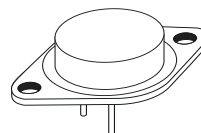




LM150/LM250 LM350

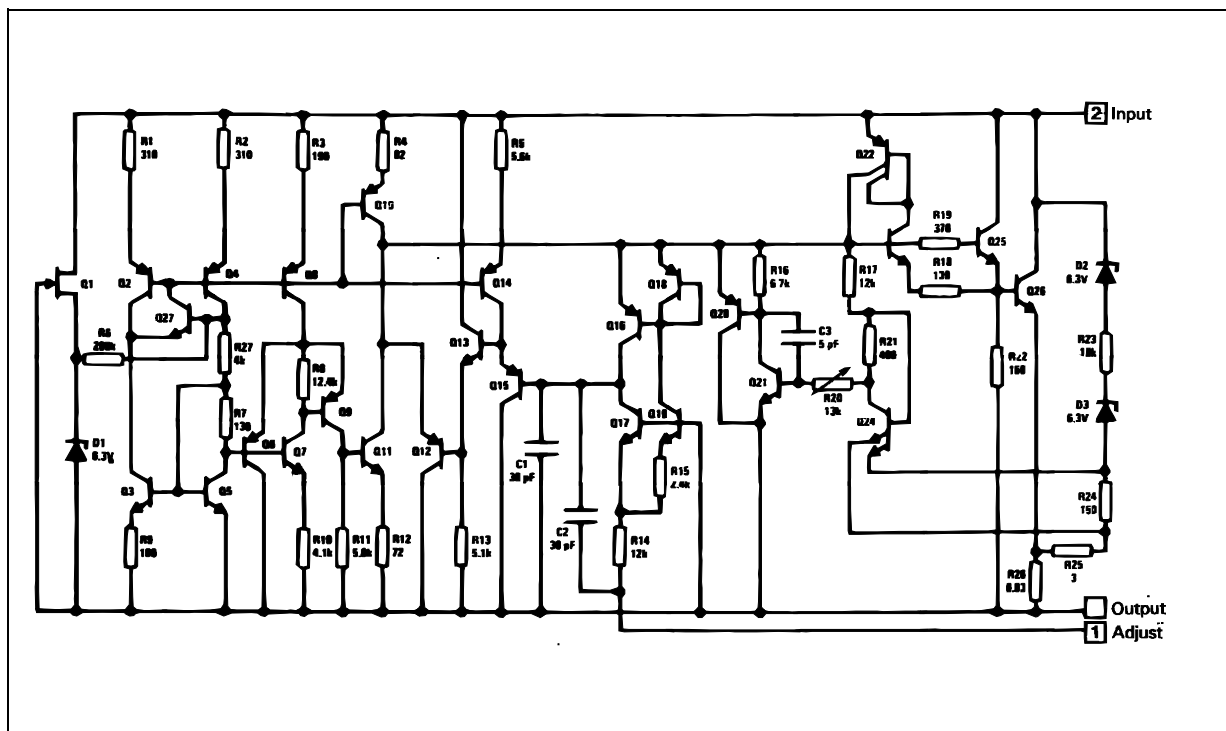
THREE-TERMINAL 3 A ADJUSTABLE VOLTAGE REGULATORS

- GUARANTEED 3A OUTPUT CURRENT
- ADJUSTABLE OUTPUT DOWN TO 1.2V
- LINE REGULATION TYPICALLY 0.005%/V
- LOAD REGULATION TYPICALLY 0.1%
- GUARANTEED THERMAL REGULATION
- CURRENT LIMIT CONSTANT WITH TEMPERATURE
- STANDARD 3-LEAD TRANSISTOR PACKAGE



TO-3

SCHEMATIC DIAGRAM



LM150-LM250-LM350

ABSOLUTE MAXIMUM RATINGS

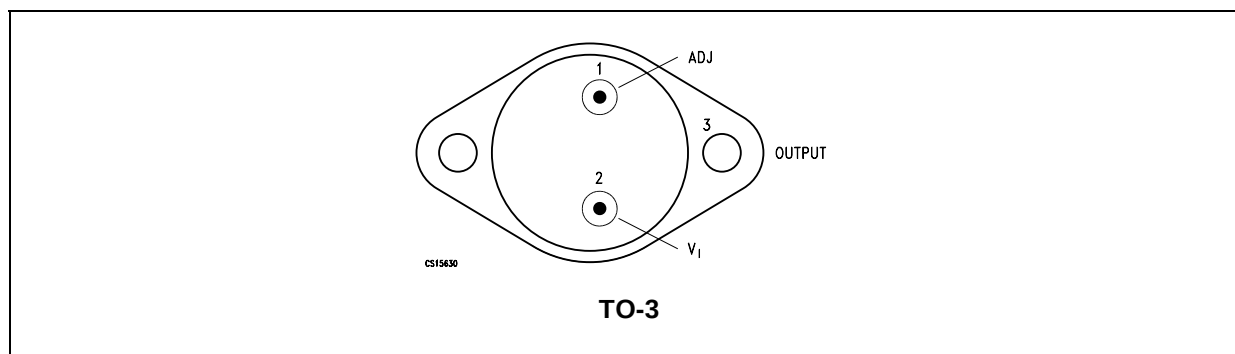
Symbol	Parameter		Value	Unit
P_{tot}	Power Dissipation		Internally Limited	
$V_I - V_O$	Input-Output Voltage Differential		35	V
T_{stg}	Storage Temperature Range		-65 to 150	°C
T_{lead}	Lead Temperature (Soldering, 10 seconds)		300	°C
T_{oper}	Operating Junction Temperature Range	LM150	-55 to 150	°C
		LM250	-25 to 150	
		LM350	0 to 125	

Absolute Maximum Ratings are those values beyond which damage to the device may occur. Functional operation under these condition is not implied.

THERMAL DATA

Symbol	Parameter	Value	Unit
$R_{thj-case}$	Thermal Resistance Junction-case	1.5	°C/W
$R_{thj-amb}$	Thermal Resistance Junction-ambient	35	°C/W

PIN CONNECTION (Bottom view)



ORDERING CODES

TYPE	TO-3	TEMPERATURE RANGE
LM150	LM150K	-55°C to 150°C
LM250	LM250K	-25°C to 150°C
LM350	LM350K	0°C to 125°C

ELECTRICAL CHARACTERISTICS OF LM150/LM250 ($T_J = -55$ to 150°C for LM150, $T_J = -25$ to 150°C for LM250, $V_I - V_O = 5\text{V}$, $I_O = 1.5\text{A}$. Although power dissipation is internally limited, these specifications apply to power dissipation up to 30W , unless otherwise specified).

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
K_{VI}	Line Regulation (Note 1)	$T_a = 25^\circ\text{C}$, $V_I - V_O = 3$ to 35V		0.005	0.01	%/V
K_{VO}	Load Regulation (Note 1)	$T_a = 25^\circ\text{C}$ $I_O = 10\text{mA}$ to 3A		5	15	mV
		$V_O \leq 5\text{V}$ $V_O \geq 5\text{V}$		0.1	0.3	%
	Thermal Regulation	Pulse = 20ms		0.002	0.01	%/W
I_{adj}	Adjustment Pin Current			50	100	μA
ΔI_{adj}	Adjustment Pin Current Change	$I_L = 10\text{mA}$ to 3A $V_I - V_O = 3$ to 35V		0.2	5	μA
V_{ref}	Reference Voltage	$V_I - V_O = 3$ to 35V , $I_O = 10\text{mA}$ to 3A $P \leq 30\text{W}$	1.19	1.24	1.29	V
K_{VI}	Line Regulation (Note 1)	$V_I - V_O = 3$ to 35V		0.02	0.05	%/V
K_{VO}	Load Regulation (Note 1)	$I_O = 10\text{mA}$ to 3A		20	50	mV
		$V_O \leq 5\text{V}$ $V_O \geq 5\text{V}$		0.3	1	%
K_{VT}	Temperature Stability	$T_J = T_{min}$ to T_{max}		1		%
$I_{O(min)}$	Minimum Load Current	$V_I - V_O \leq 35\text{V}$		3.5	5	mA
$I_{O(max)}$	Current Limit	$V_I - V_O \leq 10\text{V}$		3	4.5	A
		DC $V_I - V_O = 30\text{V}$		1		
V_{NO}	RMS Output Noise (% of V_O)	$T_a = 25^\circ\text{C}$ $f = 10\text{Hz}$ to 10KHz		0.001		%
R_{vf}	Ripple Rejection Ratio	$V_O = 10\text{V}$, $f = 120\text{Hz}$		65		dB
		$C_{adj} = 10\mu\text{F}$	66	86		
K_{VH}	Long Term Stability	$T_a = 125^\circ\text{C}$		0.3	1	%

Note 1: Regulation is measured at constant junction temperature. Changes in output voltage due to heating effects are taken into account separately by thermal rejection.