PACKAGED CRYSTAL OSCILLATOR

Datasheet

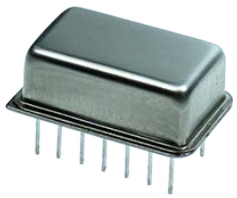
AXM55310-16

MIL-GRADE PXO in accordance with MIL-PRF-55310/16H

FEATURES

- Packaged Crystal Oscillator (MIL-PRF-55310/16H)
- TTL compaible output logic
- Frequency range 0.150 to 80.000 MHz

20.7 x 13.1 x 7.5 mm max.



Parameter	min.	typ.	max.	Unit	Condition
Frequency range	0.150		80.000	MHz	
Frequency stability				ppm	
Initial accuracy		See table 1		ppm	@ 23°C
vs. temperature in operating temperature range		± 25 ~ ± 100		ppm	See table 1
Operating temperature range	-55 -55 -20		+125 +105 +70	°C °C °C	Range A Range B Range C
vs. supply voltage variation			±2	ppm	V_{CC}±10%
vs. load change				ppm	
long term (aging) after 30 days @70°C			±5~±10	ppm/year	See table 1
Frequency adjustment range					
Electronic Frequency Control (EFC) range @ 25°C		N.A.			
RF output					
Signal waveform		TTL compatible			
Load		6 ~ 10 TTL			See table 1
Rise & decay time			5 ~ 15	ns	See table 1
Symmetry (duty cycle)	40~45		55~60	%	See table 1
Supply voltage V_{cc}	4.5	5.0	5.5	V	
Current consumption (steady state)			30~70	mA	See table 1
Storage temperature range	-62		+125	°C	
Enclosure (see drawing) (L x W x H)		20.7x13.1x7.5 max.		mm	IEC 60679-3 CO-04
Weight			10	gram	
Marking		Part number Frequency Date Code Serial number			Note 3
Packing		Palette or sticks			IEC 60286-3
Product Screening Level (Note 2)		B			MIL-PRF-55310, Tbl II

Notes:

1. Terminology and test conditions are according to MIL-PRF55310 and IEC standard IEC60679-1, unless otherwise stated
2. Screening Level B includes 100 % electrical test, leak test, thermal cycling (-55°/+85°, 5 cycles), burn-in (160h @125°C), frequency stability vs. temperature.
   Other product screening levels on request
3. Date Code format wwAXyy with ww = calendar week, yy = year

Part Number Ordering Code

Model	Product Screening Level	Dash number*	Operating temperature range (A, B, or C)*	Frequency (M = MHz, k = kHz)
AXM55310-16	B	41	A	12M0000

Example: AXM55310-16-B-41A-12M0000 * see table 1

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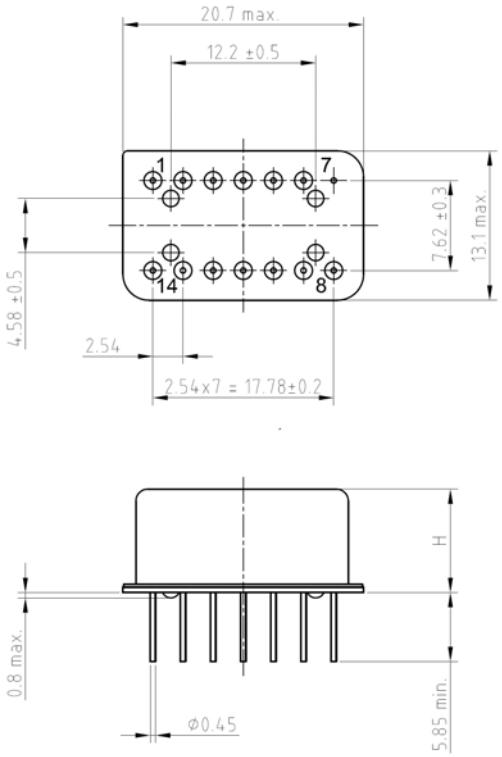
Enclosure drawing



Pin connections

Pin #	Symbol	Function
1 to 6	N.C.	No Connection
7	GND	Ground
8	RF OUT	RF Output
9 to 13	N.C.	No Connection
14	V_{CC}	Supply Voltage

Note:
All pins with N.C. function may be connected internally and are not to be used as external connections.

Dash number	Output frequency range	Input current max at 5.25 V ±1% 1/	Pulse characteristics			Initial accuracy ppm at +23°C ±1°C	Frequency aging ppm/year after 30 days	Frequency-temperature tolerance (ppm)		
			Rise and fall times max	Duty cycle at 1.4 V	Load max 2/			-55°C to +125°C	-55°C to +105°C	-20°C to +70°C
								A	B	C
		mA	ns	percent						
01	0.1 Hz to 250 Hz	158	15	45 to 55	10 TTL	±15	±5	±50	±40	±25
04	0.1 Hz to 250 Hz	158	15	45 to 55	10 TTL	±25	±10	±100	±80	±50
11	250 Hz to 150 kHz	94	15	45 to 55	10 TTL	±15	±5	±50	±40	±25
14	250 Hz to 150 kHz	94	15	45 to 55	10 TTL	±25	±10	±100	±80	±50
21	150 kHz to 5 MHz	70	15	45 to 55	10 TTL	±15	±5	±50	±40	±25
24	150 kHz to 5 MHz	70	15	45 to 55	10 TTL	±25	±10	±100	±80	±50
31	4 MHz to 20 MHz	30	15	40 to 60	10 TTL	±15	±5	±50	±40	±25
34	4 MHz to 20 MHz	30	15	40 to 60	10 TTL	±25	±10	±100	±80	±50
41	20 MHz to 80 MHz	65	5	40 to 60	6 TTL	±15	±5	±50	±40	±25
44	20 MHz to 80 MHz	65	5	40 to 60	6 TTL	±25	±10	±100	±80	±50

Table 1: Dash numbers and operating characteristics

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Mechanical and environmental conditions

Test	MIL-STD-202G Method	MIL-PRF-55310D Clause	Test conditions
Sealing tests	112E	3.6.1.2	Gross leak: Test Qc, Fine leak: Test Qk
Terminal strength	211		Test condition C
Solderability	208H	3.6.52	(235 ± 5)°C Method 1
Shock	213B	3.6.40	3 x per axes 100g, 6 ms half-sine pulse, non-operating
Vibration, sinusoidal	204D	3.6.38.1	Test condition D, non-operating
Endurance tests (ageing)	108A	4.8.35	30 days @ 70°C

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