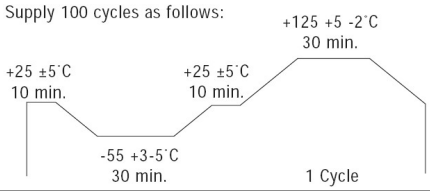
RELIABILITY TEST PROCEDURES FOR ECS-500X Series

NO.	TEST NAME	TEST PROCEDURES	REQUIREMENTS
1	SHOCK	Drop 3 times from the height of 100cm onto hard wooden board.	Frequency Drift ±1 PPM 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 ±1 PPM Max.
3	STORAGE IN HIGH TEMPERATURE	+85 ±2ºC for 500 hours.	Frequency Drift ±1 PPM Max.
4	STORAGE IN LOW TEMPERATURE	-40 ±2ºC for 500 hours.	Frequency Drift ±1 PPM Max.
5	RESISTANCE TO SOLDERING HEAT	Pass through reflow for 10s (Max.) which is pre-heated at a temperature of 160ºC ± 10ºC and 240ºC ± 5ºC	Frequency Drift ±1 PPM Max.
6	HUMIDITY	+ 60 ± 2ºC in humidity 95% for 500 hours.	Frequency Drift ±1 PPM Max.
7	THERMAL SHOCK	Supply 500 cycles as follows: Temperature shift shall be done within 30 sec. -55 ±2ºC +125 ±2ºC (30 min) <----------> (30 min)	Frequency Drift ±1 PPM Max.
8	TEMPERATURE CYCLE		Frequency Drift ±1 PPM Max.
9	SEALING TIGHTNESS MIL-STD 202F METHOD 112D TEST C AND D	1) Dipping in Florinert at: +125 ±5ºC 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)	$MTBF\ (25ºC) = \frac{HsXeºCe^{Ea \times (1/T1-1/T2) / K}}{\pi}$	16396600 Hours