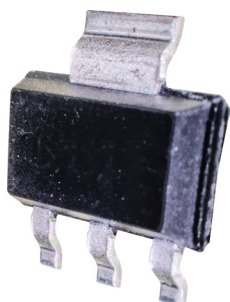


Positive Voltage Regulator

multicompPRO



Features

- Internal thermal overload protection
- Internal short circuit current limiting
- Output transistor safe operating area compensation
- This monolithic integrated circuit is an adjustable 3-terminal positive voltage regulator designed to supply more than 1.5A of load current with an output voltage adjustable over a 1.2 to 37V. It employs internal current limiting , thermal shut-down and safe area compensation.

**RoHS
Compliant**

Absolute Maximum Ratings $T_a = 25^{\circ}\text{C}$

Parameter	Symbol	Rating
Input-Output Voltage Differential	$V_i - V_o$	40V
Temperature Coefficient of Output Voltage	$\Delta V_o / \Delta T$	$\pm 0.02\text{V}$
Power Dissipation	P_D	Internally limited (W)
Thermal Resistance Junction to Case	$R_{\theta JC}$	5°C/W
Lead Temperature	T_{LEAD}	230°C
Operating Temperature Range	T_J	150°C
Storage Temperature Range	T_{stg}	-55°C to $+150^{\circ}\text{C}$

Electrical Characteristics ($V_o - V_i = 5\text{V}$, $I_o = 0.5\text{A}$, $0^{\circ}\text{C} \leq T_J \leq +125^{\circ}\text{C}$, $I_{MAX} = 1.5\text{A}$, $P_{MAX} = 20\text{W}$, unless otherwise specified)

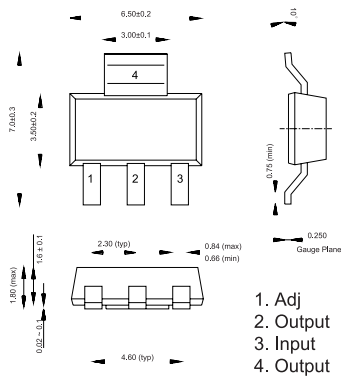
Parameter Name	Symbol	Test Conditions	Min	Typ	Max	Unit
Line Regulation	R_{line}	$3\text{V} \leq V_i - V_o \leq 40\text{V}$ $T_a = 25^{\circ}\text{C}$		0.01	0.04	% / V
		$3\text{V} \leq V_i - V_o \leq 40\text{V}$		0.02	0.07	
Load Regulation	R_{load}	$T_a = 25^{\circ}\text{C}$, $10\text{mA} \leq I_o \leq I_{MAX}$ $V_o < 5\text{V}$		18	25	mV% / V_o
		$V_o \geq 5\text{V}$		0.4	0.5	
		$10\text{mA} \leq I_o \leq I_{MAX}$ $V_o < 5\text{V}$		40	70	
		$V_o \geq 5\text{V}$		0.8	1.5	
Adjustable Pin Current	I_{ADJ}			46	100	μA
Adjustable Pin Current Change	ΔI_{ADJ}	$3\text{V} \leq V_i - V_o \leq 40\text{V}$ $10\text{mA} \leq I_o \leq I_{MAX}$, $P_D \leq P_{MAX}$		2	5	
Reference Voltage	V_{REF}	$3\text{V} \leq V_i - V_o \leq 40\text{V}$ $10\text{mA} \leq I_o \leq I_{MAX}$, $P_D \leq P_{MAX}$	1.2	1.25	1.3	V
Temperature Stability	ST_T			0.7	1.5	% / V_o
Minimum Load Current to Maintain Regulation	$I_{L(min)}$	$V_i - V_o = 40\text{V}$		3.5	12	mA
Maximum Output Current	$I_{O(max)}$	$V_i - V_o \leq 15\text{V}$, $P_D \leq P_{MAX}$	1	2.2		A
		$V_i - V_o \leq 40\text{V}$, $P_D \leq P_{MAX}$ $T_a = 25^{\circ}\text{C}$		0.3		
RMS Noise, % of V_{OUT}	e_N	$T_a = 25^{\circ}\text{C}$, $10\text{Hz} \leq f \leq 10\text{kHz}$		0.003	0.01	% / V_o
Ripple Rejection	RR	$V_o = 10\text{V}$, $f = 120\text{Hz}$ without C_{ADJ}		60		dB
		$V_o = 10\text{V}$, $f = 120\text{Hz}$, $C_{ADJ} = 10\mu\text{F}$	66	75		
Long-Term Stability, $T_J = T_{HIGH}$	ST	$T_a = 25^{\circ}\text{C}$ for end point measurements, 1000HR		0.3	1	%

Newark.com/multicomp-pro
Farnell.com/multicomp-pro
sg.element14.com/b/multicomp-pro

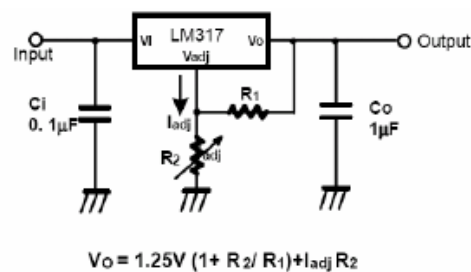
multicompPRO

Positive Voltage Regulator **multicomp**PRO

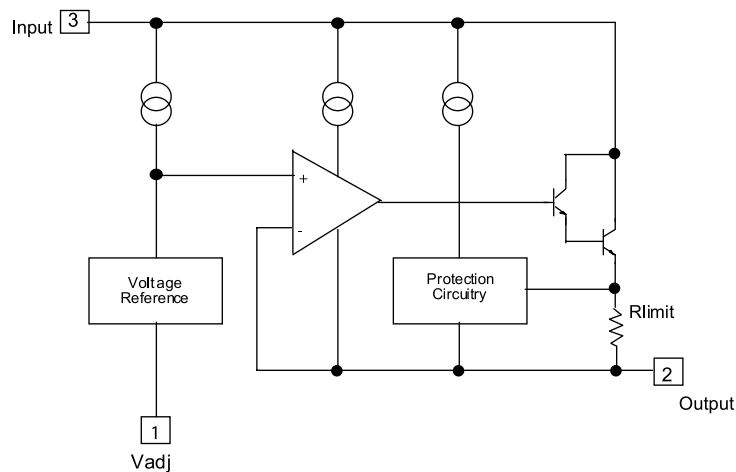
Diagram



Typical Application



Internal Block Diagram



Part Number Table

Description	Part Number
Positive Voltage Regulator, 1.2 V to 37V, 1.5A, SO-223	LM317

Dimensions : Millimetres

Important Notice : This data sheet and its contents (the "Information") belong to the members of the AVNET group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp Pro is the registered trademark of Premier Farnell Limited 2019.

Newark.com/multicomp-pro
Farnell.com/multicomp-pro
sg.element14.com/b/multicomp-pro

multicompPRO