

Traveling-Wave Tubes

Technical Information

ZM-3280
ZM-3281

RF PERFORMANCE

Tube Type	Frequency Range (Gc)	Min. Peak Saturated Power Output, (kw)	Maximum Duty	Maximum Pulse Width (μ sec)	Minimum Saturated Gain (db)	Data Group
ZM-3280 (air cooled)	8.5-9.6	10	0.01	20	33	X-1
ZM-3281 (liquid cooled)	8.5-9.6	10	0.01	20	33	X-2

- HIGH POWER
- X-BAND
- PPM FOCUSING

FEATURES

high gain
broad bandwidth
periodic permanent magnet focusing
metal-ceramic construction
loaded-waveguide circuit
military environments
light weight
grid control

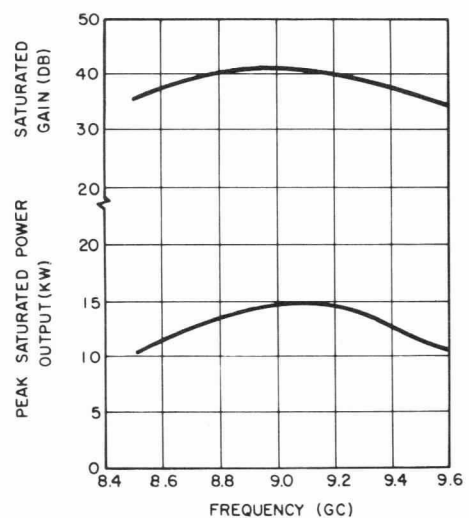
APPLICATIONS

radar
ecm

MECHANICAL & MISCELLANEOUS

Data Group	X-1	X-2
VSWR, max		
Input	1.6	1.6
Output	1.6	1.6
Grid to other elements		
μ f (max)	35	35
Circuit insertion loss, db.	90	90
Phase shift, deg/1% change in cathode voltage (max)	30	30
Weight, lb	17	15
Overall length, in.	21	21
Mounting position	Any	Any
Cooling	Forced air [†]	Liquid
Flow rate	50 cfm	0.3 gpm(water)
Pressure drop	1.0 in. H ₂ O	10 psi
Connectors		
RF input	Mates with UG-40A/U	Mates with UG-40A/U
RF output	Mates with UG-40A/U	Mates with UG-40A/U
DC	Flying leads	Flying leads
Ion pump	See outline	See outline

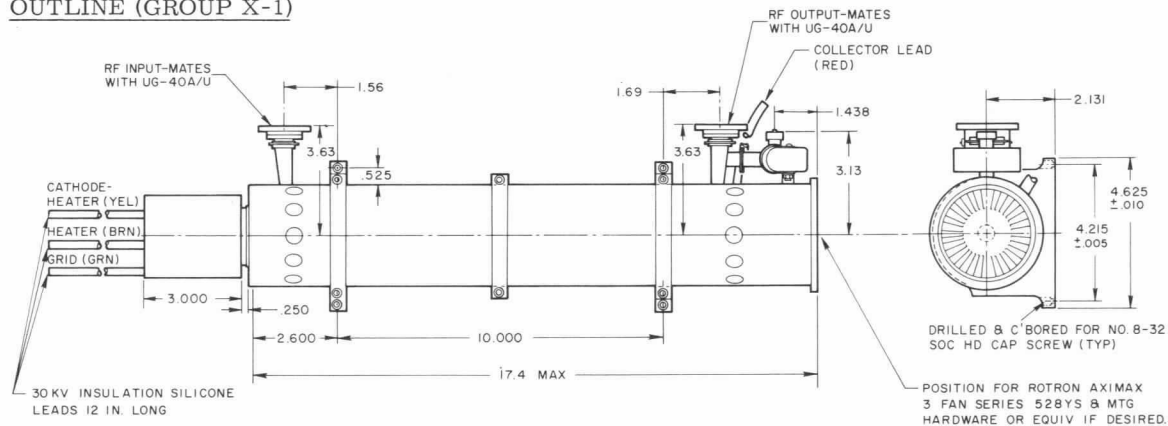
TYPICAL CHARACTERISTICS



OPERATING CONDITIONS * †

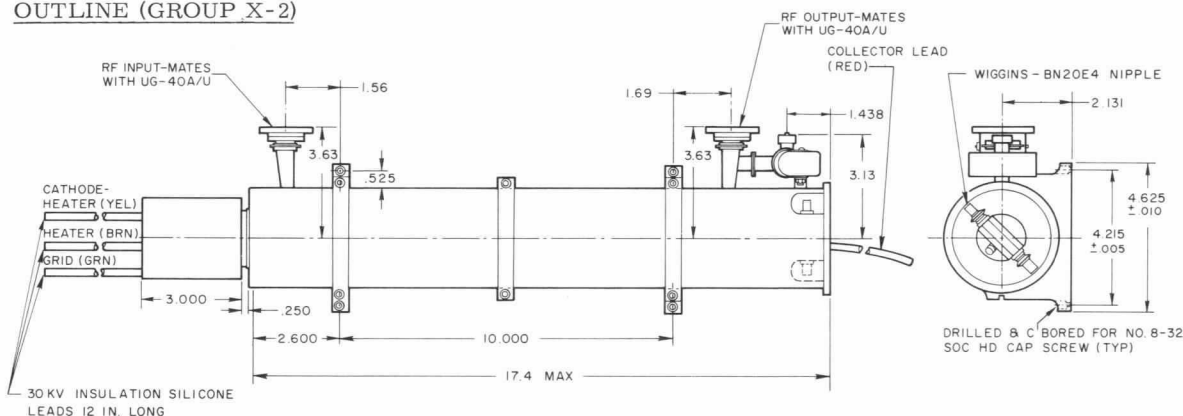
Data Group	X-1 & X-2
Htr. vac or vdc	.9 to 11
Htr. amp (max)	.2 5
Cath. kv dc, with resp. to anode	-24 to -26
Peak cath. amp (max)	5.0
Grid-bias vdc, with resp. to cath.	-275 to -325
Grid swing vdc, with resp. to grid-bias voltage	450 to 550
Peak grid amp. (max)	1.0
Coll. kv dc, with resp. to anode	0
Ion pump vdc	2800

OUTLINE (GROUP X-1)



DIMENSIONS ARE IN INCHES

OUTLINE (GROUP X-2)



DIMENSIONS ARE IN INCHES

NOTES

- † With a small price increase the ZM-3280 can be supplied with a blower.
- * For the performance ratings specified, voltages should be adjusted to values specified by instructions accompanying each tube. These values will be within the ranges given above.
- † The cathode voltage may be set at various values between -24 and -26 kv to obtain different power and gain characteristics.
- # The anode is connected to the tube package which should be grounded in the normal installation of this tube.

These data are subject to change without notice.