MIL-55310/09-Series Specifications

0.410D x 0.300H (in)

PDI *MIL-PRF-55310/09* Oscillators are available in both standard and custom frequencies to provide precision timing in a hermetically sealed package for military and avionics applications.

ex) **M55310/09—B—01—A—7M000000**

MILITARY SLASH SHEET

PRODUCT LEVEL
B = Hi-Rel
C = Commercial

DASH NUMBER
See Chart Below

OPERATING TEMPERATURE
A = -55°C to +125°C
B = -55°C to +105°C
C = -20°C to +70°C

XXXXXXXX
Specified
Nominal
Frequency

Dash No.	Frequency Range	Input Current (1) 5.25 V ±1% Max	Rise/Fall Times Max	Duty Cycle @ 1.4 Vdc	Load (2) Max	Initial Accuracy @ 23°C ppm Max	Aging Per Year ppm Max	Operating Temperature (A)	(B)	(C)
01	750 KHz to 9 MHz	50 mA	15 nS	45 to 55%	10 TTL	±15	±5	±50	±40	±25
05						±25	±10	±100	±80	±50
11	9 MHz to 25 MHz	30 mA	15 nS	40 to 60%	10 TTL	±15	±5	±50	±40	±25
15						±25	±10	±100	±80	±50
21	25 MHz to 60 MHz	50 mA	5 nS	40 to 60%	6 TTL	±15	±5	±50	±40	±25
25						±25	±10	±100	±80	±50

Aging Per Year (Max) (Measurements shall be taken @+70°C ±0.2°C at intervals of not more than every 72 hours for 30 days minimum)	**±5 ppm**	**±10 ppm**
Per 30 Days	±0.7 ppm	±1.5 ppm
Per 90 Days	±1.5 ppm	±3.0 ppm

NOTES:
(1) Maximum input current for no load condition. Actual configuration of TTL loads must be added to determine power supply requirements.
(2) A TTL unit load is defined as: 1.60 mA sink, 0.04 mA source, and 2.0 pF capacitance.

Environmental Specifications	
Terminal Strength	MIL-STD-202 , Method 211 , Condition C **Applied Force:** 2 pounds each terminal for 10 seconds , **Bends:** 5 at 45 degrees each
Vibration, sinusoidal	IAW MIL-PRF-55310 and MIL-STD-202 , Method 204 **Non-operating:** Test Condition D, **Operating:** Not Required
Ambient Pressure	**Non-operating:** IAW MIL-PRF-55310 , **Operating:** MIL-STD-202 , Method 105 , Condition C

The product described in this spec. consist of this specification and MIL-PRF-55310.
Decimal XXX = ± .005, XX = ± .020 *Metric* [XXX = ± .13], [XX = ± .50]

Parameter		Frequency Range 750KHz to 60MHz	Units
Frequency Stability	vs Temperature (Max)		ppm
	-20 to +70°C (Type C)	Per Chart	
	-55 to +105°C (Type B)	Per Chart	
	-55 to +125°C (Type A)	Per Chart	
	vs Supply Voltage (Max. for a 10% change) (Measurements taken at reference temperature and operating temperature range end points)	±2.0	
	Tolerance (@ +23°C ± 1.0°C) (Max) Within 30 Days of Shipment	Per Chart	
Temperature Range	Operating	Per Chart	°C
	Storage	-62 to +125	
Supply Voltage	±10.0 %	+5.0	Vdc
Output		TTL	
Logic Levels	High (Min)	2.4	Vdc
	Low (Max)	0.5	

Test Inspection	Product Level B Method Condition
Internal Visual	MIL-STD-883, Method 2017 and 2032
Stabization bake (prior to seal) 1/	MIL-STD-883, Method 1011, Condition C (+150°C) 48 hours min.
Temperature Cycling	MIL-STD-883, Method 1010 Condition B
Constant Acceleration	MIL-STD-883, Method 2001. Condition A, Y1 only (5000 g's)
Seal (Fine and Gross Leak) 2/	MIL-STD-883, Method 1014
Burn-In (Load)	+125C, nominal supply voltage and burn-in load, 160 hours minimum
Electrical Test:	Nominal supply voltages, specified load, +23°C and verify frequency at the temperature extremes
Input Current Power	4.8.5 of MIL-PRF-55310
Output Waveform	4.8.20 of MIL-PRF-55310
Output Voltage-Power	4.8.21 of MIL-PRF-55310
As Specified	3.1 of MIL-PRF-55310

PRECISION DEVICES INC

PACKAGE DIMENSIONS

PIN	CONNECTION
1-3	No Connect
4	B-Ground/Case *
5	Output
6-7	No Connect
8	Supply Voltage

* - Case to be connected to base pin 4 to permit shielding of the oscillator.