



# K350

## OSCILLATOR KLYSTRON

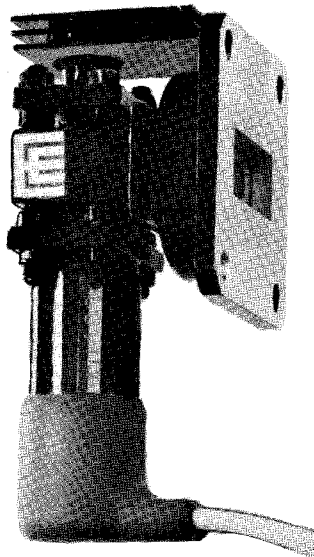
### Service Type CV5426

The data should be read in conjunction with the Oscillator Klystron Preamble.

#### ABRIDGED DATA

Forced-air cooled, fixed frequency, two cavity oscillator klystron for airborne doppler. It features low noise modulation and good frequency stability, and can be used at high altitudes without pressurizing.

Frequency (see note 1)	8800 ± 5	MHz
Typical output power	1.5	W
Electronic tuning range	12	MHz
Output	to no. 16 waveguide (0.900 x 0.400 inch internal)	
Coupler	UG-39/U (154 I.E.C.-UBR100)	



## GENERAL

### Electrical

Cathode . . . . .	indirectly heated, oxide coated	
Heater voltage . . . . .	6.3	V
Heater current . . . . .	1.6	A

### Mechanical

Overall dimensions (excluding leads) . . . . .	3.300 x 1.770 x 1.400 inches max 83.82 x 44.96 x 35.56mm max
Net weight . . . . .	5 ounces (140g) approx
Mounting position . . . . .	any
Connections . . . . .	flexible leads

Cooling (See note 2) . . . . . forced-air

### MAXIMUM AND MINIMUM RATINGS (Absolute values) (See note 3)

No individual rating to be exceeded.

	Min	Max	
Heater voltage . . . . .	5.8	6.8	V
Beam voltage (see note 4) . . . . .	—	1100	V
Resonator dissipation . . . . .	—	130	W
Radiator temperature (see note 2) . . . . .	—	150	°C
Ambient pressure . . . . .	25	—	mm Hg

### RANGE OF CHARACTERISTICS AND TYPICAL OPERATION

#### Operating Conditions

Heater voltage . . . . .	6.3	V
Load v.s.w.r. . . . .	1.1:1	max

### Range of Characteristics

	Min	Typical	Max	
Heater current . . . . .	1.5	1.6	1.75	A
Frequency . . . . .	8795	8800	8805	MHz
Beam voltage for mode optimum . . . . .	680	700	750	V
Beam current . . . . .	55	70	80	mA
Output power . . . . .	1.0	1.5	2.5	W
Electronic tuning range to -3db points . . . . .	10	12	—	MHz
Beam voltage modulation sensitivity . . . . .	100	200	300	kHz/V
Frequency pulling (see note 5) . . . . .	—	2.0	2.5	MHz
Random frequency deviation (peak to peak) (see note 6) . . . . .	—	1.0	3.0	kHz
Temperature coefficient of frequency . . . . .	—	-100	—	kHz/°C

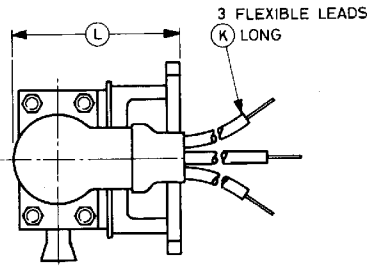
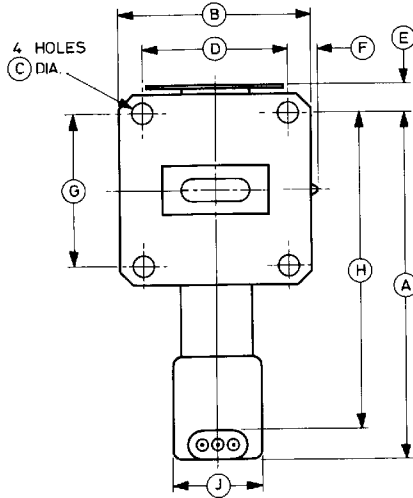
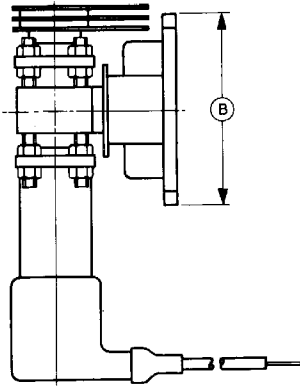


### NOTES

1. Other frequencies can be supplied in the range 8500 to 10 000MHz.
2. Under typical operating conditions, an air flow of 30ft<sup>3</sup>/min (0.85m<sup>3</sup>/min) directed at the radiator fins is adequate. For best life, the radiator temperature should be kept below 100°C.
3. All voltages except the heater voltage are with respect to cathode.
4. The resonator is normally operated at earth potential.
5. With a mismatch of v.s.w.r. 1.5:1, varied through all phases.
6. The random deviations of output frequency from the carrier frequency, produced by random modulating frequencies in the range 150 to 11 000Hz.

# OUTLINE

3542A



## Lead Connections

Colour	Element
White	Heater, cathode
Yellow	Heater
Green	Cathode

Ref	Inches	Millimetres	Ref	Inches	Millimetres
A	2.900 max	73.66 max	G	1.280 ± 0.004	32.512 ± 0.102
B	1.625	41.28	H	2.650 max	67.31 max
C	0.169 ± 0.003	4.293 ± 0.076	J	0.750 max	19.05 max
D	1.220 ± 0.004	30.988 ± 0.102	K	8.000 min	203.2 min
E	0.400 max	10.16 max	L	1.400 max	35.56 max
F	0.345 max	8.76 max			

Millimetre dimensions have been derived from inches.