

MIL-55310/14-Series Specifications



0.887L x 0.540W x 0.200H (in)

PDI MIL-PRF-55310/14 Oscillators are available in both standard and custom frequencies to provide precision timing in a hermetically sealed package for military and avionics applications.

ex) **M55310/14—B—09—A—25M00000**

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	Input Current (1) Max	Output Voltage		Rise/Fall Times Max	Duty Cycle @ 1.4 Vdc	Operating Temperature		
				Logic: 1 Min	Logic: 0 Max			(A)	(B)	(C)
05	750 KHz – 2.5 MHz	+5.0 ±0.5	50 mA	2.4 Vdc at 400 µA Sorce	0.5 Vdc at 16 mA Sink	15 nS	45 to 55%	±50	±40	±30
06	2.5 MHz – 5 MHz	+5.0 ±0.5	40 mA			15 nS	45 to 55%	±50	±40	±30
07	5 MHz – 10 MHz	+5.0 ±0.5	30 mA			15 nS	45 to 55%	±50	±40	±30
08	10 MHz – 15 MHz	+5.0 ±0.5	20 mA			15 nS	40 to 60%	±50	±40	±30
09	15 MHz – 25 MHz	+5.0 ±0.5	20 mA			5 nS	40 to 60%	±50	±40	±30
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			
Per 30 Days							±0.7 ppm			
Per 90 Days							±1.5 ppm			
NOTES:										
(1) Maximum input current for no load condition. Actual configuration of TTL 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]

Parameter		Frequency Range	Units
		750KHz to 25MHz	
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 ($\pm 10\%$ change) (Max) (Measurements taken at reference temperature and operating temperature range end points)	± 2.0	
	Initial Accuracy (@ +23°C $\pm 1.0^\circ\text{C}$) (Max) up to 30 days after shipment	± 15.0	
Temperature Range	Operating	Per Chart	°C
	Storage	-62 to +125	
Supply Voltage	$\pm 10.0\%$	+5.0	Vdc
Output		TTL	
Load	A TTL unit load is defined as: 1.60 mA sink, 0.04 mA source, and 2.00 pF capacitance.	1 – 10	TTL
Logic Levels	High (Min), @ 400 uA Source	2.4	Vdc
	Low (Max), @ 16 mA Sink	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

PACKAGE DIMENSIONS

PIN	CONNECTION
1-3	No Connect
4	Supply Voltage
5	Output
6	No Connect
7	Ground/Case
8-14	No Connect

