ZM-3178 ZM-3206
ZM-3203 ZM-3222
ZM-3204 ZM-3240
ZM-3205 ZM-3305

Traveling-Wave Tubes

Technical Information

- LOW NOISE
- X-BAND
- SRPM FOCUSING

RF PERFORMANCE

Tube Type	Frequency Range (Gc)	Maximum Noise Figure (db)	Minimum Small Signal Gain (db)	Minimum Saturation Power Output (mw)
ZM-3178	7.0 - 11.0	9	25	5
ZM-3203	7.0 - 11.0	8	25	5
ZM-3240	8.0 - 12.0	9	25	5
ZM-3305	8.0 - 12.0	8	25	5
ZM-3204	7.0 - 8.5	7	30	10
ZM-3205	7.5 - 8.5	6.5	30	10
ZM-3206	8.5 - 9.6	7	30	10
ZM-3222	9.0 - 10.0	7	30	10

FEATURES

- low noise
- broad bandwidth
- single-reversal permanent-magnet focusing*
- metal-ceramic construction
- military environments
- lightweight
- crystal mixer protection

APPLICATIONS

- radar
- ecm
- instrumentation
- communications
- radiometry

MECHANICAL AND MISCELLANEOUS

VSWR, max
Input 2.5
Output 2.5

Mounting Position ..... Any

Weight, lb. 9.3

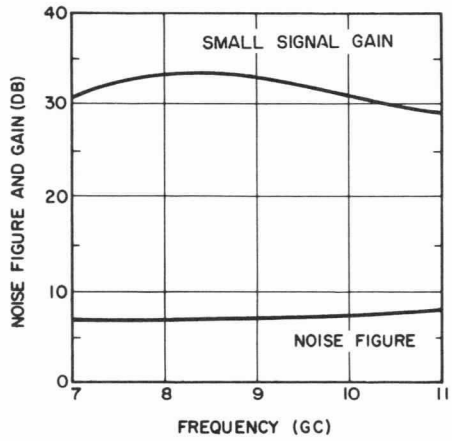
Overall Length, in. 13.84

Cooling ..... Convection

RF Connectors ..... Type N, female

DC Connector ..... Cannon KPT-02H12-10PN (or equiv.)

TYPICAL CHARACTERISTICS



GENERAL ELECTRIC

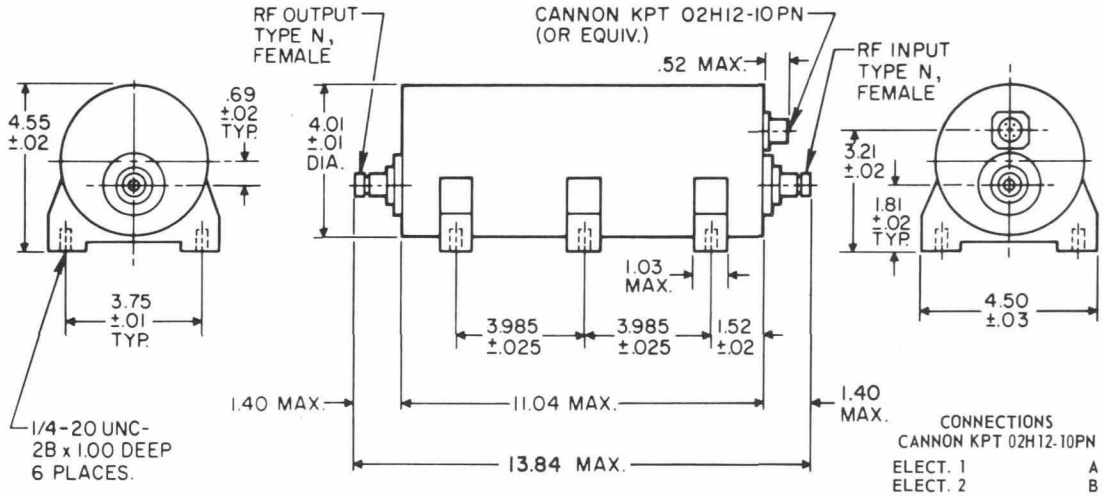
OPERATING CONDITIONS †

Htr, vac or vdc	6.3
Htr, amp (max)	0.35
Elect. 1, vdc	-35 to 0
Elect. 2, vdc	25 to 75
Elect. 3, vdc	25 to 150
Elect. 4, vdc	200 to 450
Helix, vdc	720 to 850
Helix, μa (max)	100
Collector, vdc	950 to 1100
Beam, μa (max.)	1200

ENVIRONMENTAL

Shock (energized)	30 G, 11 ms, 3 axes
Vibration (operating)	15 G, 90 to 2000 cps
Temp. Ambient (operating)	-65 to +71 C#
Altitude (operating)	100,000 ft
Acoustic Noise (operating)	150 db, 25 to 12,000 cps

OUTLINE



DIMENSIONS ARE IN INCHES; THOSE WITHOUT TOLERANCES ARE APPROXIMATE.

CONNECTIONS
CANNON KPT 02H12-10PN

ELECT. 1	A
ELECT. 2	B
ELECT. 3	C
ELECT. 4	D
HELIX	E
COLL.	F
CATH.-HTR.	G
HTR.	J
PACKAGE GROUND	K

NOTES

* Since these tubes are single-reversal permanent-magnet focused and magnetically shielded, they are well suited for applications requiring close physical spacing with other tubes or magnetic materials.

† Voltages shown are measured with respect to cathode. All voltages may be isolated from ground. For minimum noise and optimum gain characteristics, voltages should be adjusted to values specified by instructions accompanying each tube. These values will be within the ranges given above.

\# This tube is capable of operating to +100 C with approximately 0.5 db degradation in noise figure.

These data are subject to change without notice.

TUBE DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky