SONOTONE CORPORATION

TYPE 6224

JETEC Registration Data

PENTODE

GENERAL DESCRIPTION

The Type 6224 is a beam power pentode designed for applications where reliable performance under conditions of extreme vibration and shock is essential. The design features include close tolerance on filament current and delta power output/Ef, together with close control on vibration output as indicated by peak to peak readings.

MECHANICAL DATA

GENERAL

Style	subminiature
Cathode	coated unipotential
Bulb	T-3
Base	Subminiature Button Flexible Leads

Basing Connections:

Lead 1—grid 1
Lead 2—cathode, grid 3
Lead 3—heater
Lead 4—cathode, grid 3
Lead 5—plate
Lead 6—heater
Lead 7—grid 2
Lead 8—cathode, grid 3

8DE

Outline	8-1
Maximum Diameter	0.400 inch
Maximum Overall Bulb Length	1.75 inches
Minimum Lead Length	1.500 inches
Mounting Position	any

Ratings

Maximum Impact Acceleration(1)	450 g
Maximum Vibrational Acceleration for Extended Periods(2)	2.5 g
Maximum Bulb Temperature (Measured at hottest point on bulb)	220° C

ELECTRICAL DATA

GENERAL

Heater Voltage (ac or dc)	6.3 volts
Heater Current	450 ma

Life Expectancy:

220°C. Ambient Temperature(3)	1000 hours
Heater Cycle Life(4)	2500 cycles

Direct Interelectrode Capacitances:

	*With External Shield**
Grid to Plate	0.2 uuf
Input	6.5 uuf
Output	7.5 uuf

RATINGS—Absolute Values

Heater Voltage	6.3(±5%) volts
Maximum Plate Voltage (dc)	165 volts
Maximum Plate Dissipation	5.0 watts
Maximum Plate Current	30 ma
Maximum Grid-No. 2 Voltage	155 volts
Maximum Grid-No. 2 Input	0.6 watts
Maximum Negative Grid Voltage	55 volts
Maximum Heater-Cathode Voltage	±200 volts

CHARACTERISTICS

Heater Voltage	6.3 volts
Plate Voltage (dc)	110 volts
Grid-No. 2 Voltage (dc)	110 volts
Cathode Resistor	270 ohms
Plate Current	30.0 ma
Grid-No. 2 Current	2.0 ma
Plate Resistance	10,000 ohms
Transconductance	4200 umhos
Plate Current (—40 volts)	100 uamps
Noise Output Voltage, maximum (peak to peak) (5)	100 mv
Mechanical	as per MIL-E-1/17751A

**Having inside diameter of 0.405" and connected to cathode.*

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NOTES

(1) Tubes are held rigid in three different positions in a Navy Type, High Impact Shock Machine and subjected to 450 g impact acceleration. Hammer angle=30°.

(2) Tubes are rigidly mounted and subjected in each of three positions to 2.5 g vibrational acceleration at 25 cycles per second for 32 hours.

(3) Life test is made with a heater voltage of 6.3 volts, plate supply voltage of 110 volts, grid-No. 2 supply voltage of 110 volts, dc heater-cathode voltage (heater positive with respect to cathode) of 200 volts, cathode resistor of 270 ohms and a grid-No. 1 resistor of 0.47 megohm. Life test end points: $\triangle$ power output/t, 25% maximum; heater-cathode leakage current, 90 microamperes maximum; grid-No. 1 current, —3.0 microamperes maximum.

(4) Under the following conditions: heater voltage of 7.5 volts cycled 1 minute on and 4 minutes off; heater-cathode voltage of 140 volts (rms); plate and grid voltages=0.

(5) Under the following conditions: a 110-volt plate voltage supply having an impedance not exceeding that of a 40-uf capacitor, plate load resistance of 10,000 ohms, cathode resistor of 270 ohms, cathode bypass capacitor of 1000 microfarads and vibrational acceleration of 15 g at 40 cps. Free free bar vibrator.

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