

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 Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)

Maximum Ratings

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

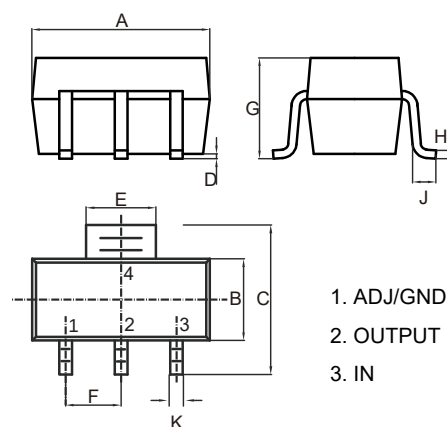
Parameter	Symbol	Value	Unit
Input Voltage	V_1	20	V
ESD Voltage (Machine Model)	V_{ESD}	400	V

Recommended Operating Conditions

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

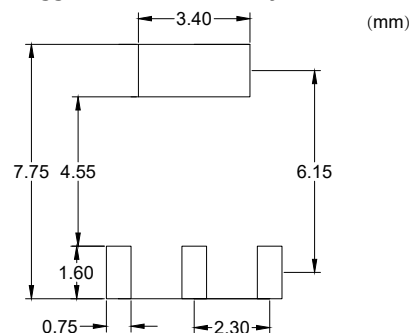
Low Dropout Linear Regulator

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



Electrical Characteristics ($V_{in} \leq 10V$, $T_J = 25^\circ C$ 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
			$10mA \leq I_{OUT} \leq 1A$, $2.75V \leq V_{IN} - V_{OUT} \leq 13.25V$	1.225	1.25	1.275	V
Output Voltage	V_O	MCT1117B-1.8	$I_{OUT} = 10mA$, $V_{IN} = 3.8V$	1.773	1.8	1.827	V
			$10mA \leq I_{OUT} \leq 1A$, $3.3V \leq V_{IN} \leq 12V$	1.764	1.8	1.836	V
		MCT1117B-2.5	$I_{OUT} = 10mA$, $V_{IN} = 4.5V$	2.463	2.5	2.538	V
			$10mA \leq I_{OUT} \leq 1A$, $4V \leq V_{IN} \leq 12V$	2.45	2.5	2.55	V
		MCT1117B-3.3	$I_{OUT} = 10mA$, $V_{IN} = 5.3V$	3.251	3.3	3.35	V
			$10mA \leq I_{OUT} \leq 1A$, $4.8V \leq V_{IN} \leq 12V$	3.234	3.3	3.366	V
		MCT1117B-5.0	$I_{OUT} = 10mA$, $V_{IN} = 7.0V$	4.925	5	5.075	V
			$10mA \leq I_{OUT} \leq 1A$, $6.5V \leq V_{IN} \leq 12V$	4.9	5	5.1	V
Line Regulation	LNR	MCT1117B-ADJ	$I_{OUT} = 10mA$, $1.5V \leq V_{IN} - V_{OUT} \leq 12V$	-	-	0.2	%
		MCT1117B-1.8	$I_{OUT} = 10mA$, $1.5V \leq V_{IN} - V_{OUT} \leq 10.2V$	-	-	7	mV
		MCT1117B-2.5	$I_{OUT} = 10mA$, $1.5V \leq V_{IN} - V_{OUT} \leq 9.5V$	-	-	7	mV
		MCT1117B-3.3	$I_{OUT} = 10mA$, $1.5V \leq V_{IN} - V_{OUT} \leq 8.7V$	-	-	7	mV
		MCT1117B-5.0	$I_{OUT} = 10mA$, $1.5V \leq V_{IN} - V_{OUT} \leq 7V$	-	-	10	mV
Load Regulation	LDR	MCT1117B-ADJ	$V_{IN} - V_{OUT} = 1.5V$, $10mA \leq I_{OUT} \leq 1A$	-	-	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		$\Delta V_{REF} = 1\%$, $I_{OUT} = 1.0A$	-	-	1.3	V
Adjustment Pin Current	I_{adj}			-	60	120	μA
Minimum Load Current	I_L		$1.5V \leq V_{IN} - V_{OUT} \leq 12V$ (ADJ only)	-	1.7	5	μA
Quiescent Current	I_q		$V_{IN} = V_{OUT} + 1.25V$ (ADJ except)	-	-	10	mA
Ripple Rejection	RR		$f = 120Hz$, $C_{OUT} = 22\mu F$ Tantalum, $V_{IN} - V_{OUT} = 3V$, $I_{OUT} = 1A$	60	75	-	dB
Temperature Stability				-	0.5	-	%
Long-Term Stability			$T_A = 125^\circ C$, 1000hrs	-	0.3	-	%
RMS Output Noise (% of V_{OUT})			$T_A = 25^\circ C$, $10Hz \leq f \leq 10kHz$	-	0.003	-	%
Thermal Shutdown Hysteresis				-	25	-	$^\circ C$

Ordering Information

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

Note : Adding "-HF" Suffix for Halogen Free, eg. Part Number-TP-HF

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