

**RELIABILITY TEST PROCEDURES FOR ECS-320-CDX-2094**



<b><u>NO.</u></b>	<b><u>TEST NAME</u></b>	<b><u>TEST PROCEDURES</u></b>	<b><u>REQUIREMENTS</u></b>
1	SHOCK	Drop 3 times from the height of 100cm onto hard wooden board.	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
2	VIBRATION	Vibration Frequency: 10 to 55Hz, 1.5mm, full wave Cycle: 2 min. Direction: X.Y.Z. Time: 2 hours in each direction	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
3	STORAGE IN HIGH TEMPERATURE	+125 ±2°C for 500 hours.	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
4	STORAGE IN LOW TEMPERATURE	-55 ±2°C for 500 hours.	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
5	RESISTANCE TO SOLDERING HEAT	Pass through reflow for 10s (Max.) which is pre-heated at a temperature of 160°C ± 10°C and 240°C ± 5°C	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
6	HUMIDITY	+ 60 ± 2°C in humidity 95% for 500 hours.	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
7	THERMAL SHOCK	Supply 500 cycles as follows: Temperature shift shall be done within 30 sec. -40 ±2°C    +85 ±2°C (30 min) <-----> (30 min)	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
8	TEMPERATURE CYCLE	<p>Supply 100 cycles as follows:</p> <p>The diagram illustrates one cycle of temperature cycling. It starts at +25 ±5°C for 10 minutes, drops to -40 ±3-5°C for 30 minutes, rises to +25 ±5°C for 10 minutes, and finally rises to +85 ±5 -2°C for 30 minutes before returning to the start.</p>	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
9	SEALING TIGHTNESS MIL-STD 202F METHOD 112D TEST C AND D	1) Dipping in Florinert at: +125 ±5°C for 5 min. (Gross Leak)	There are no visual abnormalities.
		2) Leak rate shall be measured by using:  Helium leak Detector (Fine Leak)	There are no visual abnormalities.
10	Mean Time Between Failures (MTBF)	$MTBF (25^{\circ}C) = \frac{Ea \times (1/T_1 - 1/T_2) / K}{\pi}$ $H_s X e^{0^{\circ}Ce}$	16396600 Hours