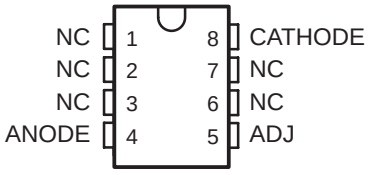
HT336A-25 Programmable Shunt Regulator

General Description

The HT336A-25 integrated circuits are precision 2.5V shunt reg-ulators. The monolithic IC voltage reference operates as a low temperature coefficient 2.5V zener with 0.2W dynamic imped-ance. The monolithic IC voltage reference operates as a low temperature coefficient 2.5V zener with 0.2W dynamic imped-ance. A third terminal on the HT336A-25 allows the reference voltage and temperature coefficient to be trimmed easily. HT336A-25 are useful as a precision 2.5V low voltage reference for digital voltmeters, power supplies or OP-AMP circuitry. The 2.5V makes it convenient to obtain a stable reference from low voltage supplies. Further, since the HT336A-25 operate as shunt regulators, they can be used as either a positive or negative voltage reference.

Features

- Low Temperature Coefficient
- Guaranteed Temperature Stability 4mV Typical
- 0.2W Dynamic Impedance
- 1.0% Initial Tolerance Available
- Easily Trimmed for Minimum Temperature Drift



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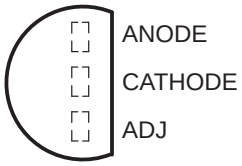

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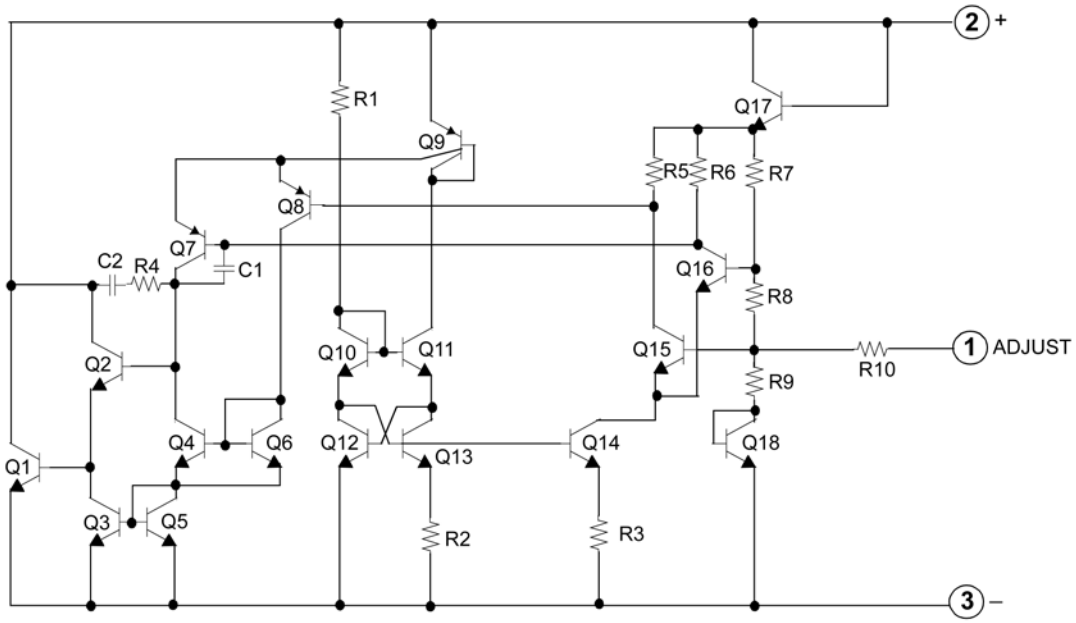
Internal Block Diagram



Absolute Maximum Ratings(Note 1)

Parameter	Symbol	Value	Unit
Reverse Current	IR	15	mA
Forward Current	IF	10	mA
Operating Temperature Range HT336A-25	TOPR	-45~85	°C
Storage Temperature Range HT236A-25	TSTG	– 60 ~150	°C

Note 1: The Absolute Maximum Ratings are those values beyond which the safety of the device cannot be guaranteed. The device should not be operated at these limits. The parametric values defined in the Electrical Characteristics tables are not guaranteed at the absolute maximum rating.

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	V_R	T_A = +25°C, I_R = 1mA	2.44	2.49	2.54	V
Reverse Breakdown Change with Current	$\Delta V_R/\Delta I_R$	T_A = +25°C 400μA ≤ I_R ≤ 10mA	-	2.6	10	mV
Reverse Dynamic Impedance	Z_D	T_A = +25°C I_R = 1mA	-	0.2	1	Ω
Temperature Stability	ST_T	I_R = 1mA	-	1.8	6	mV
Reverse Breakdown Change with Current	$\Delta V_R/\Delta I_R$	400μA ≤ I_R ≤ 10mA	-	3	12	mV
Reverse Dynamic Impedance	ZD	I_R = 1mA	-	0.4	1.4	Ω
Long Term Stability In Reference Voltage	ST	I_R = 1mA	-	20	-	ppm/Khr

Typical Performance Characteristics

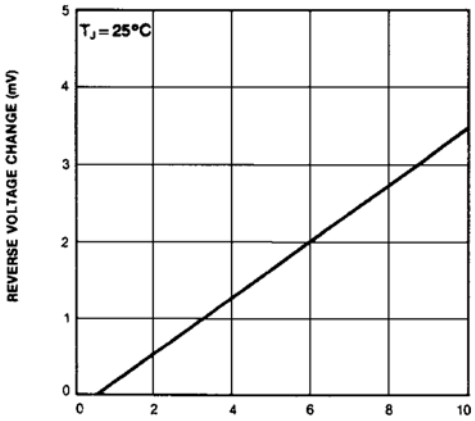


FIGURE 1. Reverse Voltage Change

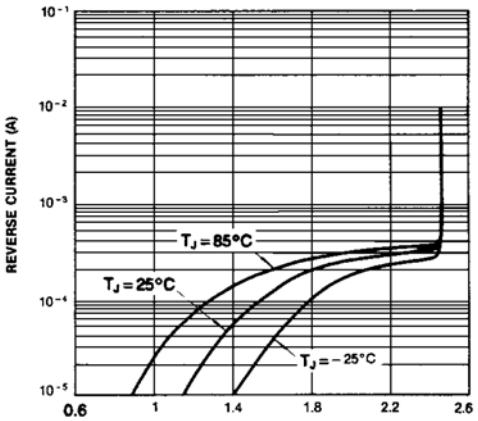


FIGURE 2. Reverse Characteristics

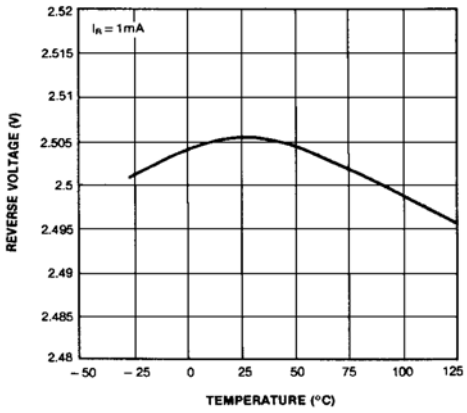


FIGURE 3. Temperature (°C)

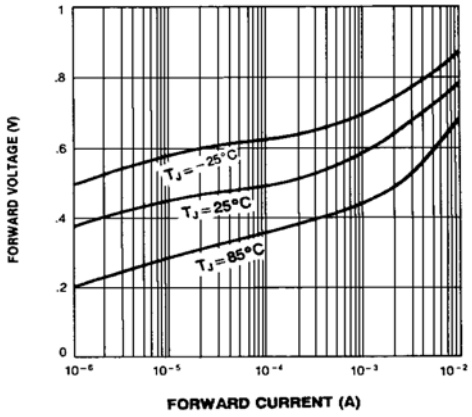


FIGURE 4. Forward Characteristics

Physical Dimensions

Package

Dimensions in millimeters

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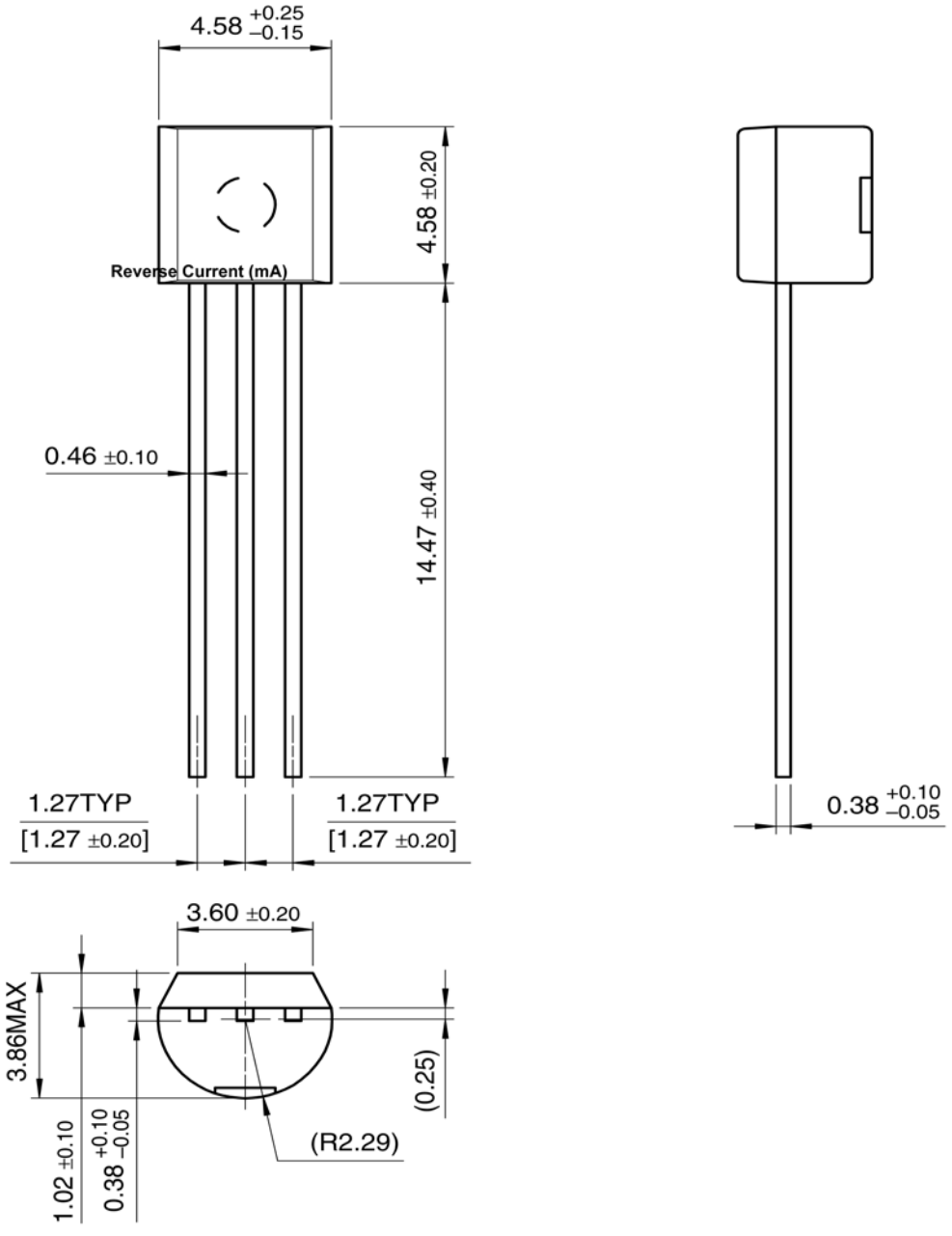

Physical Dimensions

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