

1. Record Nr.	UNINA9910830655703321
Autore	Tulkoff Cheryl
Titolo	Design for excellence in electronics manufacturing // Cheryl Tulkoff, Greg Caswell
Pubbl/distr/stampa	Hoboken, NJ : , : Wiley, , [2021] ©2021
ISBN	1-119-10939-6 1-119-10938-8 1-119-10940-X
Descrizione fisica	1 online resource (xlili, 356 pages) : illustrations
Collana	Wiley series in quality and reliability engineering
Disciplina	621.381
Soggetti	Electronic apparatus and appliances - Design and construction
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover -- Title Page -- Copyright -- Contents -- Contributors -- List of Figures -- List of Tables -- Series Foreword -- Foreword -- Preface -- Acknowledgments -- Acronyms -- Chapter 1 Introduction to Design for Excellence -- 1.1 Design for Excellence (DfX) in Electronics Manufacturing -- 1.2 Chapter : Establishing a Reliability Program -- 1.3 Chapter : Design for Reliability (DfR) -- 1.4 Chapter : Design for the Use Environment: Reliability Testing and Test Plan Development -- 1.5 Chapter : Design for Manufacturability (DfM) -- 1.6 Chapter : Design for Sustainability -- 1.7 Chapter : Root Cause ProblemSolving, Failure Analysis, and Continual Improvement Techniques -- Chapter 2 Establishing a Reliability Program -- 2.1 Introduction -- 2.2 Best Practices and the Economics of a Reliability Program -- 2.2.1 Bestin Class Reliability Program Practices -- 2.3 Elements of a Reliability Program -- 2.3.1 Reliability Goals -- 2.3.2 Defined Use Environments -- 2.3.3 Software Reliability -- 2.3.4 General Software Requirements -- 2.4 Reliability Data -- 2.4.1 Sources of Reliability Data -- 2.4.2 Reliability Data from Suppliers -- 2.5 Analyzing Reliability Data: Commonly Used Probability and Statistics Concepts in Reliability -- 2.5.1 Reliability Probability in Electronics -- 2.5.2 Reliability Statistics in Electronics -- 2.5.2.1 Basic Statistics Assumptions and Caveats -- 2.5.2.2 Variation Statistics -- 2.5.2.3 Statistical Distributions Used in

Reliability -- 2.6 Reliability Analysis and Prediction Methods -- 2.7
Summary -- References -- Chapter 3 Design for Reliability -- 3.1
Introduction -- 3.2 DfR and Physics of Failure -- 3.2.1 Failure Modes
and Effects Analysis -- 3.2.2 Fault Tree Analysis -- 3.2.3 Sneak Circuit
Analysis -- 3.2.4 DfR at the Concept Stage -- 3.3 Specifications
(Product and Environment Definitions and Concerns).
3.4 Reliability Physics Analysis -- 3.4.1 Reliability Physics Alternatives
-- 3.4.2 Reliability Physics Models and Examples -- 3.4.2.1 Arrhenius
Equation -- 3.4.2.2 Eyring Equation -- 3.4.2.3 Black's Equation --
3.4.2.4 Peck's Law -- 3.4.2.5 NorrisLandzberg Equation -- 3.4.2.6
Creep Mechanisms -- 3.4.3 Component Selection -- 3.4.4 Critical
Components -- 3.4.5 MoistureSensitivity Level -- 3.4.6 Temperature
Sensitivity Level -- 3.4.7 Electrostatic Discharge -- 3.4.8 Lifetime --
3.5 Surviving the Heat Wave -- 3.6 Redundancy -- 3.7 Plating
Materials: Tin Whiskers -- 3.8 Derating and Uprating -- 3.9 Reliability
of New Packaging Technologies -- 3.10 Printed Circuit Boards --
3.10.1 Surface Finishes -- 3.10.1.1 Organic Solderability Preservative
(OSP) -- 3.10.1.2 Immersion Silver (ImAg) -- 3.10.1.3 Immersion Tin
(ImSn) -- 3.10.1.4 Electroless Nickel Immersion Gold (ENIG) -- 3.10.1.5
LeadFree Hot Air Solder Leveled (HASL) -- 3.10.2 Laminate Selection --
3.10.3 Cracking and Delamination -- 3.10.4 Plated ThroughHoles and
Vias -- 3.10.5 Conductive Anodic Filament -- 3.10.6 Strain and Flexure
Issues -- 3.10.7 Pad Cratering -- 3.10.8 PCB Buckling -- 3.10.9
Electrochemical Migration -- 3.10.9.1 Temperature -- 3.10.9.2 Relative
Humidity -- 3.10.9.3 Voltage Bias -- 3.10.9.4 Conductor Spacing --
3.10.9.5 Condensation -- 3.10.10 Cleanliness -- 3.10.10.1 Chloride --
3.10.10.2 Bromide -- 3.10.10.3 Cations -- 3.10.10.4 Weak Organic
Acids -- 3.10.10.5 Cleanliness Testing -- 3.11 NonFunctional Pads --
3.12 Wearout Mechanisms -- 3.12.1 IC Wearout -- 3.13 Conformal
Coating and Potting -- 3.13.1 Silicone -- 3.13.2 Polyurethane --
3.13.3 Epoxy -- 3.13.4 Acrylic -- 3.13.5 Superhydrophobics --
References -- Chapter 4 Design for the Use Environment: Reliability
Testing and Test Plan Development -- 4.1 Introduction -- 4.1.1
Elements of a Testing Program.
4.1.2 Know the Environment -- 4.2 Standards and Measurements --
4.3 FailureInducing Stressors -- 4.4 Common Test Types -- 4.4.1
Temperature Cycling -- 4.4.2 TemperatureHumidityBias Testing --
4.4.3 Electrical Connection -- 4.4.4 Corrosion Tests -- 4.4.5 Power
Cycling -- 4.4.6 Electrical Loads -- 4.4.7 Mechanical Bending -- 4.4.8
Random and Sinusoidal Vibration -- 4.4.9 Mechanical Shock -- 4.4.10
ALT Testing -- 4.4.11 Highly Accelerated Life Testing (HALT) -- 4.4.12
EMC Testing Dos and Don'ts -- 4.5 Test Plan Development -- 4.5.1 The
Process -- 4.5.2 Failure Analysis -- 4.5.3 Screening Tests -- 4.5.4
Case Study One -- 4.5.5 Case Study Two -- 4.5.6 Case Study Three --
References -- Chapter 5 Design for Manufacturability -- 5.1
Introduction -- 5.2 Overview of Industry Standard Organizations -- 5.3
Overview of DfM Processes -- 5.3.1 The DfM Process -- 5.4
Component Topics -- 5.4.1 Part Selection -- 5.4.2 Moisture Sensitivity
Level (MSL) -- 5.4.3 Temperature Sensitivity Level (TSL) -- 5.4.4 ESD --
5.4.5 Derating -- 5.4.6 Ceramic Capacitor Cracks -- 5.4.7 Life
Expectancies -- 5.4.8 Aluminum Electrolytic Capacitors -- 5.4.9
Resistors -- 5.4.10 Tin Whiskers -- 5.4.11 Integrated Circuits -- 5.5
Printed Circuit Board Topics -- 5.5.1 Laminate Selection -- 5.5.2
Surface Finish -- 5.5.3 Discussion of Different Surface Finishes -- 5.5.4
Stackup -- 5.5.5 Plated ThroughHoles -- 5.5.6 Conductive Anodic
Filament (CAF) Formation -- 5.5.7 Copper Weight -- 5.5.8 Pad
Geometries -- 5.5.9 Trace and Space Separation -- 5.5.10 Non
Functional Pads -- 5.5.11 Shipping and Handling -- 5.5.12 Cleanliness

and Contamination -- 5.6 Process Materials -- 5.6.1 Solder -- 5.6.2 Solder Paste -- 5.6.3 Flux -- 5.6.4 Stencils -- 5.6.5 Conformal Coating -- 5.6.6 Potting -- 5.6.7 Underfill -- 5.6.8 Cleaning Materials -- 5.6.9 Adhesives -- 5.7 Summary: Implementing DfM -- References.

Chapter 6 Design for Sustainability -- 6.1 Introduction -- 6.2 Obsolescence Management -- 6.2.1 Obsolescence Resolution Techniques -- 6.2.1.1 Industry Standards -- 6.2.1.2 Asset Security -- 6.3 Long Term Storage -- 6.4 Long Term Reliability Issues -- 6.5 Counterfeit Prevention and Detection Strategies -- 6.6 Supplier Selection -- 6.6.1 Selecting a Printed Circuit Board Fabricator -- 6.6.2 Auditing a Printed Circuit Board Fabricator -- 6.6.2.1 Selecting a Contract Manufacturer -- 6.6.2.2 Auditing a Contract Manufacturer -- 6.6.2.3 Summary -- References -- Chapter 7 Root Cause Problem Solving, Failure Analysis, and Continual Improvement Techniques -- 7.1 Introduction -- 7.1.1 Continual Improvement -- 7.1.2 Problem Solving -- 7.1.3 Identifying Problems and Improvement Opportunities -- 7.1.4 Overview of Industry Standard Organizations -- 7.2 Root Cause Failure Analysis Methodology -- 7.2.1 Strategies for Selecting an Approach -- 7.2.2 The 5 Whys Approach -- 7.2.3 The Eight Disciplines (8D) -- 7.2.4 Shainin Red X: Diagnostic Journey -- 7.2.5 Six Sigma -- 7.2.6 Physics of Failure -- 7.3 Failure Reporting, Analysis, and Corrective Action System (FRACAS) -- 7.4 Failure Analysis -- 7.4.1 Failure Analysis Techniques -- 7.4.1.1 Visual Inspection -- 7.4.1.2 Electrical Characterization -- 7.4.1.3 Scanning Acoustic Microscopy -- 7.4.1.4 XRay Microscopy -- 7.4.1.5 Thermal Imaging -- 7.4.1.6 SQUID Microscopy -- 7.4.1.7 Decapsulation -- 7.4.1.8 CrossSectioning -- 7.4.1.9 Scanning Electron Microscope / Energy Dispersive Xray Spectroscopy (SEM/EDX) -- 7.4.1.10 Surface/Depth Profiling Techniques: Secondary Ion Mass Spectroscopy (SIMS), Auger -- 7.4.1.11 Focused Ion Beam (FIB) -- 7.4.1.12 Mechanical Testing: Wire Pull, Wire Shear, Solder Ball Shear, Die Shear -- 7.4.1.13 Fourier Transform InfraRed Spectroscopy FTIR -- 7.4.1.14 Ion Chromatography. 7.4.1.15 Differential Scanning Calorimetry (DSC) -- 7.4.1.16 Thermomechanical Analysis / Dynamic Mechanical Analysis (DMA/TMA) -- 7.4.1.17 Digital Image Correlation (DIC) -- 7.4.1.18 Other Simple Failure Analysis Tools -- 7.4.2 Failure Verification -- 7.4.3 Corrective Action -- 7.4.4 Closing the Failure Report -- 7.5 Continuing Education and Improvement Activities -- 7.6 Summary: Implementing Root Cause Methodology -- References -- Chapter 8 Conclusion to Design for Excellence: Bringing It All Together -- 8.1 Design for Excellence (DfX) in Electronics Manufacturing -- 8.2 Chapter 2: Establishing a Reliability Program -- 8.3 Chapter : Design for Reliability (DfR) -- 8.4 Chapter : Design for the Use Environment: Reliability Testing and Test Plan Development -- 8.5 Chapter : Design for Manufacturability -- 8.6 Chapter : Design for Sustainability -- 8.7 Chapter : Root Cause Problem Solving, Failure Analysis, and Continual Improvement Techniques -- Index -- EULA.

Sommario/riassunto

"Design for Excellence in Electronics Manufacturing offers comprehensive, up to date coverage specific to design and reliability of electronics. The book will highlight how utilizing the DfX concepts of Design for Reliability, Design for Manufacturability, Design for Environment, Design for Testability, etc., will not only reduce research and development costs, but will also decrease time to market and allow companies to confidently issue warranty coverage. Ultimately, Design for Excellence will increase customer satisfaction, market share, and long term profits. The Design for Excellence material is critical for engineers and management who wish to learn best practices regarding

product design. Practices need to be adjusted for different manufacturing processes, suppliers, use environments, and reliability expectations, and this book will demonstrate how to do just that"--

2. Record Nr.	UNINA9910815025603321
Autore	Crawford James <1948-2021, >
Titolo	State responsibility : the general part // James Crawford [[electronic resource]]
Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 2013
ISBN	1-139-89016-6 1-107-27225-4 1-107-27173-8 1-107-47778-6 1-139-03306-9 1-107-27382-X 1-107-27505-9 1-107-27831-7 1-107-27708-6
Edizione	[1st ed.]
Descrizione fisica	1 online resource (lxxiv, 825 pages) : digital, PDF file(s)
Collana	Cambridge studies in international and comparative law ; ; 100
Disciplina	341.26
Soggetti	International obligations Government liability (International law)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di bibliografia	Includes bibliographical references (pages 778-807) and index.
Nota di contenuto	part I. The framework of responsibility -- part II. Attribution to the state -- part III. Breach -- part I volume Collective or ancillary responsibility -- part volume Cessation and reparation -- part VI. The implementation of responsibility.
Sommario/riassunto	Annexed to GA Resolution 56/83 of 2001, the International Law Commission's Articles on Responsibility for Internationally Wrongful Acts put the international law of responsibility on a sound footing. As Special Rapporteur for the second reading, James Crawford helped

steer it to a successful conclusion. With this book, he provides a detailed analysis of the general law of international responsibility and the place of state responsibility in particular within that framework. It serves as a companion to The International Law Commission's Articles on State Responsibility: Introduction, Text and Commentaries (Cambridge University Press, 2002) and is essential reading for scholars and practitioners concerned with issues of international responsibility, whether they arise in interstate relations, in the context of arbitration or litigation, or in bringing international claims.

3. Record Nr.	UNINA9910367569803321
Autore	Bauman Sheri
Titolo	Interventions to Reduce Bullying and Cyberbullying / Sheri Bauman, Peter Smith, Dennis Wong
Pubbl/distr/stampa	MDPI - Multidisciplinary Digital Publishing Institute, 2019 Basel, Switzerland : , : MDPI, , 2019
ISBN	9783039213603 3039213601
Descrizione fisica	1 electronic resource (214 p.)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	This book, a Special Issue of the International Journal of Environmental Research and Public Health, has been curated by three leading international experts on the topic. Following their editorial, there are 14 contributions on the topic of interventions against bullying, including cyberbullying, and similar abusive behaviors such as dating violence. Some contributions also assess positive or protective factors such as well-being, self-efficacy, and school climate. Eight of the contributions directly assess the effects of an intervention, with pre/post test designs and experimental and control groups. The other

contributions examine a range of relevant topics, such as teacher attitudes and pupils' confidence in intervening rather than being passive bystanders. Ten countries are represented among the authors. Most of the articles are about secondary schools (pupils, or teachers), but there are also contributions on early childhood, primary school, and university. This book will be of interest and relevance not only to researchers but also to teachers and educational practitioners concerned with pupil safety and well-being in school, and provides practical ways to reduce bullying and its harmful effects.
