Cross Reference MIL-STD vs. IEC Standards*

Test Method	general				general	crystals		oscillators		filters	
	MIL-STD	Method	Cond.	MIL Conditions	IEC 60068-2-	IEC 60122-1 (IEC 601178-1)	MIL-PRF 3098	IEC 60679-1	MIL-PRF 55310	IEC 60368-1	IEC conditions
Electrical Characteristics						several		several			
Freq. Vs. Temp.				per spec		several		several			
Aging				30 days, spec temp, 1 hour stabilization		4.9.1		4.7.1	4.8.35.1		30 days@85°C or upper op. Temp. OCXO: @25°C
Life Test/ Extended aging	883	2005,6		125°C, powered, 1000h min.		4.9.2		4.7.2			1000h, 2000h, 8000h @85°C
Bake-in/Burn-in	202 883	108 1015									
Visual inspections						4,5		4,3	4.8.1		Enclosures as in IEC 60122-3 (xtal), 60679-3 (osc), 60368-3 (filters)
Phys. Dimensions	883	2016		per Spec		4.6					
Dielectric withstanding voltage	202	302									
Insulation resistance	202	302									
Electrostatic Discharge	883	3015	Class	2kV to 4kV threshold							
Contact Resistance	202	307									
Solderability	202 883	208 2022,2		Solder dip, Meniscograph	-20 and -54 and -58 and -69	4.8.3		4.6.3.1	4.8.53		Leads:Test Ta Meth.1 (235+-5)°C SMD: Test Td solder bath (235+-5)°C or Test
	883	2003		8h steam age, 95% coverage							
Resistance to Soldering Heat	202	210A	C	260°C, 10sec, 25.4mm/sec	-20	4.8.3		4.6.3.2	4.8.49		Leads: Test Tb Meth.1A (solder bath 5s), SMD: Test Td (solder bath 10s, (260+-5)°C)
Moisture Resistance	202 810	106 507									
Sealing Test: Fine Leak	202 883	112 1014,8	A1	Mass Spectrometer 1*10-8 He	-17	4.8.2		4.6.2	4.8.2		Test Qk
Sealing Test: Gross Leak	202 883	112 1014		30sec immersion	-17	4.8.2		4.6.2	4.8.2		Test Qc
Robustness of terminations: Lead	202 883	211 1005,6		Lead tension & bend stress	-21	4.8.1		4.6.1	4.8.52		Tests Ua1,Ua2,Ub
Robustness of terminations: Lead Bend	883	2004	B1	1 bending cycle	-21						
Robustness of terminations: Terminal Pull	883	2004	A	2 pd	-21	4.8.1					
Immersion in cleaning solvents; Marking permanence	202 202 883	104 215 2015,8		Resistance to solvents, three 1min soaks	-45 and -70	4.8.16		4.6.21	4.8.54		Test Xa method 1, Test Xb (rubbing finger) (for superficial marking only)
Flammability (external flame)	202	111A									
Vibration Sinusoidal	202 202 810	201 204 514	B	10-2000Hz,1.5mm/15g, 3 planes	-6	4.8.7		4.6.7.1 and 4.6.7.2	4.8.39.1 and 4.8.39.2		Test Fc: 30min per axis, 10-55Hz 0.75mm; 55-2000Hz, 10g
Vibration Random	202	214			-36	4.8.7			4.8.39.3		Test Fdb: e.g.100Hz-2kHz, 0.04g²/Hz
Mechanical Shock	202 202 810	207 213 516	C	100g	-27	4.8.8		4.6.8	4.8.41		Test Ea: 3x per axes,100g, 6ms, halfsine
Mechanical Bump					-29	4.8.6		4.6.6			Test Eb: 4000 bumps per axes, 40g, 6ms
Constant Acceleration	202 883	212 2001									
Altitude (Barometric Pressure)	202 810	105 500									
Salt Spray	202 810	101 509									
Explosion	202 810	109 511									
Sand and Dust	202 810	110 510									
Fungus	810	508									
Free Fall, Random Drop	202	203			-32	4.8.9					Test Ed proc.1: 2 drops from 1m height
Particle Impact Noise Detection (PIND)	202 883	217 2020									
Dry heat					-2	4.8.11		4.6.14			Test Ba: 16 h at upper temp of climatic category
Damp heat, cyclic					-30	4.8.12		4.6.15			Test Db var.1 severity b): +55°C/95%r.H. 6 cycles
Cold					-1	4.8.13		4.6.16			Test Aa: 2h at lower temp of climatic category
Climatic sequence					-7	4.8.14		4.6.17			Sequence of Dry heat, damp heat(1st cycle), Cold, Damp heat (5cycles)
Damp heat, steady state	202	103		40°C, 90-95%RH, 56 days	-3	4.8.15		4.6.18			Test Ca: 56 days
Temp. Cycle	883	1010	B	-55/+125°C Air,100 cycles, 10 min							
Rapid Change of Temperature (Thermal Shock)	202 810 883 883	107 503 1010 1011,7	A	100°C to 0°C, water, 15 cycles	-14	4.8.5		4.6.5	4.8.45		Test Na: 10 cycles at extremes of operating temp range, OCXO: -40°C/+85°C

***Disclaimer:**

This table is a best effort approach. The author is not responsible and cannot guarantee for completeness, for accurate referencing, and for up-to-date data