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FAIRCHILD SEMICONDUCTOR®

July 2013

KA33V
Voltage Stabilizer

Features

- Low Temperature Coefficient
- Low Dynamic Resistance
- Typical Reference Voltage 33 V

Description

The KA33V is a monolithic integrated voltage stabilizer designed as voltage supplier for electronic tuners.

TO-92

1. Anode 2. Cathode

Ordering Information

Product Number	Operating Temperature Range	Top Mark	Package	Packing Method
KA33VBU	-20 to +75°C	KA33V	TO-92 2L	Bulk
KA33VTA				Ammo

Block Diagram

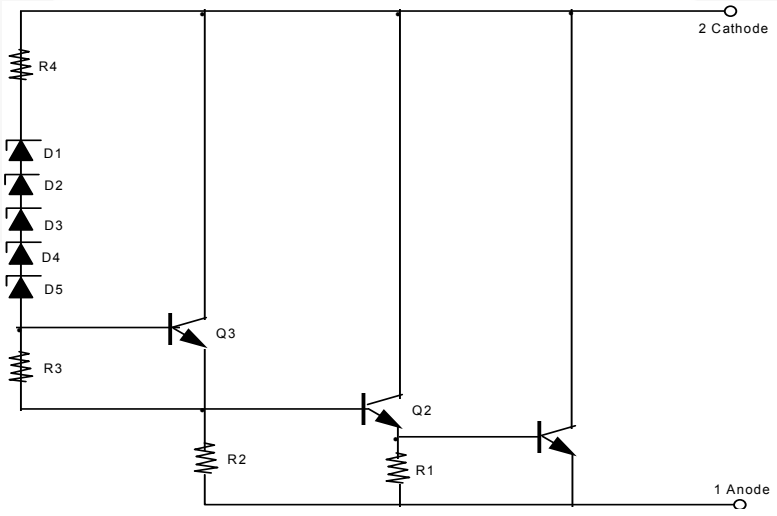


Figure 1. Block Diagram

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
I_Z	Zener Current	10	mA
P_D	Power Dissipation (T_A = 75°C)	200	mW
T_{OPR}	Operating Ambient Temperature Range	-20 to 75	°C
T_{STG}	Storage Temperature Range	-40 to 125	°C

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_Z	Stabilized Voltage	I_Z = 5 mA	31		35	V
$\Delta V_Z/\Delta T$	Stabilized Voltage Temperature Drift	I_Z = 5 mA, T_A = -20 to 75°C	-1	0	1	mV/°C
R_Z	Dynamic Resistance	I_Z = 5 mA, f = 1 kHz		10	25	

Typical Performance Characteristics

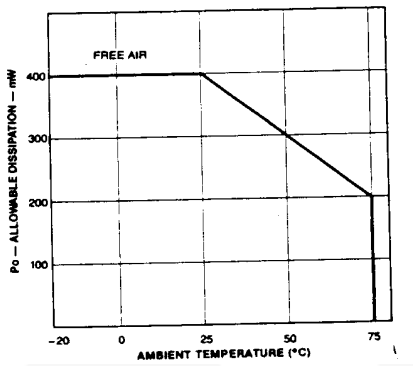


Figure 2. Allowable Dissipation vs. Ambient Temperature

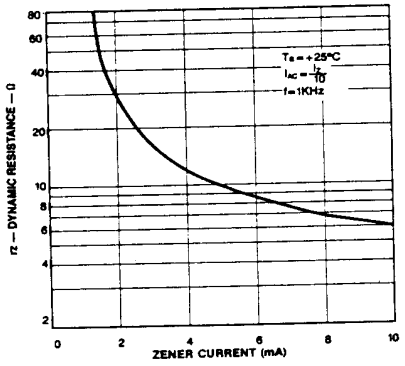


Figure 3. Dynamic Resistance vs. Zener Current

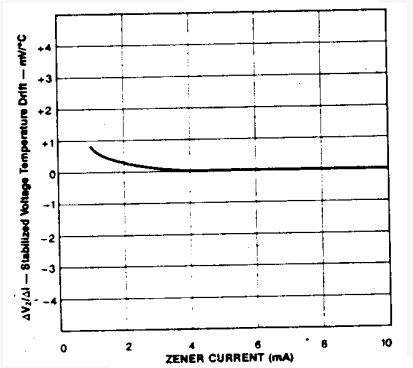


Figure 4. Stabilized Voltage Temperature Drift vs. Zener Current

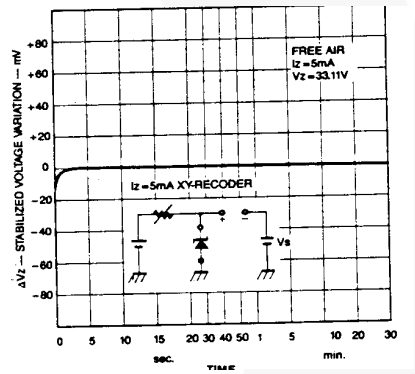


Figure 5. Stabilized Voltage Variation vs. Time

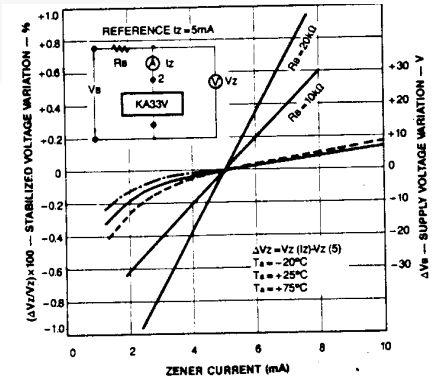


Figure 6. Stabilized Voltage Variation & Supply Voltage Variation vs. Zener Current

Test Circuit

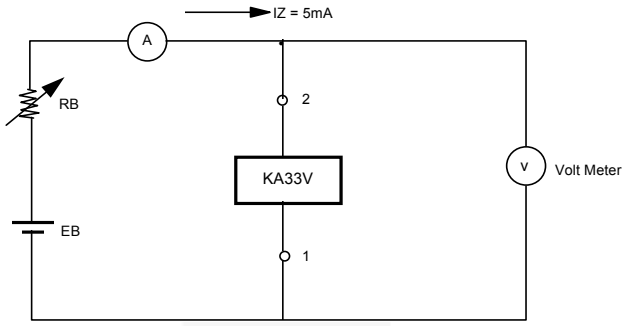
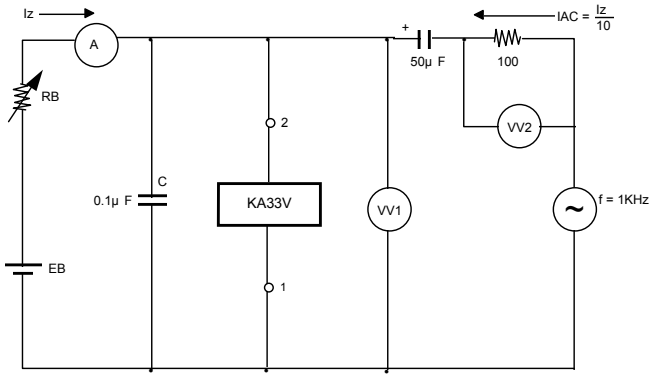


Figure 7. Measuring Circuit for Stabilized Voltage V_Z



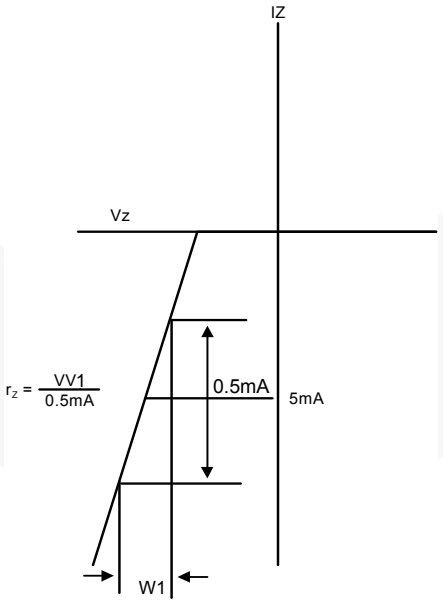


Figure 8. Measuring Circuit for Dynamic Resistance

Typical Application

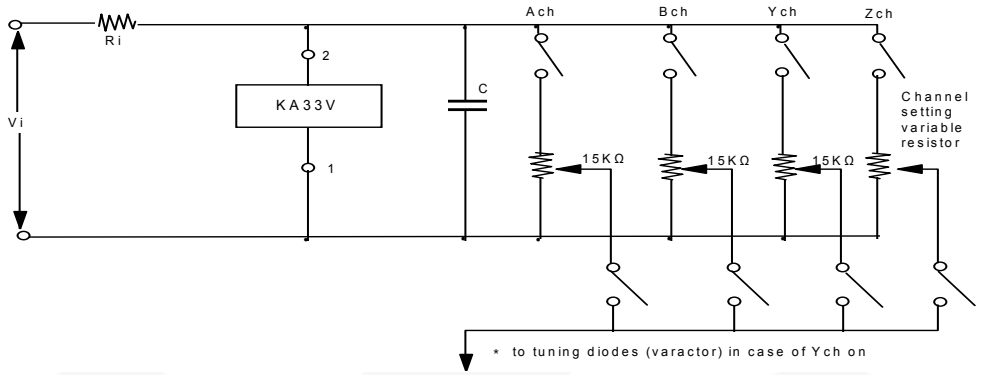


Figure 9. Electronic Tuner

1) UHF Tuner

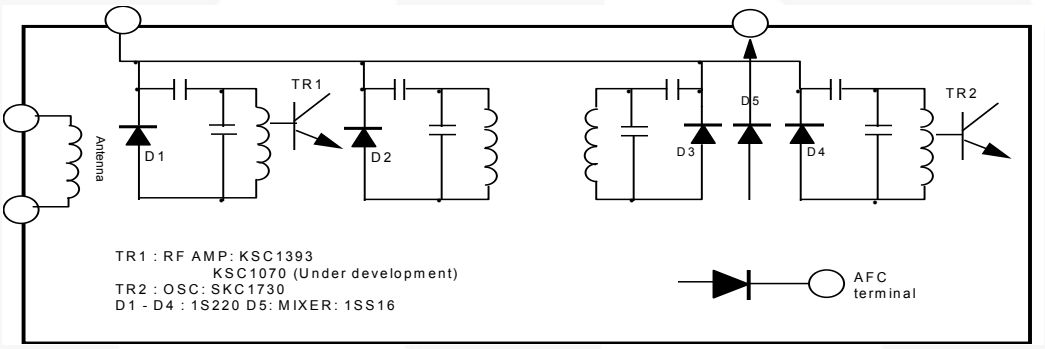


Figure 10. UHF Tuner

2) VHF Tuner

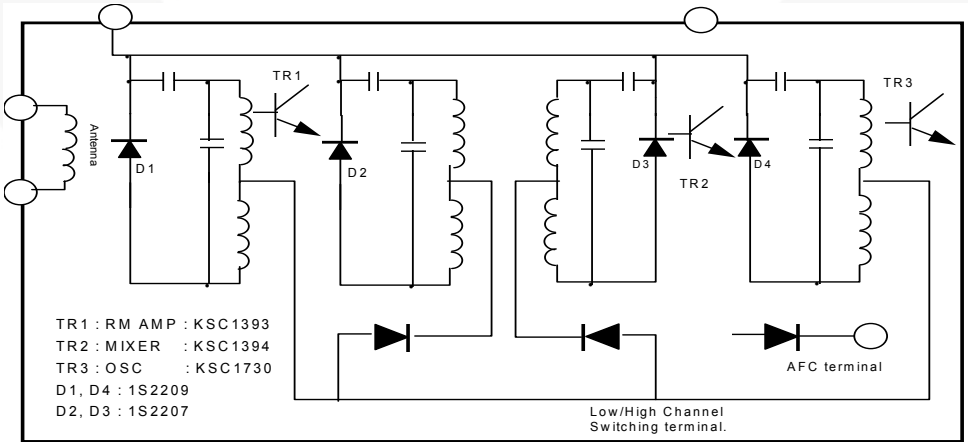
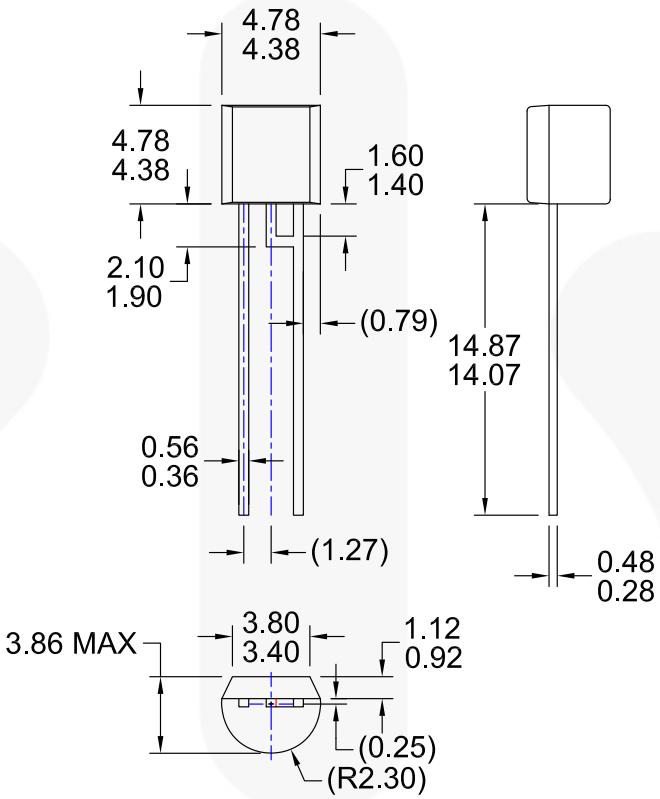


Figure 11. VHF Tuner

Physical Dimensions

TO-92 2L



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D) FORMERLY NAMED BD6864

E) DRAWING FILE NAME: MKT-ZA02AREV1

Figure 12. 2-LEAD, TO-92, JOINED TERMAINAL (ACTIVE)

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Rev. I64

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