

**RELIABILITY TEST PROCEDURES FOR ECX-12R Series**



<u>NO.</u>	<u>TEST NAME</u>	<u>TEST PROCEDURES</u>	<u>REQUIREMENTS</u>
1	<b>SHOCK</b>	Drop 3 times from the height of 100cm onto hard wooden board.	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
2	<b>VIBRATION</b>	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	<b>STORAGE IN HIGH TEMPERATURE</b>	+85 ±2°C for 500 hours.	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
4	<b>STORAGE IN LOW TEMPERATURE</b>	-40 ±2°C for 500 hours.	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
5	<b>RESISTANCE TO SOLDERING HEAT</b>	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	<b>HUMIDITY</b>	+ 60 ± 2°C in humidity 95% for 500 hours.	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
7	<b>THERMAL SHOCK</b>	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	<b>TEMPERATURE CYCLE</b>	<p>Supply 100 cycles as follows:</p>	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
9	<b>SEALING TIGHTNESS MIL-STD 202F METHOD 112D TEST C AND D</b>	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	<b>Mean Time Between Failures (MTBF)</b>	$MTBF(25^{\circ}C) = \frac{E_a \times (1/T_1 - 1/T_2) / K}{\pi}$	16396600 Hours