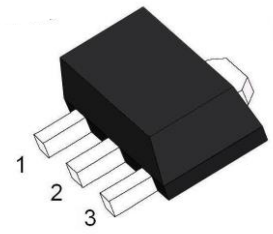
3-terminal positive voltage regulator

Features

- Maximum Output Current of 100mA
- Output Voltage of 3.3V
- Thermal Overload Protection
- Short Circuit Current Limiting
- Output Voltage Offered in ±5% Tolerance

Description

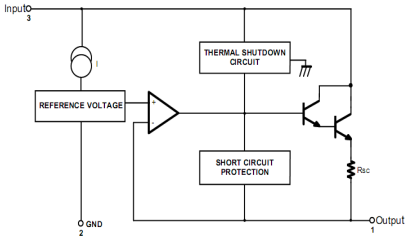
The 78L33 of fixed voltage monolithic integrated circuit voltage regulators are suitable for application that required supply current up to100mA.



1.VOUT
2.GND
3.VIN

SOT-89

Internal Block Digram



Marking Code	
78L33	YFW 78L33

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage	V_{IN}	20	V
Operating Temperature Range	T_{OPR}	0 ~ + 125	℃
Storage Temperature Range	T_{STG}	-55 ~ + 150	℃

Electrical Characteristics

(V_I = 8.3V, I_O = 40mA, 0℃≤T_j≤125℃, C_I = 0.33μF, C_O = 0.1μF, unless otherwise specified. (Note)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Output Voltage	V_O	T_j = 25℃	3.168	3.3	3.432	V
		V_I = 5.3 ~ 20V I_O= 1 ~ 100mA	3.135	3.3	3.465	
Line Regulation(Note)	ΔV_O	V_I = 5.3 ~ 20V , T_j = 25℃			150	mV
		V_I = 6.3 ~ 20V , T_j = 25℃			100	
Load Regulation(Note)	ΔV_O	I_O= 1 ~ 100mA , T_j = 25℃			60	mV
		I_O= 1 ~ 40mA , T_j = 25℃			30	
Quiescent Current	I_Q	Tj = 25℃			6	mA
Quiescent Current Change	ΔI_Q	I_O=1 ~ 40mA			0.1	mA
		I_O=40mA , V_I = 6.3 ~ 20V			1.5	
Output Voltage Drift	$\Delta V / \Delta T$	I_O = 5mA , T_J = 0 to +125		0.45		mV/℃
Output Noise Voltage	V_N	10H_Z≤ f ≤100KH_Z		40		μV
Ripple Rejection	RR	f = 120Hz, V_I = 6.3 -1V, = 25℃	40			dB
Dropout Voltage	V_d			1.7		V

Notes:The maximum steady state usable output current and input voltage are very dependent on the heat Sinking and/or lead lengthof the package. The data above represent pulse test conditions with junction temperature as indicated at the initiation of tests.

Typical characteristics

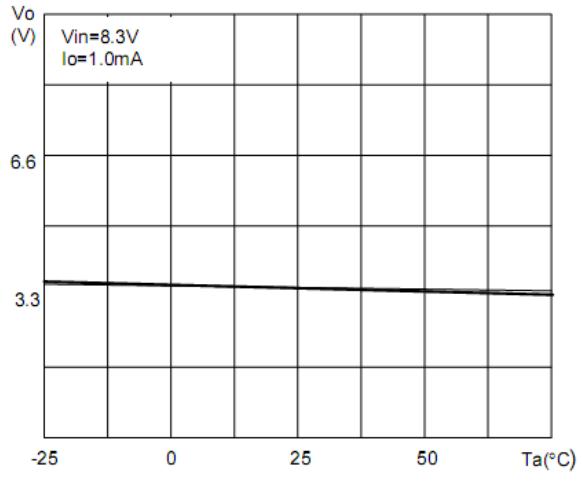


Fig1 .Output Voltage vs AmbientTemperature

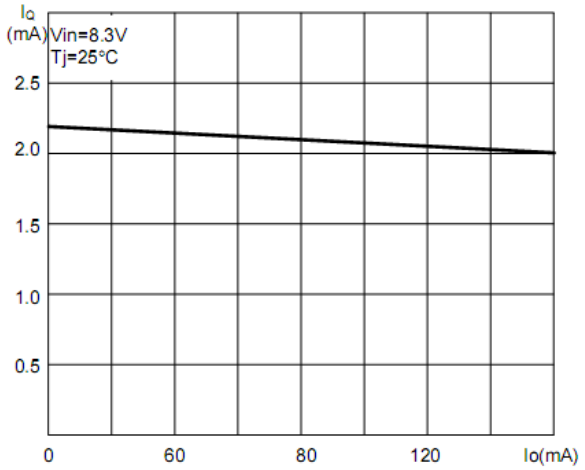


Figure 2. Quiescent Current vs Output Current

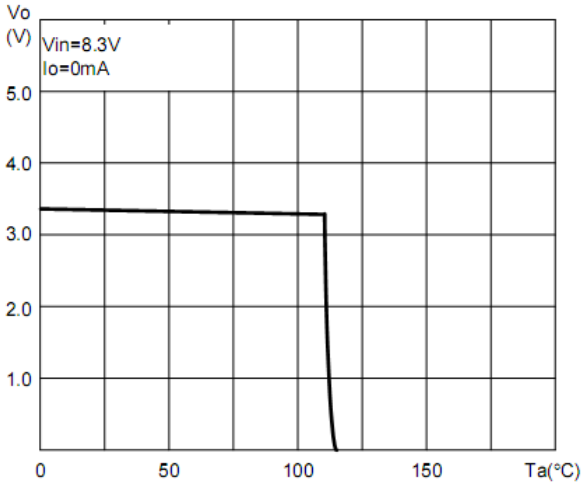


Figure 3 : Load Characteristics

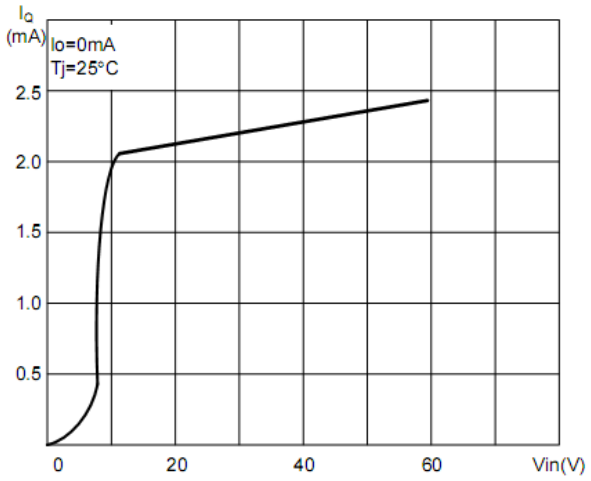


Figure 4 : Quiescent Current vs Input Voltage

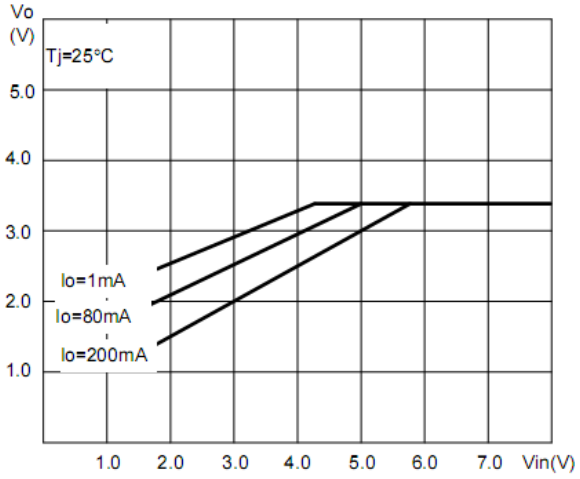


Figure5 : Thermal Shutdown

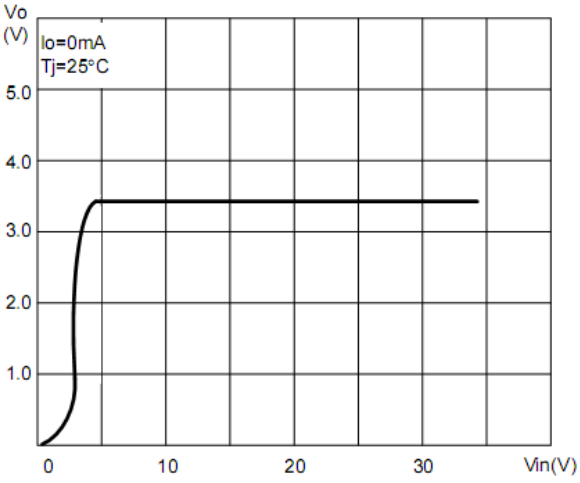


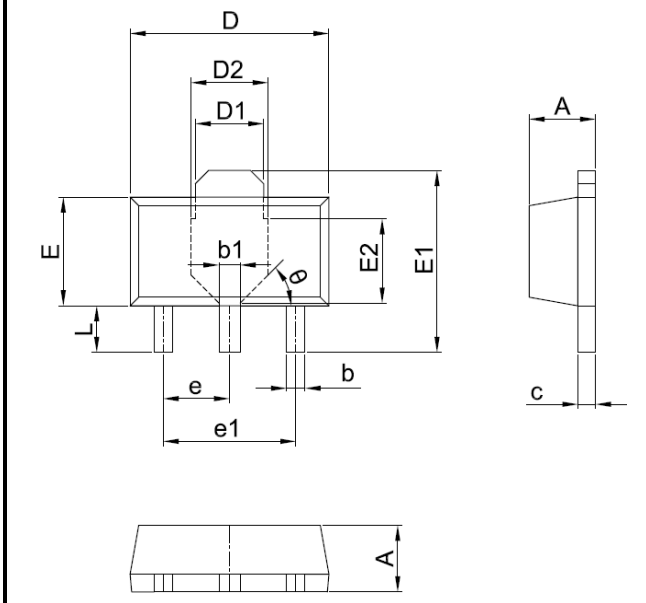
Figure 6 : Output Characteristics

Ordering information

Package	Packing Description	Base Quantity	Packing Quantity
SOT-89	Tape/Reel,7"reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton

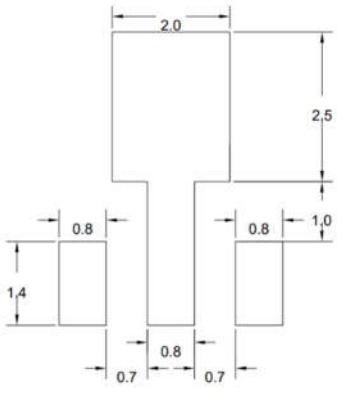
Package Dimensions

SOT-89



Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
b	0.32	0.52	0.013	0.020
b1	0.38	0.58	0.015	0.023
c	0.35	0.45	0.014	0.018
D	4.40	4.60	0.173	0.181
D1	1.45	1.65	0.057	0.065
D2	1.70	1.80	0.067	0.071
E	2.30	2.60	0.091	0.102
E1	3.95	4.25	0.156	0.167
E2	1.80	2.00	0.071	0.079
e	1.40	1.60	0.055	0.063
e1	2.80	3.20	0.110	0.126
L	0.90	1.20	0.035	0.047

The recommended mounting pad size



UNIT:MM

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