MIL-55310/08-Series Specifications

0.887L x 0.540W x 0.200H (in)

PDI *MIL-PRF-55310/08* Oscillators are available in both standard and custom frequencies to provide precision timing in a hermetically sealed package for military and avionics applications.

ex) **M55310/08—B—08—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 Max	Output Voltage		Rise/Fall Times Max	Duty Cycle @ 1.4 Vdc	Operating Temperature		
				Logic: 1 Min	Logic: 0 Max			(A)	(B)	(C)
04	750 KHz – 2.5 MHz	+5.0 ±0.25	50 mA	2.4 Vdc at 400 µA Sorce	0.5 Vdc at 16 mA Sink	15 nS	45 to 55%	±50	±40	±25
05	2.5 MHz – 5 MHz	+5.0 ±0.25	50 mA			15 nS	45 to 55%	±50	±40	±25
06	5 MHz – 10 MHz	+5.0 ±0.25	35 mA			15 nS	40 to 60%	±50	±40	±25
07	10 MHz – 20 MHz	+5.0 ±0.25	25 mA			15 nS	40 to 60%	±50	±40	±25
08	20 MHz – 30 MHz	+5.0 ±0.25	35 mA			5 nS	40 to 60%	±50	±40	±25
09	30 MHz – 50 MHz	+5.0 ±0.25	50 mA			5 nS	40 to 60%	±50	±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 Hz – 4.9 MHz**	**5 MHz – 50 MHz**
Per 30 Days	±1 ppm	±2 ppm
Per 90 Days	±2 ppm	±4 ppm
Per Year	±5 ppm	±10 ppm

Environmental Specifications	
Terminal Strength	MIL-STD-202 , Method 211 , Condition A **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 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 (±10% change) (Max) (Measurements taken at reference temperature and operating temperature range end points)	±2.0	
	Initial Accuracy (@ +23°C ± 1.0°C) (Max) up to 30 days after shipment	±15.0	
Temperature Range	Operating	Per Chart	°C
	Storage	-62 to +125	
Supply Voltage	±5.0 %	+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 µA 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

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PACKAGE DIMENSIONS

PIN	CONNECTION
1	Output
2	Case
3-7	No Connect
8	Ground
9-13	No Connect
14	Supply Voltage