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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 4937.34-2024

Semiconductor devices - Mechanical and climatic test methods - Part 34: Power cycling

半导体器件 机械和气候试验方法 第34部分：功率循环

(English Translation)

Issued on: March 15, 2024 **Implemented on: July 1, 2024**

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1 Foreword

GB/T 4937.34-2024 was issued by State Administration for Market Regulation, China National Standardization Administration on 15 March 2024 and has been in force since 1 July 2024.

It is one of 43 parts of the GB/T 4937 series.

The GB/T prefix marks a recommended standard. It is not law in itself: it becomes binding when a contract names it, when a regulation or a mandatory standard refers to it, or when a producer declares conformity with it.

2 Scope Preview

GB/T 4937.34-2024 falls under ICS 31.080.01, in the field of electronics.

This catalogue holds 1,274 other GB/T standards in that field.

In this catalogue, GB/T standards carry edition years from 1963 to 2026.

3 About this standard

Issued by: State Administration for Market Regulation, China National Standardization Administration

English translation: about 9 pages

Chinese original: about 14,178 characters

4 Related standards

Other parts of this standard:

GB/T 4937-1995 - Mechanical and climatic test methods for semiconductor devices

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GB/T 4937.1-2006 - Semiconductor devices -- Mechanical and climatic test methods -- Part 1: General

GB/T 4937.2-2006 - Semiconductor devices -- Mechanical and climatic test methods -- Part 2: Low air pressure

GB/T 4937.3-2012 - Semiconductor devices -- Mechanical and climatic tests methods -- Part 3: External visual examination

GB/T 4937.4-2012 - Semiconductor devices -- Mechanical and climatic test methods -- Part 4: Damp heat, steady state, highly accelerated stress test (HAST)

GB/T 4937.8-2025 - Part 8: Sealing

GB/T 4937.9-2026 - Part 9: Permanence of marking

GB/T 4937.10-2025 - Part 10: Mechanical shock - Device and subassembly

GB/T 4937.11-2018 - Semiconductor devices -- Mechanical and climatic test methods -- Part 11: Rapid change of temperature -- Two-fluid-bath method

GB/T 4937.12-2018 - Semiconductor devices -- Mechanical and climatic test methods -- Part 12: Vibration, variable frequency

GB/T 4937.13-2018 - Semiconductor devices -- Mechanical and climatic test methods -- Part 13: Salt atmosphere

GB/T 4937.14-2018 - Semiconductor devices -- Mechanical and climatic test methods -- Part 14: Robustness of terminations (lead integrity)

GB/T 4937.15-2018 - Semiconductor devices -- Mechanical and climatic test methods -- Part 15: Resistance to soldering temperature for through-hole mounted devices

GB/T 4937.16-2025 - Part 16: Particle impact noise detection(PIND)

GB/T 4937.17-2018 - Semiconductor devices -- Mechanical and climatic test methods -- Part 17: Neutron irradiation

GB/T 4937.18-2018 - Semiconductor devices -- Mechanical and climatic test methods -- Part 18: Ionizing radiation (total dose)

GB/T 4937.19-2018 - Semiconductor devices -- Mechanical and climatic test methods -- Part 19: Die shear strength

GB/T 4937.20-2018 - Semiconductor devices -- Mechanical and climatic test methods -- Part 20: Resistance of plastic encapsulated SMDs to the combined effect of moisture and soldering heat

GB/T 4937.21-2018 - Semiconductor devices -- Mechanical and climatic test methods -- Part 21: Solderability

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GB/T 4937.22-2018 - Semiconductor devices -- Mechanical and climatic test methods -- Part 22: Bond strength

GB/T 4937.23-2023 - Part 23: High temperature operating life

GB/T 4937.24-2025 - Part 24: Accelerated moisture resistance - Unbiased HAST

GB/T 4937.25-2025 - Part 25: Temperature cycling

GB/T 4937.26-2023 - Semiconductor devices - Mechanical and climate test methods - Part 26: Electrostatic discharge(ESD)sensitivity testing - Human body model(HBM)

GB/T 4937.27-2023 - Part 27: Electrostatic discharge(ESD) sensitivity testing - Machine model(MM)

GB/T 4937.28-2026 - Semiconductor devices - Mechanical and climate test methods - Part 28: Electrostatic discharge (ESD) sensitivity testing - Charged device model (CDM) - device level

GB/T 4937.29-2025 - Part 29: Latch-up test

GB/T 4937.30-2018 - Semiconductor devices -- Mechanical and climatic test methods -- Part 30: Preconditioning of non-hermetic surface mount devices prior to reliability testing

GB/T 4937.31-2023 - Part 31: Flammability of plastic-encapsulated devices(internally induced)

GB/T 4937.32-2023 - Part 32: Flammability of plastic-encapsulated devices(externally induced)

GB/T 4937.33-2025 - Part 33: Accelerated moisture resistance - Unbiased autoclave

GB/T 4937.35-2024 - Part 35: Acoustic microscopy for plastic encapsulated electronic components

GB/T 4937.36-2025 - Part 36: Acceleration,steady state

GB/T 4937.37-2025 - Part 37: Board level drop test method using an accelerometer

GB/T 4937.38-2025 - Part 38: Soft error test method for semiconductor devices with memory

GB/T 4937.39-2025 - Part 39: Measurement of moisture diffusivity and water solubility in organic materials used for semiconductor components

GB/T 4937.40-2025 - Part 40: Board level drop test method using a strain gauge

GB/T 4937.41-2026 - Part 41: Test method for reliability of non-volatile memory devices

GB/T 4937.42-2023 - Part 42: Temperature and humidity storage

GB/T 4937.44-2025 - Part 44: Neutron beam irradiated single event effect (SEE) test

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