B-1.8		-	-	7.2	mV
		MCT1117B-2.5		-	-	10	mV
		MCT1117B-3.3		-	-	13.2	mV
		MCT1117B-5.0		-	-	20	mV
Dropout Voltage	V_D		ΔV_{REF}=1%, I_{OUT}=1.0A	-	-	1.3	V
Adjustment Pin Current	I_{adj}			-	60	120	μA
Minimum Load Current	I_L		1.5V≤V_{IN} -V_{OUT} ≤12V (ADJ only)	-	1.7	5	μA
Quiescent Current	I_q		V_{IN}= V_{OUT}+1.25V (ADJ except)	-	-	10	mA
Ripple Rejection	RR		f=120Hz,C_{OUT}=22μFTantalum, V_{IN}-V_{OUT}=3V,I_{OUT}=1A	60	75	-	dB
Temperature Stability				-	0.5	-	%
Long-Term Stability			T_A=125℃, 1000hrs	-	0.3	-	%
RMS Output Noise (% of V_{OUT})			TA=25℃, 10Hz≤f ≤10kHz	-	0.003	-	%
Thermal Shutdown Hysteresis				-	25	-	℃

Ordering Information

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

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