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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 2424.17-1982

Replacing GB/T 2424.17-1995

**Environmental testing -- Part 2: Tests methods guidance on --
Test T: Soldering Test
(English Translation)**

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Table of Contents

Introduction

The first chapter General

1 Scope

2 Normative references

The second General

The basic conditions of a solder

Foreword

GB/T 2424 "Environmental testing for electric and electronic products" divided into the following sections.

- Part 1. high temperature and low temperature tests;
- Part 2. damp heat tests;
- Part 5. confirm the performance of temperature chambers;
- Part 6. temperature/humidity chamber performance confirmation;
- Part 7. Test A and B (with load) measurements in temperature chambers;
- Part 10. atmospheric corrosion accelerated testing of common guidelines;
- Part 13. Temperature change Test Guidelines;
- Part 14. Solar radiation testing;
- Part 15. temperature/low air pressure tests guidelines;
- Part 17. Soldering Test Guidelines;
- Part 19. Simulation of the effects of storage Environmental Test Guidelines;
- Part 22. temperature (cold and heat) and vibration (sinusoidal) Test Guidelines;
- Part 25. Tests Guidance Seismic test methods;
- Part 26. Supporting documentation and guidance vibration test selection.

This section GB/T 2424 Part 17.

This section identical with IEC 60068-2-44:1995 "Environmental testing - Part 2. Tests - Test T. Soldering Test Guidelines." in order to facilitate understanding of the use of this section only made the following editorial changes.

--- The normative reference document IEC 60068-2-20 and IEC 60068-2-54 into national standards equivalent have been used;

--- The term "this part of IEC 60068" with the words "GB/T 2423 this part" or "this part";

"," --- With a decimal point instead of a comma as the decimal point, "";

--- Delete international standards foreword.

This Part replaces GB/T 2424.17-1995 "Environmental testing for electric and electronic products soldering test guidelines." this section compared with the GB/T 2424.17-1995, main technical differences are.

--- Complements the wetting balance method solderability test guidelines.

This part of the National Electrical and Electronic Products Environmental conditions and environmental tests for Standardization Technical Committee (SAC/TC8) and focal points.

This in part by the Ministry of Information Industry Institute of Electronics fifth drafted, Shanghai Institute of Quality Supervision, Inspection and Guangzhou University to participate Drafting.

1 Scope

GB/T 2424 this part of the reference GB/T 2423.28-2005, GB/T 2423.32-2008 and IEC 60068-2-58. 1989, Provide background information and recommendations for the specification writers.

2 Normative references

The following documents contain provisions which, through reference to GB/T 2424 to the present, constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 2423.28-2005 Environmental testing for electric and electronic products Part 2. Test methods - Test T. Soldering (IEC 60068-2-20. 1979, IDT) GB/T 2423.32-2008 Environmental testing for electric and electronic products Part 2. Test methods - Test Ta. wetting balance method solderability Sex (IEC 60068-2-54:2006, IDT) IEC 60068-2-58. 1989 Environmental testing - Part 2. Test methods - Test Td. surface mount components weldability, metal Layer refractory corrosion and resistance to soldering heat IEC 60249 PCB base material (all parts) IEC 60326-2:1990 boards - Part 2. Test methods the second General

3 Soldered basic conditions

Soldered joints of the ease and reliability depends on the following three conditions.

- a) Welding Design. depends for welding two metal parts (such as shape, size, composition, etc.) and assembly methods (e.g., relative positions, Fixed the initial selection, etc.);
- b) the wettability of the weld metal surface of the part;
- c) welding conditions used, including. temperature, time, flux, solder alloy, and other equipment.

Conditions a) and c) relates to the choice of the manufacturer of the device or component, they should understand the importance of each condition and their extreme variations Limit, condition b) depends, in most cases component manufacturers, equipment manufacturers also affect improperly handled or stored. Equipment manufacturers who must Subject to conditions a) and c) of the surface wettability make provisions regardless of the degree of precision. On the other hand, it has a satisfactory surface quality the elements may not be able to prevent the rejection of the solder joints due to defects in welding design and welding conditions caused.

Responsibility between the member manufacturers and equipment manufacturers often overlap each other, so it is necessary for the member terminals may run Moist or more generally elements weldability make a clearly defined.

GB/T 2424.17-2008/IEC 60068-2-44:1995