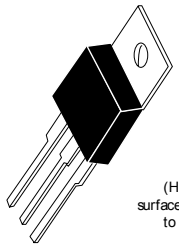
LOW DROPOUT POSITIVE FIXED AND ADJUSTABLE VOLTAGE REGULATORS

The IL33269 series are low dropout, medium current, fixed and adjustable, positive voltage regulators specifically designed for use in low input voltage applications. These devices offer the circuit designer an economical solution for precision voltage regulation, while keeping power losses to a minimum.

The regulator consists of a 1.0V dropout composite PNP-NPN pass transistor, current limiting, and thermal shutdown.

TO-220 AB



Pin 1. Gnd/ Adj
2. Vin
3. Vout

(Heatsink surface connected to Pin 2.)

FEATURES

- 3.3 V, 5.0 V, 12V and Adjustable Versions
- 1.0 V Dropout
- Output Current in Excess of 800 mA
- Thermal Protection
- Short Circuit Protection
- Output Trimmed to 1.0% Tolerance
- No Minimum Load Requirement for Fixed Voltage Output Devices

Device type/nominal output voltage	
IL33269-3.3	3.3 V
IL33269-5	5 V
IL33269-12	12 V

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Power Supply input Voltage	Vin	20	V
Power Dissipation and Thermal Characteristics T_A = +25 °C Thermal Resistance, Junction to Air Thermal Resistance, Junction to Case	 P_D θ_{JA} θ_{JC}		 W °C/W °C/W
Operating Junction Temperature Range	T_J	-40 to +150	°C
Storage Temperature	Tstg	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (C_o= 10 nF,TA=25°C, for min/max values T_J=-40°C to+125°C, unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Output Voltage (Iout - 10 mA, T_J = 25°C) 3.3 Suffix (Vcc=5.3V) 5.0 Suffix (Vcc=7V) 12 Suffix (Vcc=14V)	VQ	 3.27 4.95 11.86	 3.3 5.0 12	 3.33 5.05 12.12	V
Output Voltage (Line, Load and Temperature) (1.25 V ≤ Vjn - Vout ≤15 V, Iout = 500 mA) (1.35 V ≤ Vin -Vout ≤10 V, Iout = 800 mA) 3.3 Suffix 5.0 Suffix 12 Suffix	Vo	 3.23 4.9 11.76	 3.3 5.0 12	 3.37 5.1 12.24	V
Reference Voltage (Iout = 10 mA, Vjn-Vout = 2.0 V, T_J = 25°C) Adjustable	Vrei	1.235	1.25	1.265	V
Reference Voltage (Line, Load and Temperature) (Note 1) (1.25 V≤Vin- Vout ≤ 15 V, Iout - 500 mA) (1.35 V ≤ Vin -Vout≤£10 V, Iout - 600 mA) Adjustable	Vrel	1.225	1.25	1.275	V
Line Regulation (Iout = 10 mA, Vin = [Vout+1.5 V] to Vin=20 V, T_J= 25°C)	Reg_{line}	-	-	0.3	%
Load Regulation (Vin=Vout+3.0V, Iout=10mA to 800 mA, T_J = 25°C)	Beg_{load}	-	-	0.5	%
Dropout Voltage (Iout = 500 mA) (Iout = 800 mA)	Vin-Vout	-	 1.0 1.1	 1.25 1.35	V
Ripple Rejection (10 Vpp, 120 Hz Sinewave; Iout = 500 mA)	RR	55	-	-	dB
Current Limit (Vin - Vout = 10 V)	I_{Limit}	600	-	-	mA
Quiescent Current (Fixed Output)	I_Q	-	5.5	8.0	mA
Minimum Required Load Current Fixed Output Adjustable	I_{Load}	8.0	-	0	mA
Adjustment Pin Current	I_{Adj}	-	-	120	nA