

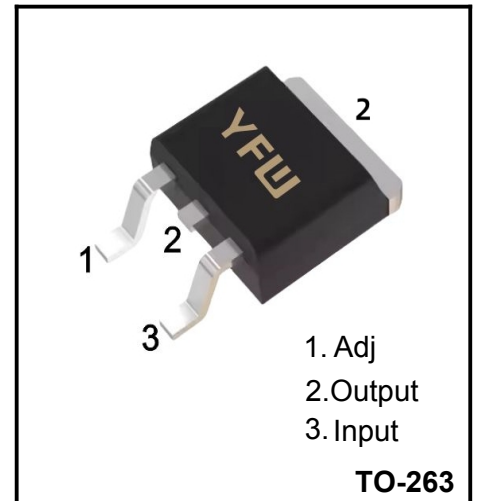
3-Terminal 1.5A Positive Adjustable Regulator

Description

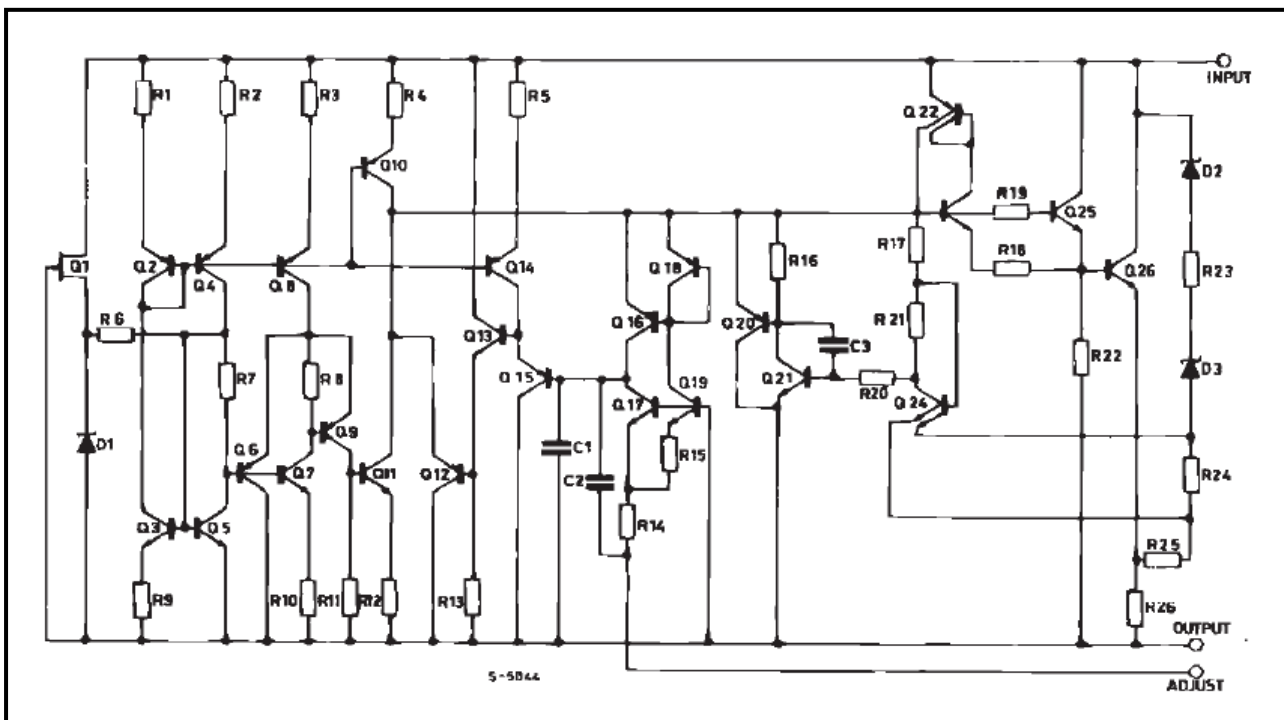
The LM317AS are monolithic integrated circuit in TO-263 package sintended for use as positive adjustable voltage regulators.They are designed to supply more than 1.5A of load current with an output voltage adjustable over a 1.2 to 37V range. The nominal output voltage is selected by means of only a resistive divider, making the device exceptionally easy to use and eliminatingthestocking of many fixed regulators

Features

- ◆Output Voltage Range : 1.2 TO 37V
- ◆Output Current in excess of 1.5A
- ◆0.1% Line and Load Regulation Voltages
- ◆Floating Operation For High
- ◆Complete Series of Protections:
- ◆Current Limiting, Thermal Shudown and SOA Control



Schematic Diagram



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input-output Differential Voltage	V_{i-o}	40	V
Output Current	I_o	1.5	A
Junction Temperature	T_j	+125	°C
Operating Junction Temperature	T_{OP}	-40 ~ +85	°C
Storage Temperature	T_{STG}	-40 ~ +150	°C

Electrical Characteristics

($V_i - V_o = 5V$, $I_o = 500mA$, $I_{MAX} = 1.5A$ and $P_{MAX} = 20W$, unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Line Regulation	ΔV_O	$V_i - V_o = 3$ to $40V$	$T_j = 25^\circ C$		0.04	%V
					0.07	
Load Regulation	ΔV_O	$V_o \leq 5V$ $I_o = 10mA \sim I_{Max} 1.5A$	$T_j = 25^\circ C$		25	mV
					70	
		$V_o \geq 5V$ $I_o = 10mA \sim I_{Max} 1.5A$	$T_j = 25^\circ C$		0.5	%V
					1.5	
Adjustment Pin Current	I_{ADJ}	$T_j = 25^\circ C$			100	μA
Adjustment Pin Current	ΔI_{ADJ}	$V_i - V_o = 2.5$ to $40V$ $I_o = 10mA \sim I_{Max} 1.5A$			5	μA
Output Voltage Drift	$\Delta V / \Delta T$	$I_o = 5mA$		-0.8		mV/°C
Reference Voltage (between pin3 and pin1)	V_{REF}	$V_i - V_o = 2.5$ to $40V$ $I_o = 10mA \sim I_{Max} 1.5A$ $P_D \leq P_{MAX}$	1.2	1.25	1.3	V
Output Voltage Temperature Stability	$\Delta V_O / \Delta V_O$			1		%
Minimum Load Current	$I_{O(min)}$	$V_i - V_o = 40V$			10	mA
Maximum Load Current	$I_{O(max)}$	$V_i - V_o \leq 15V$, $P_D < P_{MAX}$	1.5	2.2		A
		$V_i - V_o = 40V$, $P_D < P_{MAX}$, $T_j = 25^\circ C$		0.4		

Application Circuits

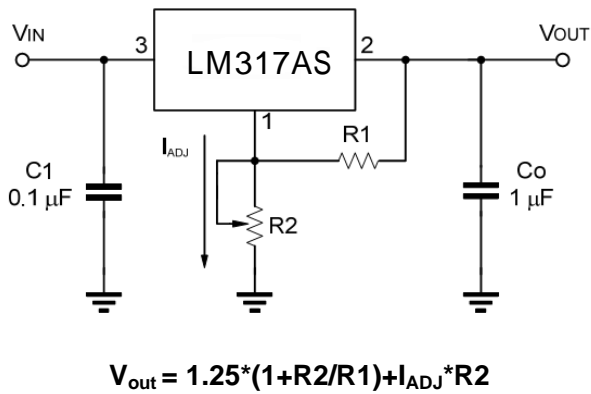


Figure.1 Prgrammable Voltage Regulator

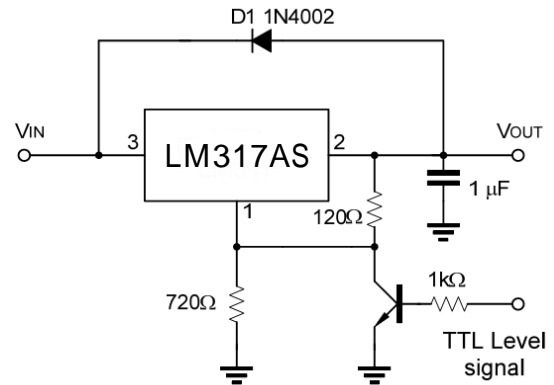


Figure.2 Regulator with ON-off control

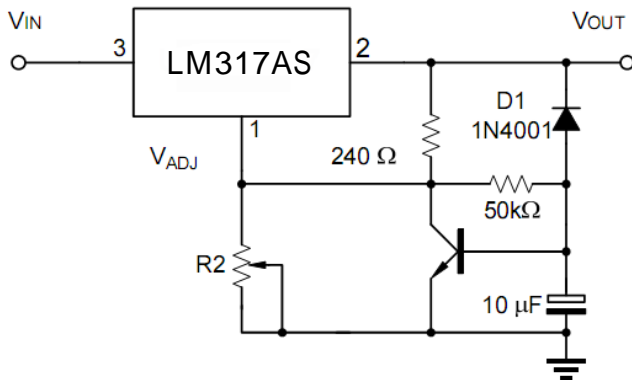


Figure.3 Soft Start Application

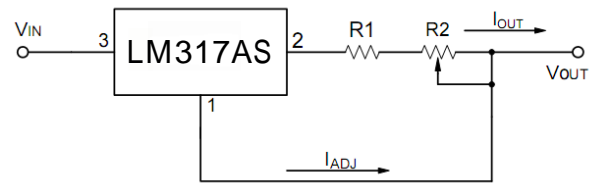


Figure.4. Constant Current Application

Typical Characteristics

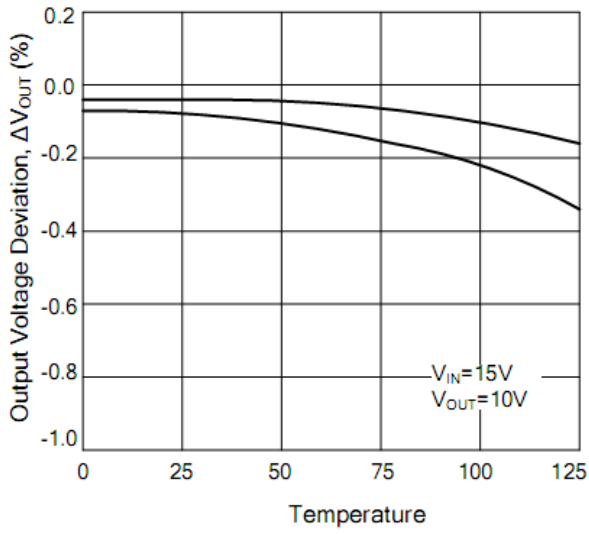


Figure.5. Load Regulation vs. temperature

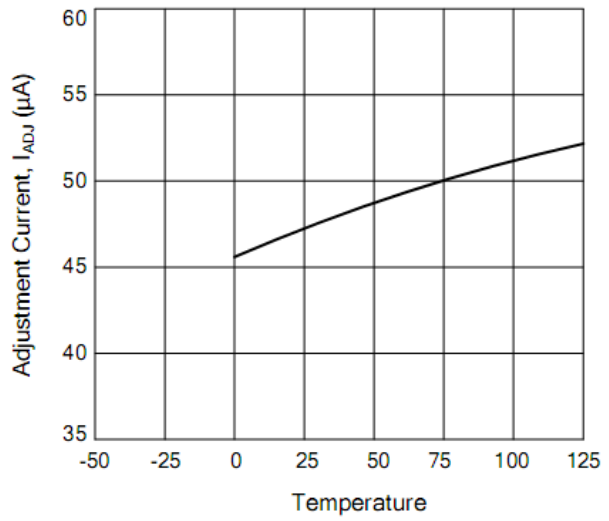


Figure.6. Adjustment Current vs. Temperature

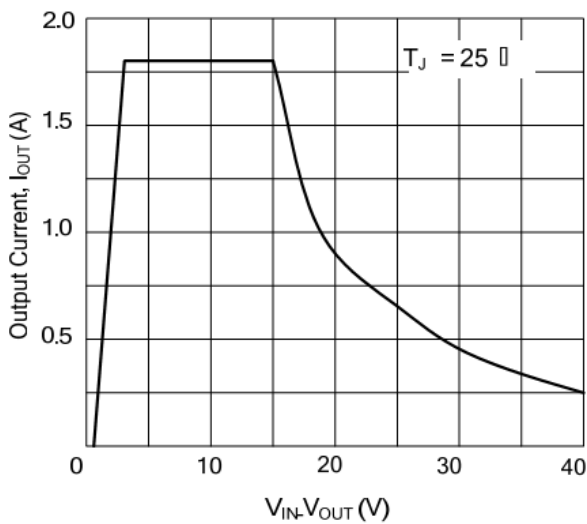


Figure.7. Currents Limit

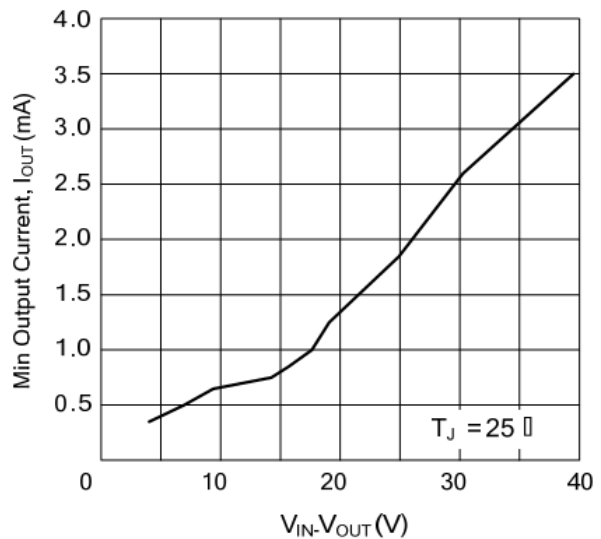
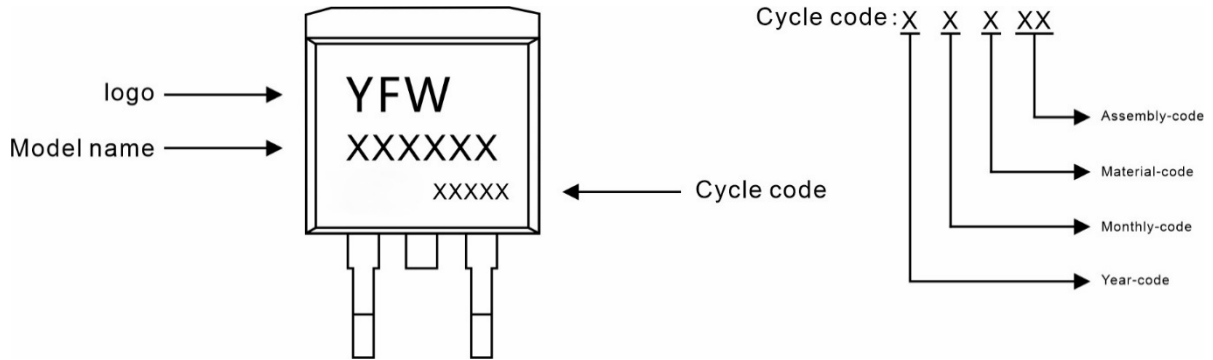


Figure.8. Minimum Operating Current

Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
LM317AS	TO-263	0.04oz(1.16g)	800pcs/reel	1600pcs/box 8000pcs/Carton

Package Dimensions

TO-263

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.30	4.70	0.169	0.185
A1	0.00	0.15	0.000	0.006
A2	4.30	4.55	0.169	0.179
B	1.10	1.50	0.043	0.059
b	0.70	0.90	0.028	0.035
b1	1.20	1.50	0.047	0.059
c	0.30	0.60	0.012	0.024
c1	1.17	1.37	0.046	0.054
D	9.90	10.20	0.390	0.402
E	8.50	8.90	0.335	0.350
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
L	15.00	15.30	0.591	0.602
L1	5.20	5.40	0.205	0.213
L2	2.40	2.60	0.094	0.102
L3	1.60	1.80	0.063	0.071

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