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Standard Guide for ASTM Standard Test Methods, Standard Practices, and Typical Values of a Membrane Switch[1]

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1. Scope

1.1 This guide contains a list of the current test methods and practices generated by Subcommittee F01.18 on Membrane Switches along with typical values for specifying certain performance characteristics of a membrane switch.

1.2 As a minimum, for any particular membrane switch, the values for the required characteristics should be specified.

1.3 Additional performance characteristics may be required and should be specified accordingly.

2. Referenced Documents

2.1 *ASTM Standards:*

F 1570 Test Method for Determining the Tactile Ratio of a Membrane Switch[2]

F 1578 Practice for Contact Closure Cycling of a Membrane Switch[2]

F 1595 Practice for Visual Inspection of a Membrane Switch[2]

F 1596 Practice for Exposure of Membrane Switches to Temperature and Relative Humidity[2]

F 1597 Test Method for Determining the Actuation Force and Contact Force of a Membrane Switch[2]

F 1598 Test Method to Determine the Effects of Chemical/Solvent Exposure to a Membrane Switch/Graphic Overlay (Spot Test Method)[2]

F 1661 Test Method for Determining the Contact Bounce Time of a Membrane Switch[2]

F 1662 Test Method for Verifying the Specified Dielectric Withstand Voltage of a Membrane Switch[2]

F 1663 Test Method for Determining the Capacitance of a Membrane Switch[2]

F 1680 Test Method for Determining the Circuit Resistance of a Membrane Switch[2]

F 1682 Test Method for Determining the Travel of a Membrane Switch[2]

F 1683 Practice for Creasing and Bending a Membrane Switch, Membrane Switch Assembly or Membrane Switch Component[2]

F 1689 Test Method for Determining the Insulation Resistance of a Membrane Switch[2]

F 1762 Practice for Determining the Effects of Variation in Atmospheric Pressure on a Membrane Switch[2]

F 1812 Test Method for Determining the Effectiveness of Membrane Switch ESD Shielding[2]

F 1843 Practice for Determining the Specular Gloss of Flexible Substrates, both Printed and Unprinted[2]

F 1895 Practice for Submersion of a Membrane Switch[2]

F 1995 Test Method for Determining the Bond Strength of a Surface Mount Device (SMD) on a Membrane Switch by Applying a Shear Force[2]

F 1996 Test Method for Silver Migration for Membrane Switch Circuitry[2]

F 1997 Test Method for Determining the Sensitivity (Teasing) of a Tactile Membrane Switch[2]

F 2072 Practice for Hosedown of a Membrane Switch[2]

3. Significance and Use

3.1 In establishing guidelines for specifying a membrane switch, it is important to allow application design engineers to base their decisions on requirements using known reasonable, achievable performance levels.

3.2 Over-specification increases cost and complexity; under-specification risks not meeting performance criteria.

4. Procedure

4.1 In specifying the performance levels of a membrane switch, select the characteristics you require from Table 1.

4.1.1 If the typical values do not meet your requirements, specify an alternative value.

4.1.2 Choose only those specifications relevant to your application.

4.1.3 Required characteristics are the minimum requirements to be specified for a membrane switch. Recommended characteristics are appropriate to most applications. Optional characteristics can be specified for more demanding applications.

[1] This guide is under the jurisdiction of ASTM Committee F01 on Electronics and is the direct responsibility of Subcommittee F01.18 on Membrane Switches.

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[2] *Annual Book of ASTM Standards*, Vol 10.05.