

# KA33V

# VOLTAGE STABILIZER

## SILICON MONOLITHIC BIPOLAR INTEGRATED CIRCUIT VOLTAGE STABILIZER FOR ELECTRONIC TUNER

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

### FEATURES

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

### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>= 25 °C)

Characteristic	Symbol	Value	Unit
Zener Current	I <sub>Z</sub>	10	mA
Power Dissipation (T <sub>A</sub> = 75 °C)	P <sub>D</sub>	200	mW
Operating Ambient Temperature-Range	T <sub>OPR</sub>	-20 ~ 75	°C
Storage Temperature Range	T <sub>STG</sub>	-40 ~ 125	°C

TO-92

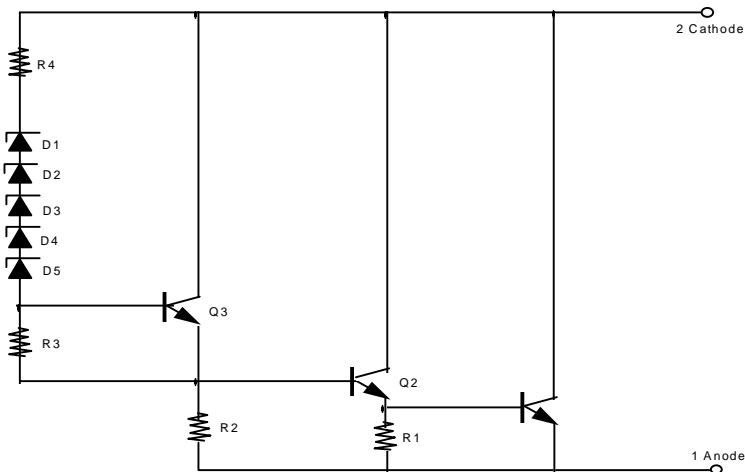


1: Anode 2: Cathode

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25 °C)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Stabilized Voltage	V <sub>Z</sub>	I <sub>Z</sub> = 5mA	31		35	V
Stabilized Voltage-Temperature Drift	Δ V <sub>Z</sub> /Δ T	I <sub>Z</sub> = 5mA T <sub>A</sub> = -20 to 75 °C	-1	0	1	mV/°C
Dynamic Resistance	R <sub>Z</sub>	I <sub>Z</sub> = 5mA, f = 1KHz		10	25	

### SCHEMATIC DIAGRAM



MEASURING CIRCUITS

Fig. 1 Measuring Circuit for Stabilized Voltage  $V_z$

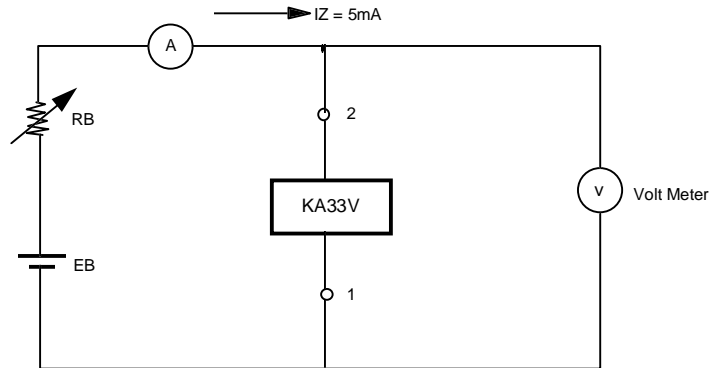


Fig. 2 Measuring Circuit for Dynamic Resistance

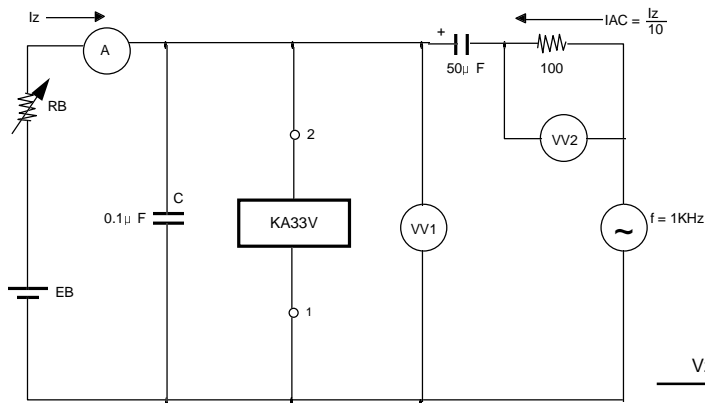
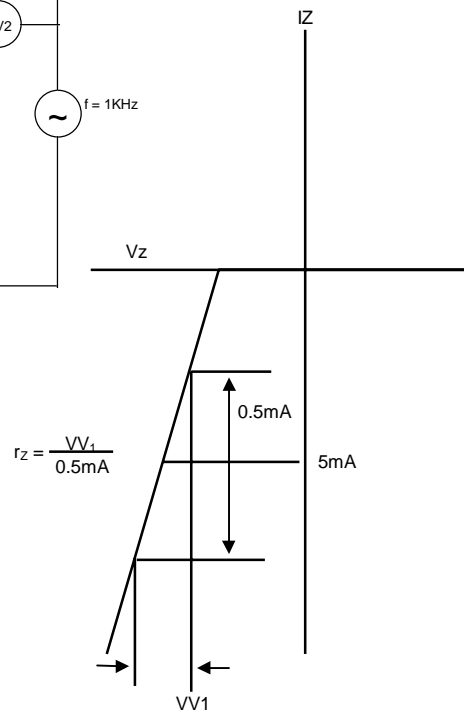


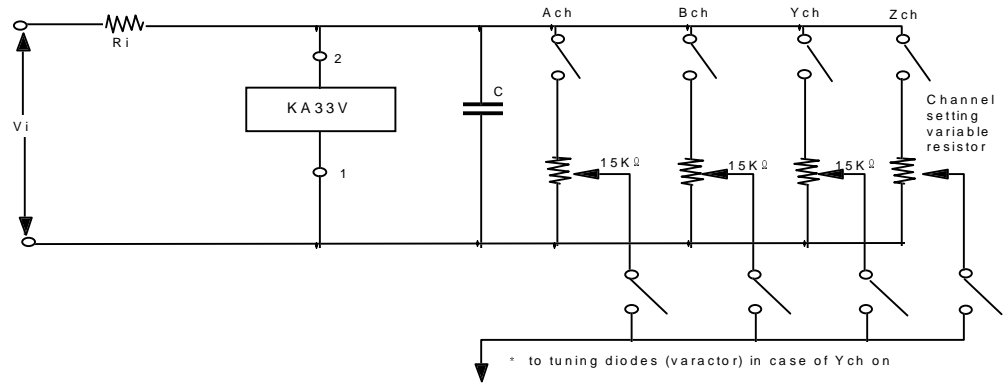
Fig. 3



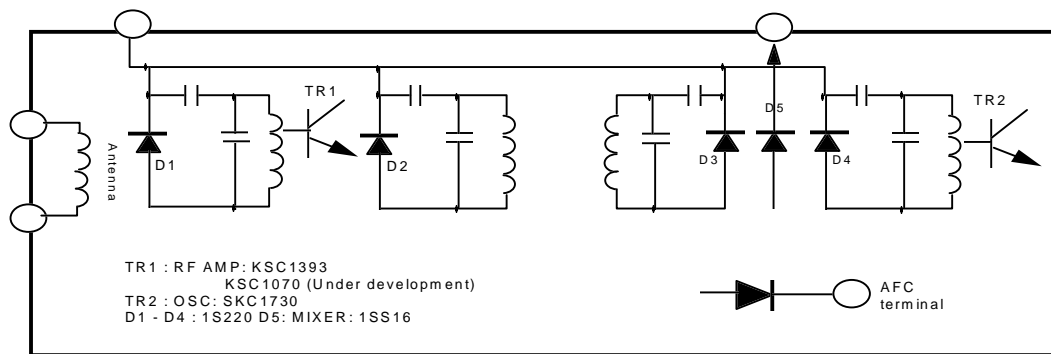
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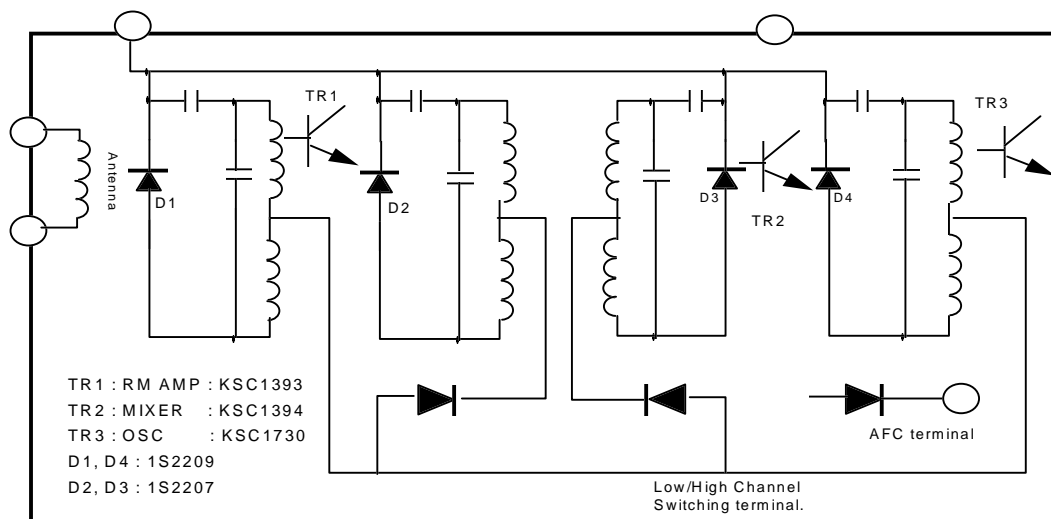
## TYPICAL APPLICATION



### 1) UHF TUNER



### 2) VHF TUNER



POWER TEMPERATURE DERATING CURVE TYPICAL CHARACTERISTIC CURVES ( $T_A = 25^\circ\text{C}$ )

Fig. 7 ALLOWABLE DISSIPATION vs. AMBIENT TEMPERATURE

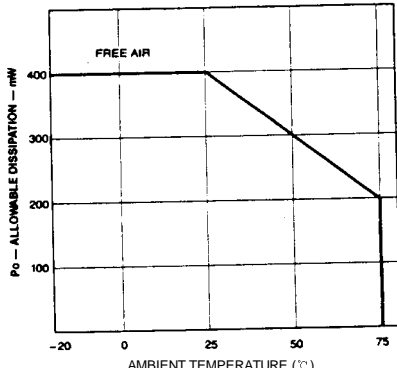


Fig. 9 STABILIZED VOLTAGE TEMPERATURE DRIFT vs. ZENER CURRENT

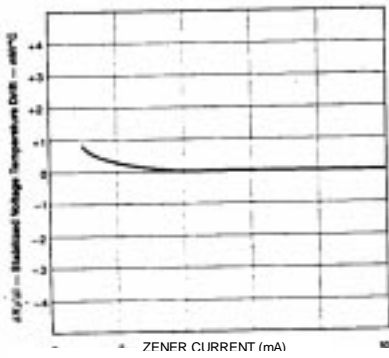


Fig. 8 DYNAMIC RESISTANCE vs. ZENER CURRENT

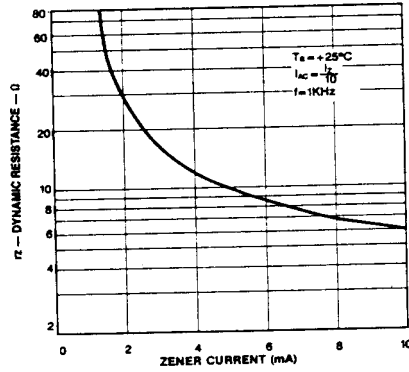


Fig. 10 STABILIZED VOLTAGE VARIATION vs. TIME

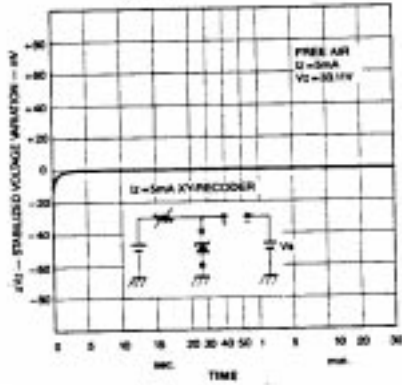
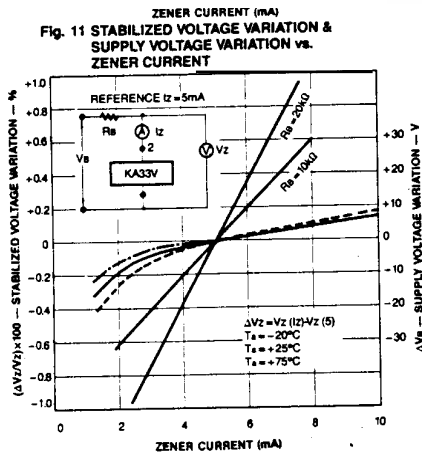
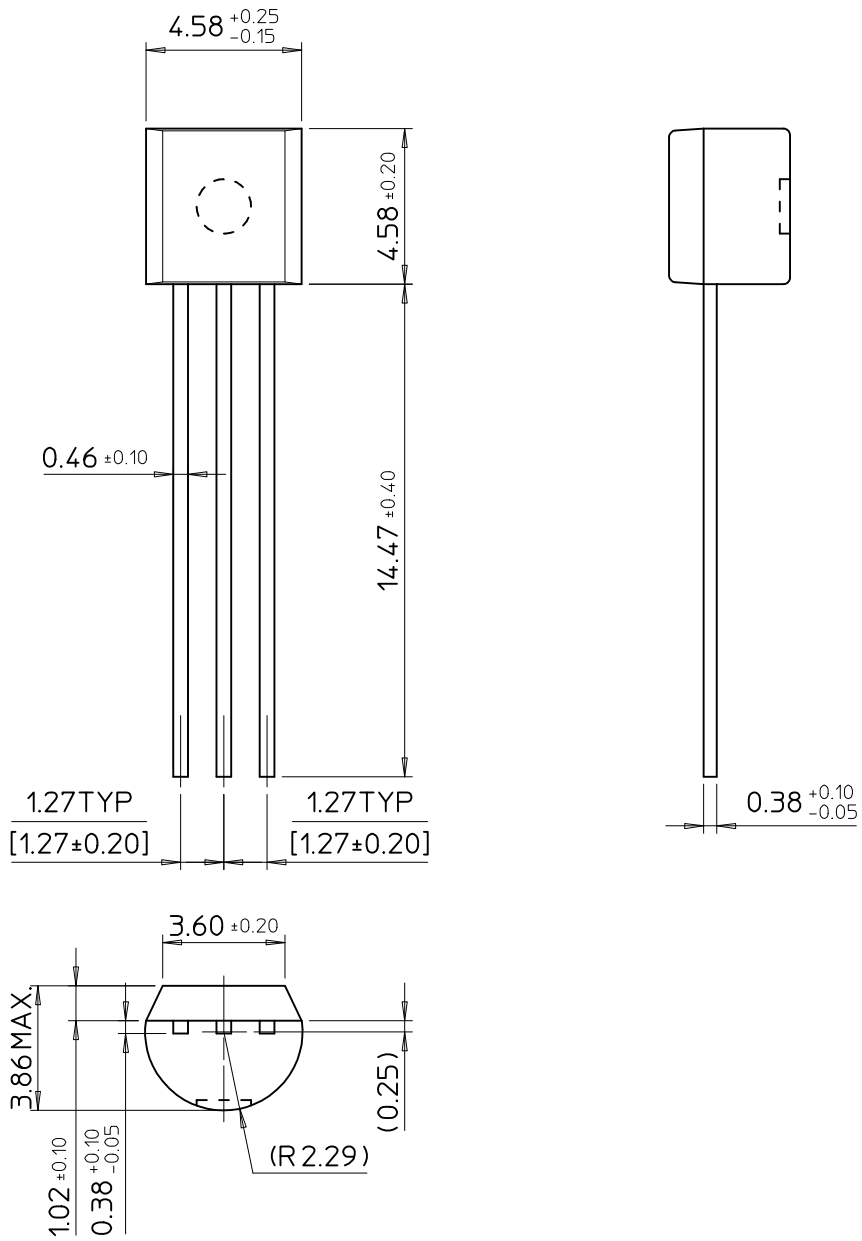


Fig. 11 STABILIZED VOLTAGE VARIATION & SUPPLY VOLTAGE VARIATION vs. ZENER CURRENT



# TO-92

Dimensions in Millimeters



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