

MIL-55310/30-Series Specifications



0.560L x 0.360W x 0.188H (in)

PDI MIL-PRF-55310/30 Oscillators are available in both standard and custom frequencies to provide precision timing in a hermetically sealed package for military and avionics applications.

ex) **M55310/30—B—01—A—7M000000**

MILITARY SLASH SHEET

PRODUCT LEVEL

B = Hi-Rel
C = Commercial

DASH NUMBER

See Chart Below

OPERATING TEMPERATURE

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

XXXXXXXX

Specified
Nominal
Frequency

Dash No.	Frequency Range	Input Current (No Load) Max	Rise/Fall Times Max	Duty Cycle @ 50% Vcc	Initial Accuracy @ 23°C ppm Max	Operating Temperature		
						(A)	(B)	(C)
01	1.544 MHz to 14.999 MHz	8 mA	10 nS	45 to 55%	±15	±50	±40	±25
04					±25	±100	±80	±50
11	15 MHz to 29.999 MHz	10 mA	10 nS	45 to 55%	±15	±50	±40	±25
14					±25	±100	±80	±50
21	30 MHz to 59.999 MHz	20 mA	5 nS	40 to 60%	±15	±50	±40	±25
24					±25	±100	±80	±50
31	60 MHz to 85 MHz	30 mA	5 nS	40 to 60%	±15	±50	±40	±25
34					±25	±100	±80	±50
41	85 MHz to 100 MHz	30 mA	5 nS	40 to 60%	±15	±50	±40	±25
44					±25	±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)						±10 ppm		
Per 30 Days						±1.5 ppm		
Per 90 Days						±3.0 ppm		

Environmental Specifications	
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 Exposure Time: 5 minutes
Reflow Soldering	Reflow soldering of the unit @ +230°C ±10°C for 15 seconds shall not degrade the performance.

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
		15KHz to 60MHz	
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)	±4.0	
	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 %	+3.3	Vdc
Output		CMOS	
Start-up Time	Max	15	mS
Load	Resistance	10 ±5%	KΩ
	Capacitance	15 ±5%	pF
Logic Levels	Logic 1 (High) Min	90	%
	Logic 0 (Low) Max	10	
Enable/Disable	Output Disabled (Max)	0.3	Vdc
	Output Enabled (Min)	2.0 (or open)	

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	Enable/Disable
2	Ground/Case
3	Output
4	Supply Voltage

