## RELIABILITY TEST PROCEDURES FOR CSM-12 Series



## NO. TEST NAME

TEST PROCEDURES

**REQUIREMENTS** 

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	+85 ±2ºC for 500 hours.	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
4	STORAGE IN LOW TEMPERATURE	-40 ±2ºC for 500 hours.	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
5		Pass through reflow for 10s (Max.) which is pre-heated at a temperature of $160^{\circ}C \pm 10^{\circ}C$ and $240^{\circ}C \pm 5^{\circ}C$	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
6	HUMIDITY	+ 60 ± 2ºC 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. -55 ±2°C +125 ±2°C (30 min) <> (30 min)	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
8	TEMPERATURE CYCLE	Supply 100 cycles as follows: +125 +5 -2°C 30 min. +25 ±5°C +25 ±5°C 10 min. -55 +3-5°C 30 min. 1 Cycle	Frequency Drift ±5 PPM Max. Resistance Drift ±15% Max.
9	SEALING TIGHTNESS MIL-STD 202F	1) Dipping in Florinert at: +125 ±5ºC for 5 min. (Gross Leak)	There are no visual abnormalities.
	METHOD 112D TEST C AND D	<ul> <li>2) Leak rate shall be measured by using:</li> <li>Helium leak Detector</li> <li>(Fine Leak)</li> </ul>	There are no visual abnormalities.
10	Mean Time Between Failures (MTBF)	Ea x (1/T1-1/T2) / K MTBF (25°C) = <u>HsXe<sup>o</sup>Ce</u> π	16396600 Hours