

IPC PCB standard overview

IPC DOC #	ITEMS		Publication date
Roadmap	国际电子互联技术roadmap	International electronic interconnection technology	Jun-95
SMC-TR-001	SMT介绍自动载带焊和细间隙技术	An Introduction to Tape Automated Bonding Fine Pitch Technology	Jan-89
J-STD-001	电气电子组件焊接技术要求	Requirements for Soldered Electrical and Electronic Assemblies	Jan-96
IPC-HDBK-001	焊接电气电子组件要求技术手册与指南	Handbook and Guide to Supplement J-STD-001	Mar-98
J-STD-002	元件引线、焊端、接线头、接线柱和导线的可焊性测试	Solderability Tests for Component Leads, Terminations, Lugs, Terminals and Wires	Apr-92
J-STD-003	印制电路板可焊性测试	Solderability Tests for Printed Boards with Amendment 1&2	Apr-92
J-STD-004	助焊剂技术要求	Requirements for Soldering Fluxes	Apr-96
J-STD-005	焊膏技术要求	Requirements for Soldering Pastes	Jan-95
J-STD-006	用于电子焊料合金以及电子焊接应用中的涂有焊剂和不涂焊剂固体焊料的技术要求	Requirements for Electronic Grade Solder Alloys and Fluxed and Non-Fluxed Solid Solders for Electronic Soldering Applications	Jun-96
J-STD-012	倒芯片和芯片规模技术的实施程	Implementation of Flip Chip and Chip Scale Technology	Jan-96
J-STD-013	球栅阵列和其他高密度技术的实施程序	Implementation of Ball Grid Array and Other High Density Technology	Jul-96
IPC-DRM-18	元件鉴定参考手册	Component Identification Training and Reference Guide	Jul-98
J-STD-020	塑料表面贴装器件的湿度/再流灵敏度分类	Moisture/Reflow Sensitivity Classification for Nonhermetic Surface Mount Devices	Mar-99
IPC-DRM-40	通孔焊点评估参考手册	DESK REFERENCE MANUAL THROUGH-HOLE SOLDER JOINT EVALUATION	
IPC-TRM-SMT	表面组装焊点评估参考手册	Surface Mount Solder Joint Evaluation Training & Reference Guide	Aug-98
IPC-T-50	电子电路互连及封装名词术语和定	TERMS AND DEFINITIONS FOR INTERCONNECTING AND PACKAGING ELECTRONIC CIRCUITS	Jun-96
IPC-SC-60	焊后溶剂清洗手册	Post Solder Solvent Cleaning Handbook	Jul-87

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IPC-SA-61	焊后半水清洗手册	Post Solder Semiaqueous Cleaning Handbook	Jul-95
IPC-AC-62	焊后水清洗手册	Aqueous Post Solder Cleaning Handbook	Dec-86
IPC-CH-65	印制电路板及组件清洗准则	GUIDELINES FOR CLEANING OF PRINTED BOARDS AND ASSEMBLIES	Dec-90
IPC-CS-70	印制电路板制造中化合物操作安全准则	Guidelines for Chemical Handling Safety in Printed Board Manufacturing	Aug-88
IPC-CM-78	表面组装及互连芯片载体准则	GUIDELINES FOR SURFACE MOUNTING AND INTERCONNECTING CHIP CARRIERS	Nov-83
IPC-MP-83	IPC公制化方法	IPC Policy on Metrication	Aug-85
IPC-PC-90	实施统计工艺控制的总技术规范	General Requirements for Implementation of Statistical Process Control	Jan-91
IPC-L-108	用于多层印制板薄层金属包层基体材料技术规范	Specification for Thin Metal Clad Base Materials for Multilayer Printed Boards	Jun-90
IPC-L-109	用于多层印制板的浸渍纤维环氧树脂技术规范	Specification for Resin Impregnated Fabric (Prepreg) for Multilayer Printed Boards	Jul-92
IPC-L-110	用于多层印制板的预浸渍、B级环氧玻璃	B-STAGE EPOXY-GLASS CLOTH PRINTED CIRCUIT BRDS	已作废
IPC-CC-110	为多层印制线路板选择芯线结构指南	GUIDELINES FOR SELECTING CORE CONSTRUCTIONS FOR MULTILAYER PRINTED WIRING BOARD APPLICATIONS	Dec-97
IPC-L-112	印制板的包层复合金属基体材料技术规范	SPECIFICATION FOR COMPOSITE METAL CLAD BASE MATERIALS FOR PRINTED BOARDS	Jun-92
IPC-L-115	印制板用刚性金属包层基体材料技术规范	Specification for Rigid Metal Clad Base Materials for Printed Boards	Apr-90
IPC-L-120	覆铜环氧玻璃的化学处理检验步骤	INSPECT PROC OF COPPER-CLAD EPOXY-GLASS LAMINATES	已作废
IPC-L-125	用于高速/高频互连的包层或非包层塑料基板技术规范	SPECIFICATION FOR PLASTIC SUBSTRATES, CLAD OR UNCLAD, FOR HIGH SPEED/HIGH FREQUENCY INTERCONNECTIONS	Jul-92
IPC-L-130	主要用于通用多层印制板的薄层压板、包层金属技术规范	SPEC FOR THIN LAMINATES METAL-CLAD PRINT BRDS	IPC108取代

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IPC-EG-140	用于印制电路板、由"E"玻璃制成的纤维纺织品技术规范	Specification for Finished Fabric Woven from "E" Glass for Printed Boards	Jun-97
IPC-SG-141	用于印制电路板、由"S"玻璃制成的纤维纺织品技术规范	Specification for Finished Fabric Woven from "S" Glass for Printed Boards	Feb-92
IPC-A-142	用于印制电路板、由Aramid玻璃制成的纤维纺织品技术规范	Specification for Finished Fabric Woven from Aramid for Printed Boards	Jun-90
IPC-QF-143	用于印制电路板、由石英制成的纤维纺织品通用技术规范	Specification for Finished Fabric Woven from Quartz (Pure Fused Silica) for Printed Boards	Feb-92
IPC-CF-148	用于印制板的涂敷环氧树脂的金属	Resin Coated Metal Foil for Printed Boards	Sep-98
IPC-MF-150	用于印制线路的金属箔	Metal Foil for Printed Wiring Applications	Aug-92
IPC-CF-152	用于印制线路板的复合金属材料技术规范	Composite Metallic Material Specification for Printed Wiring Board	Mar-98
IPC-FC-203	扁平电缆、圆导体、接地面技术规范	FLAT CABLE, ROUND CONDUCTOR, GROUND PLANE	Jul-85
IPC-FC-210	扁平连接器地下电缆性能技术规范	PERFORMANCE SPECIFICATION FOR FLAT - CONDUCTOR	Sep-85
IPC-FC-213	扁平地下电话电缆技术规范	PERFORMANCE SPECIFICATION FOR FLAT UNDERCARPET TELEPHONE CABLE	Sep-84
IPC-FC-218 B	接插件、电气扁平电缆类型通用技术规范	GENERAL SPECIFICATION FOR CONNECTORS, ELECTRICAL	Jan-95
IPC-FC-219	航空用密封环境下扁平电缆接插件	ENVIRONMENTALLY SEALED FLAT CABLE CONNECTORS FOR	May-84
IPC-FC-220	非屏蔽扁平电缆、扁平接插件技术规范	FLAT CABLE, FLAT CONDUCTOR, UNSHIELDED	Jul-85
IPC-FC-221	用于扁平电缆的扁平铜导体技术规范	Specification for Flat-Copper Conductors for Flat Cables	May-84
IPC-FC-222	非屏蔽扁平电缆圆导体技术规范	SPEC FOR FLAT CABLE, ROUND CONDUCTOR, UNSHIELDED	May-91
IPC-FC-225	扁平电缆设计指南	FLAT CABLE DESIGN GUIDE	Jan-85
IPC-FC-231	用于柔性印制线路的柔性基体绝缘材料	Flexible Base Dielectrics for Use in Flexible Printed Wiring	Jan-95

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IPC-FC-232	用于柔性印制线路和柔性连接膜覆盖板涂镀粘接剂	Adhesive Coated Dielectric Films for Use as Cover Sheets for Flexible Printed Wiring and Flexible Bonding Films	Jan-95
IPC-FC-241	用于制造柔性印制线路的柔性包覆金属绝缘材料	Flexible Metal-Clad Dielectrics for Use in Fabrication of Flexible Printed Wiring	Jan-95
IPC-RF-245	刚柔印制电路板性能技术规范	Performance Specification for Rigid-Flex Printed Boards	Apr-87
IPC-D-249	单、双面柔性印制电路板设计标准	Design Standard for Flexible Single- and Double-Sided Printed Boards	Jan-87
IPC-FC-250A	单、双面柔性印制电路板设计标准	Specification for Single- and Double-Sided Flexible Printed Wiring	Sep-86
IPC-FA-251	单面和双面柔性电路指南	Assembly Guidelines for Single-Sided and Double-Sided Flexible Printed Circuits	Feb-92
IPC-D-275	刚性印制电路板和刚性印制电路板组件设计标准	PRINTED WIRING FOR ELECTRONIC EQUIPMENT (S/S BY IPC-D-275) (SUPERSEDING MIL-STD-275D)	Apr-96
IPC-D-279	可靠的表面组装技术印制电路板组件设计指	Design Guidelines for Reliable Surface Mount Technology Printed Board Assemblies	Jul-96
IPC-D-300	印制电路板尺寸和公差	Printed Board Dimensions and Tolerances	Jan-84
IPC-D-310	照相工具生成和测量技术指南	Guidelines for Phototool Generation and Measurement Techniques	Jun-91
IPC-A-311	照相工具生成及使用工艺控制指南	Process Controls for Phototool Generation and Use	Mar-96
IPC-D-316	采用软基板的微波电路板设计指南	High frequency design guideline	May-95
IPC-D-317	采用高速技术的电子封装设计指南	Design Guide for the Packaging of High Speed Electronic Circuits	Jan-95
IPC-D-322	参照标准板尺寸选择印制线路板尺寸指南	Guidelines for Selecting Printed Wiring Board Sizes Using Standard Panel Sizes	Sep-91
IPC-D-325	印制电路板、组件和支持图文件技术要求	Documentation Requirements for Printed Boards	May-95
IPC-D-326	制造印制电路板组件资料技术要求	Information Requirements for Manufacturing Printed Circuit Boards and Other Electronic Assemblies	Apr-91
IPC-D-330	设计指南手册	Design Guide Manual	

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IPC-PD-335	电子封装手册	Electronic Packaging Handbook	Dec-89
IPC-NC-349	布线器计算机数字控制格式化	Computer Numerical Control Formatting for Drillers and Routers	Aug-85
IPC-D-350	用数字形式描述印制电路板	Printed Board Description in Digital Form	Jul-92
IPC-D-351	用数字形式描述印制电路板图	Printed Board Drawings in Digital Form	Aug-85
IPC-D-352	用数字对式印制电路板的电子设计数据描述	Electronic Design Data Description for Printed Boards in Digital Form	Aug-85
IPC-D-354	数字形式印制电路板图库格式描述	Library Format Description for Printed Boards in Digital Form	Feb-87
IPC-D-355	用数字形式描述印制电路板组装	Printed Board Automated Assembly Description in Digital Form	Jan-95
IPC-D-356	用数字形式测试的裸板电气性能资料	Bare Substrate Electrical Test Data Format	Jan-98
IPC-MB-380	模制互连器件指南	Guidelines for Molded Interconnection Devices	Jan-90
IPC-D-390	自动设计指南	Automated Design Guidelines	Feb-88
IPC-C-406	表面组装接插件设计和应用指南	Design and Application Guidelines for Surface Mount Connectors	Jan-90
IPC-CI-408	非焊接表面贴装接插件设计和应用指南	Solderless Surface Mount Connectors Design Characteristics and Application Guidelines	Jan-94
IPC-D-422	压装刚性印制电路板底板设计指南	Design Guide for Press Fit Rigid Printed Board Backplanes	Sep-82
IPC-DW-424	密封分立线互连电路板通用技术规范	General Specification for Encapsulated Discrete Wire Interconnection Boards	Jan-95
IPC-DW-425	分立线路板设计与终端产品技术要求	Design and End Product Requirements for Discrete Wiring Boards	May-90
IPC-DW-426	分立线路组装技术规范	Specifications for Assembly of Discrete Wiring	Dec-87
IPC-TR-460	印制线路板波峰焊接故障检测表	Trouble-Shooting Checklist for Wave Soldering Printed Wiring Boards	Feb-84
IPC-TR-461	厚薄涂层的可焊性评价	Solderability Evaluation of Thick and Thin Fused Coatings	Mar-79
IPC-TR-462	为长期保存而涂履保护涂层的印制线路板的可焊性评价	Solderability Evaluation of Printed Boards with Protective Coatings Over Long Term Storage	987-1
IPC-TR-464	用于可焊性评价的加速老化	Accelerated Aging for Solderability Evaluations	Dec-87

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IPC-TR-465-1	关于蒸气老化温度控制稳定性的循环测试	Round Robin Test on Steam Ager Temperature Control Stability	1993
IPC-TR-465-2	蒸气老化时间和温度对可焊性测试结果的影响	The Effect of Steam Aging Time and Temperature on Solderability Test Results	1993
IPC-TR-465-3	关于替代涂饰蒸气老化评价	Evaluation of Steam Aging on Alternative Finishes, Phase 11A	Jul-96
IPC-TR-466	润湿平衡标准重量比较测试	Technical Report: Wetting Balance Standard Weight Comparison Test	Apr-95
IPC-TR-467	ANSI/J-STD-001附件D的支持数据和数字举例	Supporting Data and Numerical Examples for ANSI/J-STD-001B: Appendix D (Control of Fluxes)	Jan-96
IPC-TR-468	影响印制电路板绝缘电阻性能的因素	Factors Affecting Insulation Resistance Performance of Printed Boards	Mar-79
IPC-TR-470	多层互连线路板的热特性	Thermal Characteristics of Multilayer Interconnection Boards	Jan-74
IPC-TR-474	分立线路技术综观	An Overview of Discrete Wiring Techniques	Mar-79
IPC-TR-476	如何避免电子硬件中金属膨胀问题	Electrochemical Migration: Electrically Induced Failures in Printed Wiring Assemblies	Jan-74
IPC-TR-480	多层 IV 循环测试程序阶段I的结果		Sep-75
IPC-TR-481	多层 V 循环测试程序 的结果	Results of Multilayer Test Program Round Robin	Apr-81
IPC-TR-483	薄层压板的尺寸稳定性测试碗?/FONT>1 阶段报告国际循环测试程序	Dimensional Stability Testing of Thin Laminates- Report on Phase I and Phase II International Round Robin Test Programs - Includes addenda I and II	Apr-86
IPC-TR-484	IPC铜箔延展性循环研究的结果	Results of IPC Copper Foil Ductility Round Robin Study	Apr-86
IPC-TR-485	IPC铜箔脆性强度测试循环研究结果	Results of Copper Foil Rupture Strength Test Round Robin Study	Mar-85
IPC-TR-549	印制线路板上的斑点	MEASLES IN PRINTED WIRING BOARDS	Nov-73
IPC-TR-551	印制板电子元件组装和互连的质量评价	Quality Assessment of Printed Boards Used for Mounting and Interconnecting Electronic Components	Jul-93
IPC-DR-570	直径为1/8英寸的硬质合金钻头印制板总技术规范	General Specification for 1/8 Inch Diameter Shank Carbide Drills for Printed Boards	Apr-84

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IPC-DR-572	印制电路板钻孔指南	Drilling Guidelines for Printed Boards	Apr-88
IPC-TR-578	引线边缘制造技术报告	Leading Edge Manufacturing Technology Report	Sep-84
IPC-TR-579	印制线路板小直径镀覆通孔的循环可靠性评估	Round Robin Reliability Evaluation of Small Diameter Plated Through Holes in PWBs	Sep-88
IPC-TR-580	清洗和清洁度测试程序第1阶段测试结果	Cleaning and Cleanliness Test Program Phase 1 Test Results	Jan-89
IPC-TR-581	IPC第3 阶段控制气氛焊接研究	IPC Phase 3 Controlled Atmosphere Soldering Study	Aug-94
IPC-TR-582	IPC第3 阶段免洗助焊剂研究	Cleaning and Cleanliness Testing Program for: Phase - Low Solids Fluxes and Pastes Processed in Ambient Air	Nov-94
IPC-A-600	印制电路板的可接受性(检验标准)	Acceptability of Printed Boards	Aug-95
IPC-QE-605A	印制电路板质量评价手册	Printed Board Quality Evaluation Handbook	Feb-99
IPC-A-610	电子组件的检验标准	Acceptability of Electronic Assemblies	Aug-95
IPC-QE-615	组装质量评估手册	Electronic Assembly Evaluation Handbook	Mar-93
IPC-SS-615	组装质量评估	Assembly Board Quality Evaluation Slide Set	Mar-93
IPC-OI-645	光学检测仪器标准	Standard for Visual Optical Inspection Aids	Jan-93
IPC-TM-650	测试方法手册	TM-650 - Test Methods Manual	
IPC-ET-652	未贴装元件的印制电路板的电气测试规则和技术要求	Guidelines and Requirements for Electrical Testing of Unpopulated Printed Boards	Jan-90
IPC-QL-653	检验/测试印制电路板、元件、材料的设备鉴定	Qualification of Facilities That Inspect / Test Printed Boards, Components and Materials	Nov-97
IPC-MI-660	原材料来料检测手册	Guidelines for Incoming Inspection of Printed Board Material	Feb-84
IPC-TA-720	层压板技术评估手册	Technology Assessment Handbook on Laminates	
IPC-TA-721	多层电路板技术评估手册	Technology Assessment Handbook on Multilayer Boards	
IPC-TA-722	焊接技术评估	Technology Assessment Handbook on Soldering	
IPC-TA-723	表面组装技术评估手册	Technology Assessment Handbook on Surface Mounting	
IPC-PE-740	印制电路板制造和组装故障检测指南	Troubleshooting Guide for Printed Board Manufacture and Assembly	Jan-97

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IPC-CM-770	印制电路板元件贴装	Component Mounting Guidelines for Printed Boards	Jan-96
IPC-SM-780	表面组装元件的封装和互连	Component Packaging and Interconnecting with Emphasis on Surface Mounting	Mar-88
IPC-SM-784	COB技术应用指南	Guidelines for Chip-on-Board Technology Implementation	Nov-90
IPC-SM-785	表面贴装焊点连接快速可靠性测试指南	Guidelines for Accelerated Reliability Testing of Surface Mount Solder Attachments	Nov-92
IPC-MC-790	多芯片模块技术应用指南	Guidelines for Multichip Module Technology Utilization	Aug-92
IPC-MS-810	大容量显微薄片指南	Guidelines for High Volume Microsection	Jan-93
IPC-S-816	SMT工艺指南和清单	SMT Process Guideline and Checklist	Jul-93
IPC-SM-817	绝缘表面贴装胶的通用技术要求	General Requirements for Dielectric Surface Mounting Adhesives	Nov-89
IPC-AJ-820	组装和连接手册	Assembly & Joining Handbook	Aug-96
IPC-CA-821	导热粘接剂通用技术要求	General Requirements for Thermally Conductive Adhesives	Jan-95
IPC-CC-830	用于印制电路板组件的电子绝缘化合物的鉴定和性能	Qualification and Performance of Electrical Insulating Compound for Printed Wiring Assemblies	Jan-98
IPC-SM-839	施用焊料掩膜前后的清洗指南	Pre and Post Solder Mask Application Cleaning Guidelines	Apr-90
IPC-SM-840	用于印制电路板的永久性聚合物涂层的鉴定与性能	Qualification and Performance Specification of Permanent Solder Mask and Flexible Cover Materials	Jan-96
IPC-D-859	厚膜多层混合电路设计标准	Design Standard for Thick Film Multilayer Hybrid Circuits	Dec-89
IPC-HM-860	多层混合电路技术规范	Specification for Multilayer Hybrid Circuits	Jan-87
IPC-TF-870	聚合物厚膜印制电路板的鉴定和性能	Qualifications and Performance of Polymer Thick Film Printed Boards	Nov-89
IPC-ML-960	用于多层印制电路板的批量层压面板的鉴定与性能技术规范	Qualification and Performance Specification for Mass Lamination Panels for Multilayer Printed Boards	Jul-94

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IPC-1710	印制电路板制造者的鉴定曲线(MQP)的OEM标准	OEM STANDARD FOR PRINTED BOARD MANUFACTURER'S QUALIFICATION PROFILE (MQP)	Dec-97
IPC-1720 A	组装鉴定曲线(AQP)	ASSEMBLY QUALIFICATION PROFILE	Jul-96
IPC-1730 A	胶合机鉴定曲线(LQP)	LAMINATOR QUALIFICATION PROFILE	Jan-98
IPC-2141	可控阻抗电路板与高速逻辑设计	Design Guide for High-Speed Controlled Impedance Circuit Boards	Apr-90
IPC-2221	印制电路板通用标准	Generic Standard on Printed Board Design	Feb-98
IPC-2222	刚性有机印制电路板部分设计标准	SECTIONAL DESIGN STANDARD FOR RIGID ORGANIC PRINTED BOARDS	Feb-98
IPC-2223E	柔性印制电路板分段设计标准	Sectional Design Standard for Flexible/Rigid-Flexible Printed Boards	Jan-20
IPC-3406	表面组装用导电胶规则	Guidelines for Electrically Conductive Surface Mount Adhesives	Jul-96
IPC-3408	各向异性导电粘接剂膜通用技术要求	General Requirements for Anisotropically Conductive Adhesives Films	Nov-96
IPC-4101E	刚性及多层印制板的基体材料技术规范	Specification for Base Materials for Rigid and Multilayer Printed Boards	Mar-17
IPC-4110	用于印制电路板非纺织物纤维素纸技术规范与特征化方法	Specification and Characterization Methods for Nonwoven Cellulose Based Paper for Printed Boards	Aug-98
IPC-4130	非纺织物"E"玻璃纤维板技术规范与特征化方法	Specification and Characterization Methods for Nonwoven "E" Glass Materials	Sep-98
IPC-6011	印制电路板通用性能技术规范	Generic Performance Specification for Printed Boards	Jul-96
IPC-6012	刚性印制电路板的鉴定与性能技术规范	Qualification and Performance Specification for Rigid Printed Boards	Jul-96
IPC-6013	柔性印制电路板的鉴定与性能技术规范	Qualification and Performance Specification for Flexible/Rigid-Flexible Printed Boards	Nov-98
IPC-6015	有机多芯片模块(MCM-L)组装及互连结构的鉴定与性能技术规范	Qualification & Performance Specification for Organic Multichip Module Mounting and Interconnecting Structures	Feb-98

IPC DOC #	ITEMS		Publication date
IPC-6018	微波终端产品电路板检验与测试	Qualification and Performance Specification for High Frequency (Microwave) Printed Boards	Jan-98
IPC/JPCA-6202	单双面柔性印制线路板性能指导手册	Performance guide Manual for single- and double-sided flexible printed wiring boards	Feb-99
IPC-7711	电子组件返修	Rework, Modification and Repair of Electronic Assemblies	Apr-98
IPC-7721	印制电路板和电子组件的返修与改型	Rework of Electronic Assemblies & Repair and Modification of Printed Boards and Electronic Assemblies	Apr-98
IPC 7711/7721C	电子组件的返工、修改和修复	Rework, Modification and Repair of Electronic Assemblies	Jan-17
IPC-9201	表面绝缘电阻手册	Surface Insulation Resistance Handbook	Jul-96
IPC-9501	评价电子元件的PWB仿真组装工艺	PWB Assembly Process Simulation for Evaluation of Electronic Components	Jul-95
IPC-9504	评价非IC元件的仿真组装工艺	Assembly Process Simulation for Evaluation of Non-IC Components (Preconditioning Non-IC Components)	Jun-98
IPC 9502	电子元件PWB组装焊接流程指南	PWB Assembly Soldering Process Guideline for Electronic Components	