



varian associates of canada ltd.

TECHNICAL DATA

V-55E/8895

REFLEX KLYSTRON

9830 MHz

DESCRIPTION

The V-55E/8895 reflex klystron is a rugged, fixed-frequency oscillator for use in microwave transmitters or receivers which must operate in adverse environments. It is an ideal signal source for applications requiring isolation of the source from its system. Its low resonator voltage and relatively-high output (about 500 milliwatts) make this tube particularly attractive for airborne use. The base and leads are molded to the tube to permit high-altitude operation without pressurization. An integral matching structure provides optimum performance into a matched load. This tube includes a thermostat which can be used to protect it against overheating.



MAXIMUM RATINGS¹

Resonator Voltage	500 Vdc
Resonator Current	70 mAdc
Resonator Power	35 W
Reflector Voltage ²	-1000 Vdc
Heater Voltage	6.9 V
Body Surface Temperature	200 °C

GENERAL CHARACTERISTICS⁴

ELECTRICAL

Frequency	9830 MHz
Trimmable Range	±20 MHz
Output Power, minimum	450 mW
Heater Voltage	6.3 ± 0.6 V
Heater Current, typical	1.2 A

PHYSICAL

Dimensions	See Outline Drawing
Weight, approximate	8 oz
Mounting Position	Any
Cathode	Oxide-coated, unipotential
Cooling ³	Forced Air
Connectors	See Outline Drawing
Tuner	Locknut

TYPICAL OPERATING CONDITIONS⁴

Frequency	9830 MHz
Output Power, matched load	710 mW
Resonator Voltage	500 Vdc
Resonator Current	60 mA _{dc}
Reflector Voltage ²	-380 Vdc
Electronic Tuning Range	50 MHz
Microphonics, 10-10000 Hz ⁵	3 MHz
Shock, 30 G ⁶	±2 MHz

NOTES:

1. Ratings should not be exceeded under continuous or transient conditions. A single rating may be the limitation and simultaneous operation at more than one rating may not be possible. Equipment design should limit voltage and environmental variations so that ratings will never be exceeded.
2. Reflector must always be at least 20 volts negative with respect to the cathode.
3. Body surface temperature should never exceed 160 °C. For optimum tube life, the body surface temperature should be maintained below 100 °C. Forced-air cooling is required to keep the body surface temperature at an acceptable operating level.

RANGE VALUES FOR EQUIPMENT DESIGN

	Min	Max
Resonator Voltage	---	500 Vdc
Reflector Voltage ²	-340	-420 Vdc
Frequency/Temperature		
Coefficient	-250	+250 kHz/°C
Electronic Tuning Range	40	---
Heater Current, at 6.3 V	1.08	1.32 A

4. Characteristic and operating values are based on performance tests. These figures may change without notice as the result of additional data or product refinement. Consult Varian Associates of Canada, Ltd. before using this information for final equipment design.
5. At resonant peaks, a 10-G audio-frequency vibration may produce frequency modulation of as much as 4 MHz.
6. A 30-G shock of 11 milliseconds duration may produce a permanent frequency change of about 5 MHz.
7. These values are acceptance limits for this tube. Equipment design should allow for these variations.

OUTLINE DRAWING

