MIL-55310/17-Series Specifications

0.887L x 0.540W x 0.200H (in)

PDI *MIL-PRF-55310/17* Oscillators are available in both standard and custom frequencies to provide precision timing in a hermetically sealed package for military and avionics applications.

ex) **M55310/17—B—11—A—12M00000**

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)	Operating Temperature (B)	Operating Temperature (C)
11	12 MHz to 20 MHz	55 mA	15 nS	40 to 60%	10 TTL	±15	±5	±50	±40	±25
14						±25	±10	±100	±40	±25
21	20 MHz to 50 MHz	55 mA	5 nS	40 to 60%	10 TTL	±15	±5	±50	±40	±25
24						±25	±10	±100	±40	±25

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 12MHz to 50MHz	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	
Enable Gate Function	Pin 9 Logic '1' Output Enable	80 Min	%Vcc
Disable Gate Function	Pin 9 Logic '0' Output Disable	20 Max	%Vcc

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

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PACKAGE DIMENSIONS

PIN	CONNECTION
1-6	No Connect
7	Ground/Case
8	Output
9	Gate Input
10-13	No Connect
14	Supply Voltage