

FREQUENCY RANGE OSCILLATORS

COMMERCIAL YIG-TUNED OSCILLATORS

Avantek AV Series of YIG-tuned fundamental transistor oscillators are designed for wideband applications in receivers and instruments where tuning linearity, phase noise and spectral purity are crucial. They make ideal

local oscillators for frequency-agile receivers and spectrum analyzers, and are excellent as signal sources for microwave sweep generators and synthesizers.

AV-7000 SERIES COMMERCIAL YIG-TUNED OSCILLATORS

Guaranteed Specifications @ 0 to +65° C Case Temperature

PC8

Model Number	Frequency Range (GHz)	Power Output @ 25° C		Power Variation (dB) Maximum	Frequency Drift over Temperature (MHz) Maximum		Second Harmonic Below Carrier @ 25° C (dBc) Min.	Case Type
		Minimum	Maximum		Minimum	Maximum		

NARROW BAND OSCILLATORS

AV-7224-2	3.7-4.2	+20		2	10	20		C-45
AV-7443-2	5.4-5.9	+20		2	20	20		C-45
AV-7443-3	5.9-6.5	+20		2	20	20		C-45
AV-7443-4	7.2-7.8	+20		2	20	20		C-45
AV-74010-2	7.9-8.4	+16		2	20	20		C-45
AV-74010-3	8.5-9.6	+16		2	20	20		C-45
AV-74010-4	9.5-10.5	+16		2	20	20		C-45
AV-7872-3	10.7-11.7	+20		2	25	20		M4-45
AV-71261-2	11.7-12.7	+19		2	40	20		M3-60
AV-71261-3	12.7-13.2	+19		2	40	20		M3-60
AV-71261-4	14.0-14.5	+19		2	40	20		M3-60

OCTAVE BAND OSCILLATORS

AV-7104	1.0-2.2	+16		3	10	15		A-45
AV-7203	2-4	+14		3	10	12		A-45
AV-7204	2-4	+16		3	10	20		B-45
AV-7224	2-4	+20		3	10	12		C-45
AV-7238-2	2.6-5.2	+17		6	20	20		C-45
AV-7403	4-8	+13		6	20	20		C-38
AV-7453	4-8	+17		6	20	20		C-38
AV-7443	4-8	+20		6	20	20		C-45
AV-77011	7-11	+17.8		6	25	12		M4-45
AV-7871	8-12.4	+14.8		6	25	12		M4-45
AV-7872	8-12.4	+17.8		6	25	12		M4-45
AV-7873	8-12.4	+20		6	25	12		M4-45
AV-71241	12-18	+13		6	40	12		M3-45
AV-71251	12-18	+16		6	40	12		M3-60
AV-71261	12-18	+19		6	40	12		M3-60

MULTI-OCTAVE BAND OSCILLATORS

AV-70502	0.5-2	+14.8		6	10	12		M1-45
AV-7124	1-4	+14.8		6	10	12		C-45
AV-7236	2-6	+13		6	15	12		A-45
AV-7238	2-8	+14.8		6	20	12		C-45
AV-7288	2-8	+20		6	20	8		C-45
AV-72010	2-10	+14		6	20	8		C-45
AV-74010	4-10	+16		6	20	12		C-45
AV-76018	6-18	+14.8		8	40	10		M3-60
AV-77016	7-16	+17		6	40	12		M4-45
AV-78318	8-18	+10		6	40	12		M3-45
AV-78218	8-18	+14.8		6	40	12		M3-45
AV-78518	8-18	+17		6	40	12		M3-60
AV-78020	8-20	+13		8	40	12		M3-60
AV-71220	12-20	+16		6	40	15		M3-60

WIDEBAND OSCILLATOR

AV-74018	4-18	+17		6	40	10		M3-60
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AV-7000 COMMERCIAL 10-TUNED OSCILLATOR, CONTINUED

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Minimum	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-71826	18-26.5	+13	6	60	—	—	M5-60
AV-718226	18-26.5	+16	6	60	—	—	M5-60
AV-26040M	26.5-40	+10	6	60	—	—	M5-45
AV-26040W	26.5-40	+10	6	60	—	—	M5-45WR28
AV-26240M	26.5-40	+13	6	60	—	—	M5-60
AV-26240W	26.5-40	+13	6	60	—	—	M5-60WR28
AV-33050W	33-50	+7	6	60	—	—	M5-45WR22

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7443-8	4-8	+20	6	20	12	-95	C-45
AV-7872-8	8-12.4	+17.8	6	25	12	-80	M4-45
AV-71261-8	12-18	+19	6	40	12	-80	M3-60

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7236-8	2-6	+13	6	15	12	-105	A-45
AV-7238-8	2-8	+14.8	6	20	12	-95	C-45
AV-76018-8	6-18	+14.8	8	40	10	-75	M3-60
AV-78518-8	8-18	+17	6	40	12	-80	M3-60

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7298	2-8	+14.8	6	20	12	108	C-45
AV-12018	12-18	+16	6	40	20	100	M3-60
AV-76318	6-18	+16	6	40	10	100	M3-60
AV-78012	8-12.4	+17.8	6	25	12	105	M4-45
AV-78718	8-18	+16	6	40	15	100	M3-60

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7104-9	1.0-2.2	+16	3	10	20	—	A-45
AV-7224-9	2-4	+20	3	10	20	—	C-45
AV-7403-9	4-8	+13	6	20	20	—	C-38
AV-7453-9	4-8	+16	6	20	20	—	C-38
AV-7443-9	4-8	+17.8	6	20	20	—	C-45
AV-7871-9	8-12.4	+14.8	6	25	20	—	M4-45
AV-7872-9	8-12.4	+17.8	6	20	20	—	M4-45
AV-7873-9	8-12.4	+20	6	25	20	—	M4-45
AV-71241-9	12-18	+13	6	40	20	—	M3-45
AV-71251-9	12-18	+14.8	6	40	20	—	M3-60
AV-71261-9	12-18	+17	6	40	20	—	M3-60

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7238-9	2-8	+14.8	6	20	20	—	C-45
AV-78020-9	8-20	+13	8	40	20	—	M3-60

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7248	2-8	+14.8	6	20	40	—	F1

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7248	2-8	+14.8	6	20	40	—	F1

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7248	2-8	+14.8	6	20	40	—	F1

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7248	2-8	+14.8	6	20	40	—	F1

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7248	2-8	+14.8	6	20	40	—	F1

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7248	2-8	+14.8	6	20	40	—	F1

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7248	2-8	+14.8	6	20	40	—	F1

This family of frequency converters requires sign... excellent tuning flat power out

AV-7000 SERIES EXTENDED TEMPERATURE RANGE OSCILLATORS

Guaranteed Specifications: -54° to +85°C Case Temperature

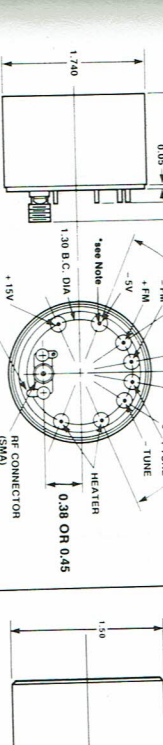
Model Number	Frequency Range (GHz)	Power Output Over Temp. & Freq. (dbm) Minimum	Power Output Over Temp. & Freq. (dbm) Maximum
AV-7278-5	5.4-5.9	+16	+23
AV-7278-6	5.9-6.5	+16	+23
AV-7716-3	7.9-8.4	+17.8	+24
AV-7716-4	8.5-9.6	+17.8	+24
AV-7716-5	9.5-10.5	+17.8	+24
AV-7716-6	14.0-14.5	+16	+23

Model Number	Frequency Range (GHz)	Power Output Over Temp. & Freq. (dbm) Minimum	Power Output Over Temp. & Freq. (dbm) Maximum
AV-7214	2-4	+17	+23
AV-7278-4	2.6-5.2	+16	+23
AV-7413	4-8	+8	+20
AV-7418	4-8	+14.8	+23
AV-7711	7-11	+17	+24
AV-7814	8-12.4	+13	+24
AV-78112	8-12.4	+19	+24
AV-72118	12-18	+16	+23

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7114	1-4	+13	3	10	20	—	A-45
AV-7246	2-6	+16	3	10	20	—	C-45
AV-7218	2-8	+17	6	20	20	—	C-38
AV-7278	2-8	+14.8	6	20	20	—	C-38
AV-76118	6-18	+13	6	25	20	—	M4-45
AV-77116	7-16	+16	6	40	20	—	M3-45
AV-78418	8-18	+13	6	40	20	—	M3-60
AV-78618	8-18	+16	6	40	20	—	M3-60

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7114	1-4	+13	3	10	20	—	A-45
AV-7246	2-6	+16	3	10	20	—	C-45
AV-7218	2-8	+17	6	20	20	—	C-38
AV-7278	2-8	+14.8	6	20	20	—	C-38
AV-76118	6-18	+13	6	25	20	—	M4-45
AV-77116	7-16	+16	6	40	20	—	M3-45
AV-78418	8-18	+13	6	40	20	—	M3-60
AV-78618	8-18	+16	6	40	20	—	M3-60

Model Number	Frequency Range (GHz)	Power Output @ 25°C (dbm) Min.	Power Variation (dB) Max.	Frequency Drift over Temperature (MHz) Max.	Second Harmonic Below Carrier (dBc) Min.	Phase Noise (dBc/Hz) @ 20 kHz	Case Type
AV-7114	1-4	+13	3	10	20	—	A-45
AV-7246	2-6	+16	3	10	20	—	C-45
AV-7218	2-8	+17	6	20	20	—	C-38
AV-7278	2-8	+14.8	6	20	20	—	C-38
AV-76118	6-18	+13	6	25	20	—	M4-45
AV-77116	7-16	+16	6	40	20	—	M3-45
AV-78418	8-18	+13	6	40	20	—	M3-60
AV-78618	8-18	+16	6	40	20	—	M3-60



NOTE: For YIG-MC Connection See data sheet for M3C-3V

Note: Electrical connections vary between models. See data sheet or Signal Sources Data Book for details.

AVANTEK YTO'S SERIES YTO-TUNED TRANSISTOR FUNDAMENTAL OSCILLATORS (with extended temperature ranges) are extremely compact and lightweight, yet are designed and manufactured to offer excellent performance and high MTBF's over the -54° to +85° C temperature range. They meet the environmental conditions of MIL-E-5400 and MIL-E-16400.

AV-7000 SERIES EXTENDED TEMPERATURE RANGE OSCILLATORS

PC5

Guaranteed Specifications -54° to +85° C Case Temperature

Model	Frequency Range (GHz)	Minimum	Power Output Over Temp. & Freq. (dbm)		Frequency Drift over Temp. & Freq. (MHz)	Second Harmonic Below Carrier (dbc) Min.	Case Type
			Maximum	Maximum			
AV-7278-5	5.4-5.9	+16	+23	20	30	12	M4-45
AV-7278-6	5.9-6.5	+16	+23	30	30	12	M4-45
AV-77116-3	7.9-8.4	+17.8	+24	30	30	12	M4-45
AV-77116-4	8.5-9.6	+17.8	+24	30	30	12	M4-45
AV-77116-5	9.5-10.5	+17.8	+24	30	30	12	M4-45
AV-77116-6	14.0-14.5	+16	+23	40	40	20	M4-45

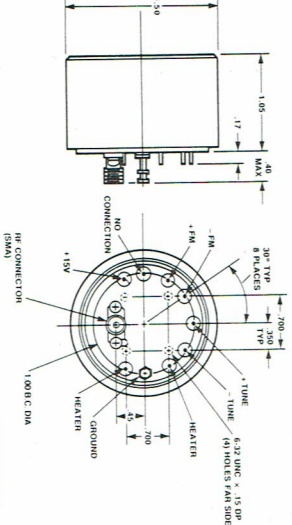
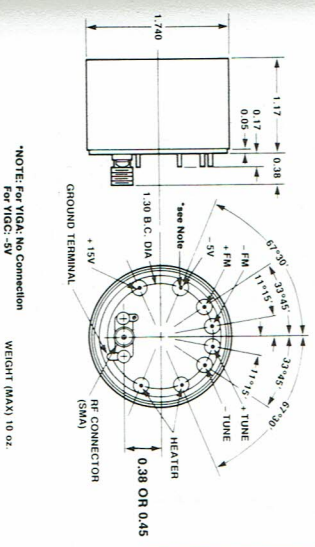
OCTAVE BAND OSCILLATORS

AV-7214	2-4	+17	+23	20	30	12	M4-45
AV-7278-4	2.6-5.2	+16	+23	30	30	10	M4-45
AV-7413	4-8	+8	+20	40	40	12	M2-38
AV-7418	4-8	+14.8	+23	40	40	12	M4-45
AV-77111	7-11	+17	+24	40	40	12	M4-45
AV-7814	8-12.4	+13	+24	50	50	10	M3-60
AV-78112	8-12.4	+19	+24	40	40	12	M3-60
AV-72118	12-18	+16	+23	60	60	15	M3-60

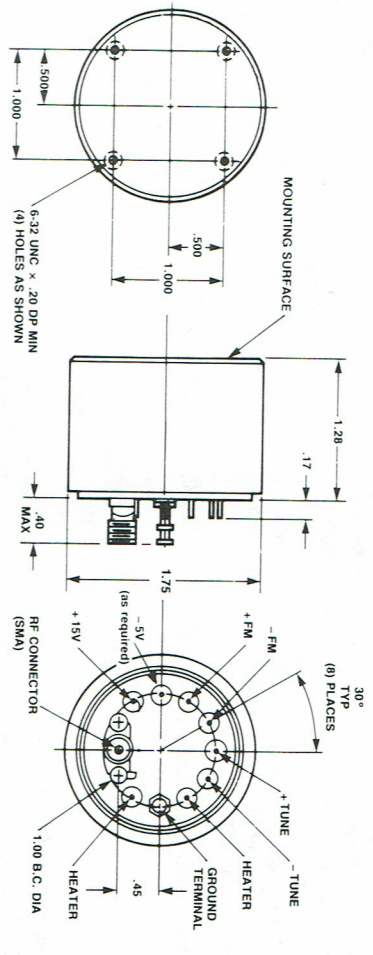
MULTI-OCTAVE BAND OSCILLATORS

AV-7114	1-4	+13	+21	20	30	12	M1-45
AV-7246	2-6	+16	+23	30	40	8	M4-45
AV-7218	2-8	+5	+17	40	40	5	M2-38
AV-7278	2-8	+14.8	+23	40	40	8	M4-45
AV-76118	6-18	+13	+23	60	60	8	M3-60
AV-77116	7-16	+16	+24	50	50	12	M4-45
AV-78418	8-18	+13	+24	70	70	10	M3-45
AV-78618	8-18	+16	+24	60	60	10	M3-60

CASE DRAWINGS A, B and C

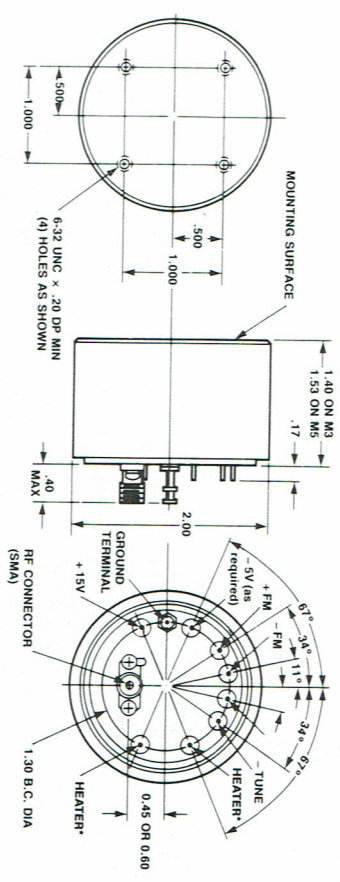


Note: Electrical connections vary between models. See data sheet or Signal Sources Data Book for details.



WEIGHT (MAX) 12 oz.

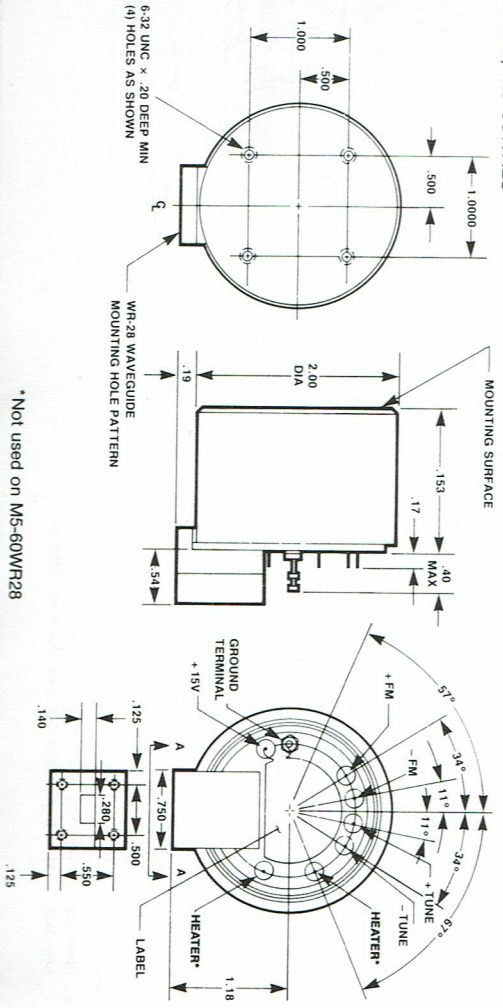
M3-45, M3-60, M5-45, M5-60



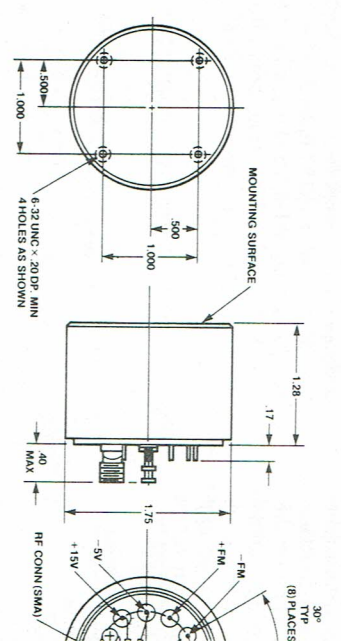
*Not used on M5-60

WEIGHT (MAX) 17 oz. (M3)
19 oz. (M5)

M5-45WR28, M5-60WR28

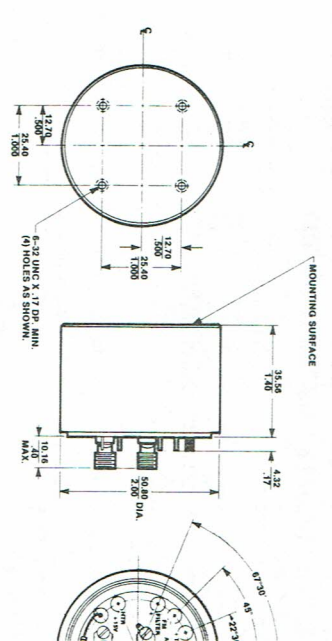


*Not used on M5-60WR28



WEIGHT (NOMINAL) 12 oz.

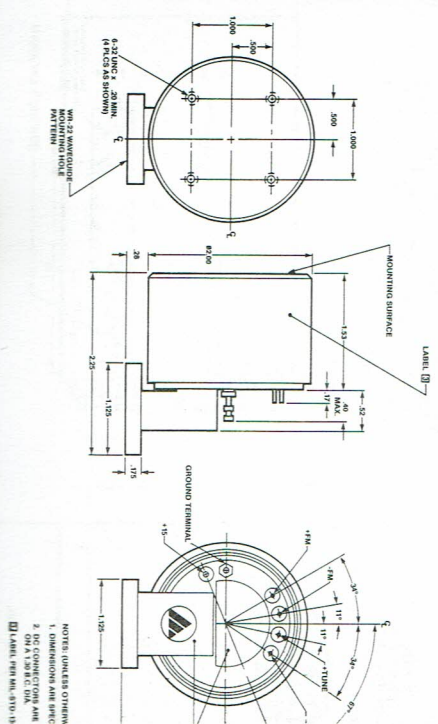
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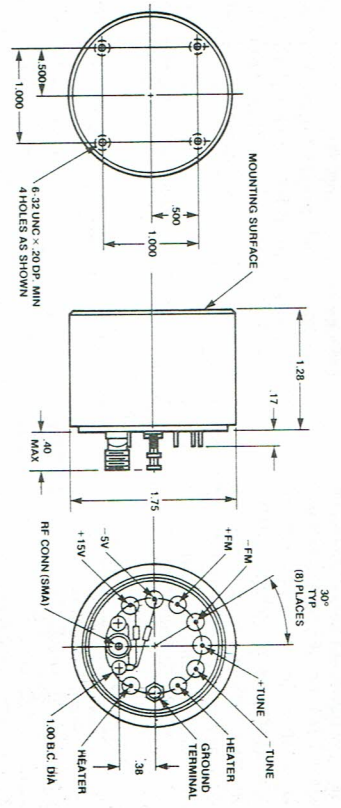
WEIGHT (NOMINAL) 17 oz.

STANDARD VERSION
-001

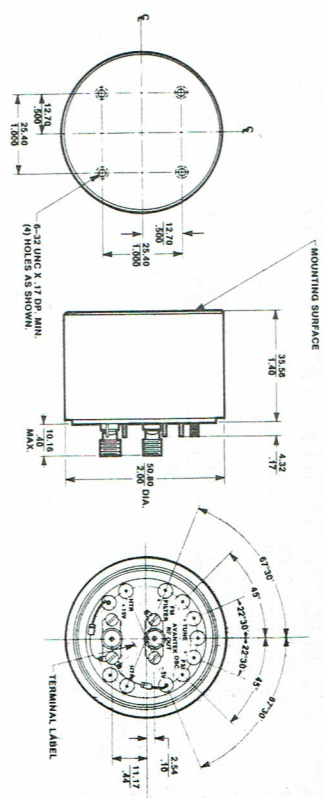
M5-45WR22



NOTE: DIMENSIONS OTHER THAN 1. DIMENSIONS ARE IN INCHES
2. DC CONNECTIONS ARE ON A 1.30 B.C. DIA.
3. LABEL PERMITS 910-110



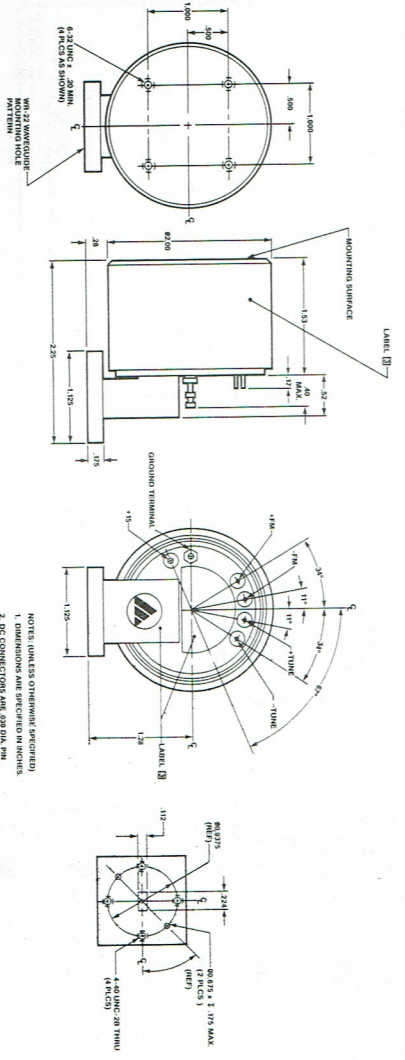
WEIGHT (NOMINAL) 12 OZ.



WEIGHT (NOMINAL) 17 OZ.

STANDARD VERSION
01

M5-45WR22



- NOTES: (UNLESS OTHERWISE SPECIFIED)
 1. DIMENSIONS ARE SPECIFIED IN INCHES.
 2. DC CONNECTION ARE 500 DIA. PINS
 3. DIMENSIONS ARE 500 DIA. PINS
 4. LABEL PER MIL-375-10A