

Traveling-Wave Tubes

Technical Information

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

- 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

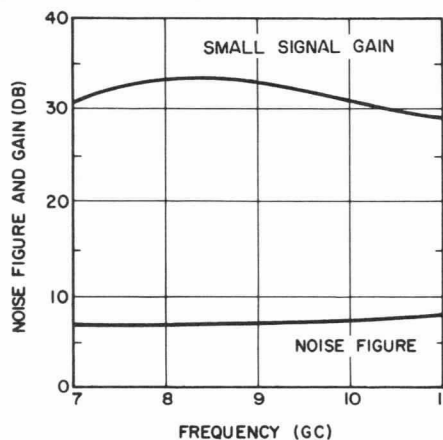
APPLICATIONS

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



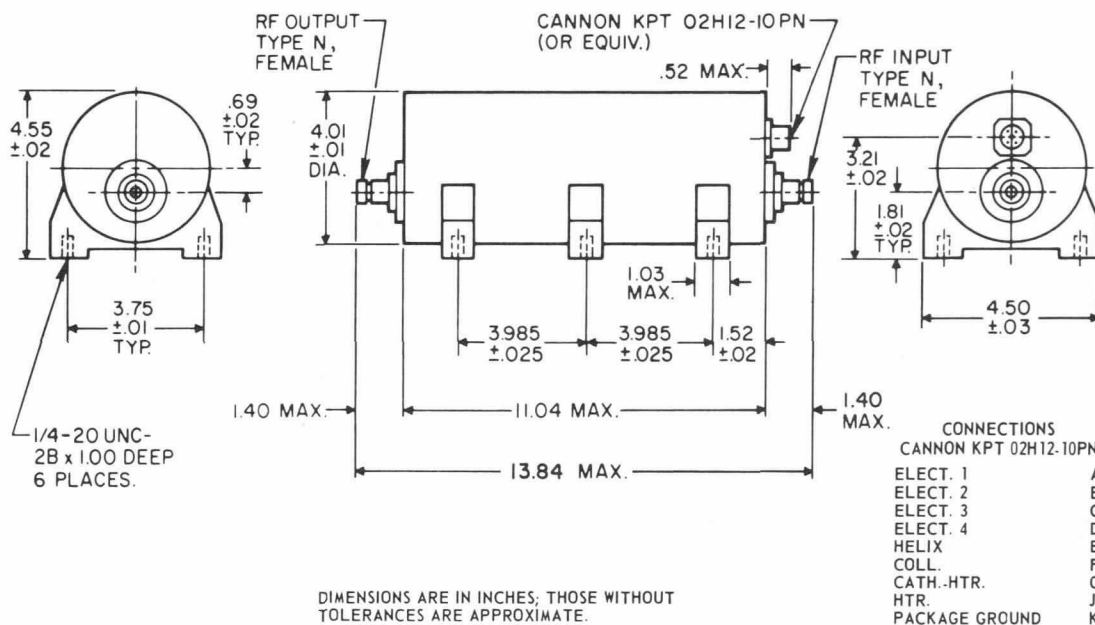
OPERATING CONDITIONS[†]

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, μ a (max.)	100
Collector, vdc	950 to 1100
Beam, μ a (max.)	1200

ENVIRONMENTAL

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

OUTLINE



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.