

MIL-55310/18-Series Specifications



0.887L x 0.540W x 0.200H (in)

PDI MIL-PRF-55310/18 Oscillators are available in both standard and custom frequencies to provide precision timing in a hermetically sealed package for military and avionics applications.

ex) **M55310/18—B—22—A—10M00000**

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. Package	Frequency Range	Supply Voltage Vdc ±10%	Input Current at Max Voltage Max	Output Voltage		Rise/Fall Times Max	Tolerance @ 23°C ppm Max	Aging Per Year ppm Max	Operating Temperature		
				Logic: 1 Min	Logic: 0 Vdc Max				(A)	(B)	(C)
01	2.9 Hz to 15 MHz	+15	25 mA	12.8 Vdc	1.5 Vdc	30 nS	±15	±5	±50	±40	±25
02							±25	±10	±100	±80	±50
11	2.9 Hz to 12 MHz	+12	20 mA	10.2 Vdc	1.2 Vdc	35 nS	±15	±5	±50	±40	±25
12							±25	±10	±100	±80	±50
21	2.9 Hz to 10 MHz	+10	15 mA	8.5 Vdc	1.0 Vdc	40 nS	±15	±5	±50	±40	±25
22							±25	±10	±100	±80	±50
31	2.9 Hz to 8 MHz	+8	10 mA	6.8 Vdc	0.8 Vdc	50 nS	±15	±5	±50	±40	±25
32							±25	±10	±100	±80	±50
41	2.9 Hz to 5 MHz	+5	3 mA	4.2 Vdc	0.5 Vdc	70 nS	±15	±5	±50	±40	±25
42							±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 CMOS loads must be added to determine power supply requirements.

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]

REV: NA

SIZE: A

CAGE: A

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Parameter		Frequency Range	Units
		2.9Hz to 15MHz	
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		CMOS	
Load	Resistance	10 ±5%	KΩ
	Capacitance	15 ±5%	pF

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

PACKAGE DIMENSIONS

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

