

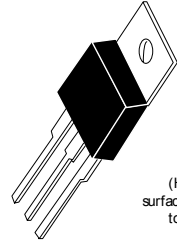
LOW DROPOUT POSITIVE FIXED AND ADJUSTABLE VOLTAGE REGULATORS

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	P _D		W
Thermal Resistance, Junction to Air	θ _{JA}		°C/W
Thermal Resistance, Junction to Case	θ _{JC}		°C/W
Operating Junction Temperature Range	T _J	-40 to +150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

IL33269

ELECTRICAL CHARACTERISTICS ($C_o = 10 \text{ nF}$, $T_A = 25^\circ\text{C}$, for min/max values $T_J = -40^\circ\text{C}$ to $+125^\circ\text{C}$, unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Output Voltage (I _{out} = 10 mA, T _J = 25°C) 3.3 Suffix (V _{cc} =5.3V) 5.0 Suffix (V _{cc} =7V) 12 Suffix (V _{cc} =14V)	V _Q	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 ≤ V _{jn} - V _{out} ≤ 15 V, I _{out} = 500 mA) (1.35 V ≤ V _{in} - V _{out} ≤ 10 V, I _{out} = 800 mA) 3.3 Suffix 5.0 Suffix 12 Suffix	V _o	3.23 4.9 11.76	3.3 5.0 12	3.37 5.1 12.24	V
Reference Voltage (I _{out} = 10 mA, V _{jn} -V _{out} = 2.0 V, T _J = 25°C) Adjustable	V _{rei}	1.235	1.25	1.265	V
Reference Voltage (Line, Load and Temperature) (Note 1) (1.25 V ≤ V _{in} - V _{out} ≤ 15 V, I _{out} = 500 mA) (1.35 V ≤ V _{in} - V _{out} ≤ 10 V, I _{out} = 600 mA) Adjustable	V _{rel}	1.225	1.25	1.275	V
Line Regulation (I _{out} = 10 mA, V _{in} = [V _{out} +1.5 V] to V _{in} =20 V, T _J = 25°C)	Reg _{line}	-	-	0.3	%
Load Regulation (V _{in} =V _{out} +3.0V, I _{out} =10mA to 800 mA, T _J = 25°C)	Beg _{load}	-	-	0.5	%
Dropout Voltage (I _{out} = 500 mA) (I _{out} = 800 mA)	V _{in} -V _{out}	-	1.0 1.1	1.25 1.35	V
Ripple Rejection (10 V _{pp} , 120 Hz Sinewave; I _{out} = 500 mA)	RR	55	-	-	dB
Current Limit (V _{in} - V _{out} = 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