Elektronische Bauelemente

SM2930-33

250mA Fixed Low Dropout

Voltage Regulator

RoHS Compliant Product

Description

The SM2930-33 is a positive voltage output, three-pin regulator which provides high output current even when the input/output voltage differential is small. The SM2930-33 consists of a high-precision voltage reference, an error amplification circuit, and a current limited output driver.

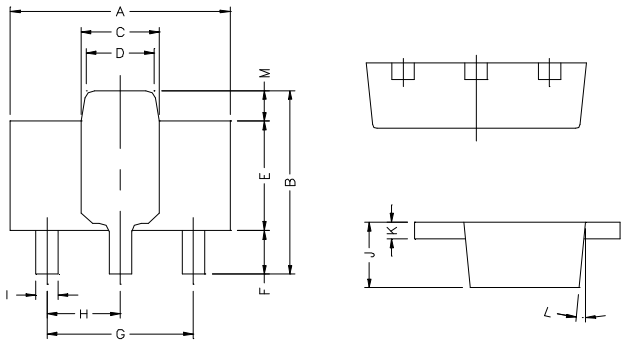
Features

* High Accurate: Output Voltage ±2%
* Max. Output Current: 250mA
* Input Stability: Typ. 0.2%/V
* CMOS Low Power Consumption: Type 3.3uA

Applications

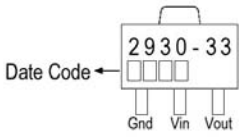
* Radio Control systems
* Voltage Reference
* Portable/Palm Top/Notebook Computers
* Battery Powered Systems
* Automotive Electronics
* Cordless Telephones

SOT-89

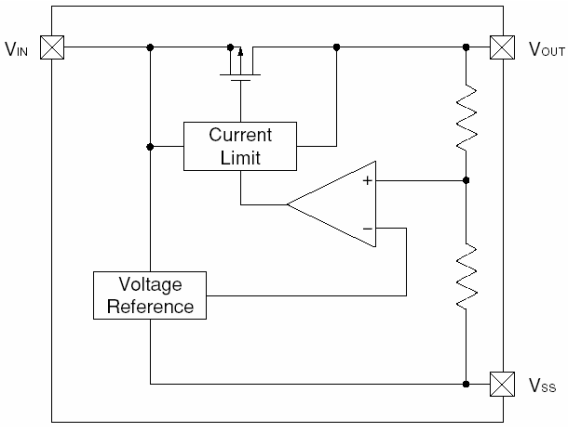


REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.4	4.6	G	3.00 REF.	
B	4.05	4.25	H	1.50 REF.	
C	1.50	1.70	I	0.40	0.52
D	1.30	1.50	J	1.40	1.60
E	2.40	2.60	K	0.35	0.41
F	0.89	1.20	L	5° TYP.	
			M	0.70 REF.	

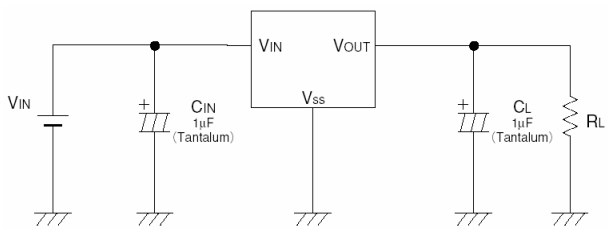
Marking :



Block Diagram



Typical Application Circuit



Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Input Voltage	V_{IN}	10	V
Output Current	I_{OUT}	250	mA
Output Voltage	V_{OUT}	3.3	V
Operating Ambient Temperature	Topr	-30~+75	°C
Stirage Temperature	Tstg	-30~+70	°C
Continuous Total Power Dissipation	P_D	500	mW

Electrical Characteristics Ta=25℃

SM2930-33 V_{OUT} (T) =3.3V (Note1)

Parameter	Symbol	Condition	Min	TYP	Max	Unit
Output Voltage	V_{OUT}(E) (Note2)	V_{IN}=4.0V, I_{OUT}=40mA	3.234	3.300	3.366	V
Max. Output Current	$I_{OUT\ max}$	V_{IN}=4.3V, V_{OUT}(E)≥2.97V	250	-	-	mA
Load Stability	△V_{OUT}	V_{IN}=4.3V, I_{OUT}=1mA to 80mA	-	-	90	mV
Input-Output Voltage Differential (Note3)	V_{dif1}	I_{OUT}=80mA	-	-	450	mV
	V_{dif2}	I_{OUT}=150mA	-	-	850	
Supply Current	I_{SS}	V_{IN}=4.3V	-	-	4.5	μA
Input Stability	$\frac{\triangle V_{OUT}}{\triangle V_{IN} \cdot V_{OUT}}$	I_{OUT}=40mA V_{IN}=4.3V to 10V	-	0.2	0.3	%/V
Input Voltage	V_{IN}		-	-	10	V

Note 1: V_{OUT} (T) =Specified Output Voltage.

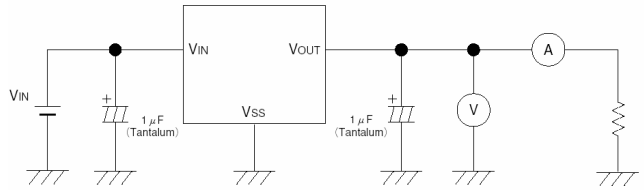
2: V_{OUT} (E) =Effective Output Voltage (i.e. the output voltage when "V_{OUT} (T) +1.0V" is provided at the V_{IN} pin while maintaining a certain I_{OUT} value).

3: Vdif=V_{IN} (Note4)-V_{OUT} (E)

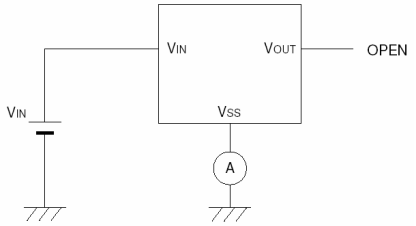
4: V_{IN}1=The input voltage at the time 98% of V_{OUT} (E) is output (input voltage has been gradually reduced).

Test Circuit

Circuit1



Circuit2



Characteristics Curve