

Linear Resistors

WORLD MARKETS, TECHNOLOGIES & OPPORTUNITIES: 2009-2014



This is a global market research study covering the world market for linear resistors.

LINEAR RESISTORS: WORLD MARKETS, TECHNOLOGIES & OPPORTUNITIES: 2009-2014

Cary, NC USA - Paumanok Publications, Inc. has released its 2009 edition of "LINEAR RESISTORS, WORLD MARKETS, TECHNOLOGIES & OPPORTUNITIES: 2009-2014." This study documents worldwide value, volume and pricing information for LINEAR resistors by type, including thick film chip, multichip array, resistor networks, thin film chips, integrated passive devices; nichrome metal film resistors, wirewound resistors, tin oxide resistors and carbon film and carbon composition resistors. The study takes a detailed look at the reporting of the major resistor manufacturers, including

Vishay, KOA, Panasonic, Rohm; Yageo, TA-Technology, Walsin, Akahane and TT/IRC and 70 other vendors worldwide and analyzes the changes in the global linear resistor markets for FY 2010, with year-by-year forecasts to 2014. A detailed analysis of changes in market shares by FY for 2009 is given for each vendor by resistor type, with some interesting changes for FY 2009. Forecasts are given for demand by end-use market segment, and by world region analysis for each manufacturer. An opportunity section is included that summarizes key opportunities in specific market segments for the second half of

Key Chapters

| | |
|------------------------------|---|
| Introduction and Scope | 1 |
| Executive Summary | 2 |
| Competitive Environment | 3 |
| Forecasts to 2014 | 4 |
| Coming Changes in The Market | 5 |
| Technical Economic Analysis | 6 |
| Markets By Resistor Sub-type | 7 |

FY2010, and also addresses specific opportunities as they relate to the changes in demand away from risk metals toward stable elements- such as nickel-chromium alloys.

Paumanok Publications, Inc.



2009

Since 1988 Paumanok Publications, Inc. has focused its resources on the study of the global passive electronic components industry. We study the complete worldwide markets for capacitors, resistors, inductors and circuit protection components. This study addresses the worldwide market for resistors by resistive element for 2009 and 2010. It documents the global readjustment of the international markets for linear fixed resistors with updated forecasts to 2014. Published July 2009.

This study analysis the world market for metal and carbon resistors.

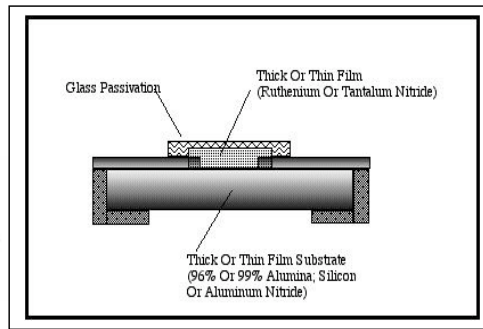
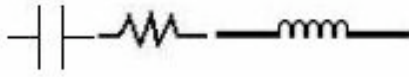


Table of Contents:

RESISTORS:

10

1.0 INTRODUCTION & SCOPE OF COVERAGE:

10

AN STATISTICAL EXPLANATION OF RESISTORS INCLUDED IN THIS REPORT: 10

HTS Code 8533: Resistors: 2009. 10

MIL-R-39035 Nichrome Metal Film Resistors:. 10

MIL-R-55342 Thick Film Chip Resistor. 10

MIL-R-93 Wirewound Resistors. 10

Resistors In A Circuit:. 10

Importance Of The Physical Size of the Finished Resistor. 10

Introduction & Scope of Coverage:. 11

2.0 EXECUTIVE SUMMARY

11

INTRODUCTION TO GLOBAL RESISTOR MARKETS:. 11

2008 AND 2009 GLOBAL LINEAR RESISTOR MARKET REVENUE FORECASTS. 12

Global Shipment Value for Linear Resistors: 2008-2009 FY Forecasts. 12

2008 AND 2009 GLOBAL LINEAR RESISTOR MARKET VOLUME (BILLIONS OF PIECES). 12

GLOBAL RESISTOR CONSUMPTION VALUE FORECASTS FOR FY 2008 AND 2009 BY RESISTOR TYPE:. 13

Thick Film Chip Resistors: 2008-2009 FY Forecasts. 13

Networks, Arrays and Integrated Passive Devices:. 14

Throughhole Resistors: 2008-2009 Forecasts (Wirewound, Nichrome

Film, Tin Oxide, Carbon Film, Other). 14

Global Market Forecasts for Linear Resistors by Type (Thick Film Chip, Network and Throughhole): 2008-2009. 14

3.0 COMPETITIVE ENVIRONMENT IN LINEAR RESISTORS: 2009

15

COMPETITIVE ENVIRONMENT: TOP 79 VENDORS BY RESISTOR TYPE. 15

GLOBAL RESISTOR MANUFACTURER REVENUES: 2008 FY-2009 FY CHANGES. 16

Linear Resistor Manufacturers: Estimated Change in Revenues: 2008-2009 FY. 17

Vishay Intertechnology, Inc. 17

KOA Corporation. 18

Panasonic Electronic Devices. 18

TA-I Technology. 18

Yageo. 19

Rohm Company Limited. 19

Walsin Technology. 19

Hokuriku Electric Company. 19

Akahane Electronics Industrial Corporation. 19

4.0 FORECASTS: 2009-2014

20

FIVE YEAR RESISTOR FORECASTS: 2009-2014:

20

GLOBAL VOLUME OF SHIPMENTS BY RESISTOR TYPE: 2003-2007; 2008-2013F. 20

Breakdown of Worldwide Unit Shipments for Resistors by Type from 2003-2008; and 2009

Through 2014 for each year 20

THE READER NEEDS TO KNOW....21

GLOBAL VALUE OF SHIPMENTS BY RESISTOR TYPE: 2003-2007; 2008-2013F. 22

Chapter Summary

An updated and detailed analysis of the worldwide market for linear resistors

1. Introduction and Scope

Definitions of linear resistors are explained and the scope of coverage established for the study.

2. Executive Summary

An overview of value, volume and pricing for each resistor sub-type for 2009 and 2010 FY ending March.

3. Competitive Environment

A look at the 79 known vendors of linear resistors by resistor type and manufacturing.

4. Forecasts To 2014

An outlook for resistor sales by type for each year from 2010 to 2014.

5. The Coming Change in The Market

A look at the shift in resistor usage due to issues with specific raw materials in 2009

6. Technical Economic Analysis

A look at the technical capabilities of resistors by type to determine where the market is most profitable.

7. Resistor Markets By Sub-Category

Each linear resistor market is discussed and includes thick film chips, arrays, SIP and DIP networks; IPDs, Nichrome axial and radial; wirewound radial, axial and molded chip, thin film resistors, tin-oxide and arbon film and carbon comp resistors.

8. Market Share Data

Market share information is given for chip, network and throughhole vendors to the world markets.

9. Opportunities: 2009-2014

Opportunities by End-Use Market
Opportunities by World Region

10. Raw Material Usage and Supply

This chapter focuses on the supply of ruthenium, alumina and sputtering targets.

11. Competitive Analysis

A competitive analysis of the top vendors.

12. Directory of Vendors

This chapter documents the 79 vendors of linear resistors

GREAT RELIANCE ON THICK FILM TECHNOLOGY LEAVES SOME OEMS QUESTIONING THE SUPPLY CHAIN IN 2009: 22

Global Value of Shipments By Resistor Type (Thick Film Chip, Network, Nichrome, Tin-Oxide, Foil, Wirewound and Carbon): 2003-2008; 2009-2014F. 23

5.0 WHY THE MARKET IS CHANGING: 2009-2014

24

GLOBAL RESISTOR MARKET BY RESISTIVE MATERIAL: 2009.24

Ruthenium Metal Resistor Markets: 24

Resistors Configurations Made With Ruthenium. 24

Nickel-Chromium Alloy Resistor Markets: 24

Resistor Configurations Made With Nickel-Chromium: 24

Tin-Oxide, Tantalum Nitride, Carbon Film and Other Exotic Metals: 24

Resistor Configurations Made With Exotic Metals: 25

GLOBAL AVERAGE SELLING PRICES FOR RESISTORS BY TYPE: 2003-2008; 2009-2013F: 25

Global Average Unit Selling Prices For Resistors By Type: 2003-2008; 2009-2014F. 26

THE READER NEEDS TO KNOW....26

6.0 KEY TECHNICAL ECONOMIC CRITERIA:

26

RESISTANCE CAPABILITIES

COMPARISON BY LINEAR RESISTOR TYPE: 2009.26

TOLERANCE CAPABILITIES

COMPARISON BY LINEAR RESISTOR TYPE: 2009.27

POWER CAPABILITIES COMPARISON BY LINEAR RESISTOR TYPE: 2009.27

CONFIGURATION COMPARISON BY LINEAR RESISTOR TYPE: 2009.28

KEY TECHNICAL-ECONOMIC CRITERIA: 28

RESISTANCE IN ELECTRONIC CIRCUITS (UBIQUITOUS NATURE OF THE PRODUCT LINE): 28

PHYSICAL SIZE EQUIVALENT TO RESISTANCE (RAW MATERIALS ARE KEY COST FACTORS IN PRODUCTION): 29

MINIATURIZATION TRENDS: 29

INTEGRATION AND MODULARIZATION TRENDS: 30

THIN FILM TECHNOLOGY (NiCr, TAN). 32

INTEGRATED PASSIVE DEVICES. 33

FLIP-CHIP TECHNOLOGY FOR DIP& IPD NETWORKS. 33

7.0 INDIVIDUAL RESISTOR MARKETS

34

RESISTOR MARKETS BY SUB-TYPE: 2009-2014

34

THICK FILM CHIP RESISTOR MARKETS: 2009-2014. 34

Technology Overview: 34

Changes in Thick Film Chip

Resistor Production Volumes: 2008-2009 Fy Ending March. 35

Changes in Thick Film Chip

Resistor Production Value: 2008-2009 Fy Ending March. 35

Changes in Thick Film Chip

Resistor Pricing: 2008-2009 Fy Ending March. 35

14 Year Comparison Of Global

Thick Film Chip Resistor Markets: 35

Top 40 Global Producers Of Thick Film Chip Resistor Markets: And Market Leaders. 36

THIN FILM CHIP RESISTORS: WORLD MARKETS: 2009. 37

Technology Overview: 37

Market Movement to Nickel Chromium Chips in 2009. 37

Thin Film Chip Resistor: Market Size Estimates: 2009. 37

Top 22 Vendors of Thin Film Chip Resistors: 2009. 38

THICK FILM MULTICHIP RESISTOR ARRAYS: WORLD MARKETS: 2009. 38

Technology Overview: 38

Thick Film Multichip Arrays:

World Market Volume and Value In 2009: 39

Chip Array History of Success in Volume; Failure on Price:

1995-2009 Change in Price of Multichip Arrays: 39

Top 18 Thick Film Multichip Array Vendors: 2009. 40

THICK FILM RESISTOR NETWORK MARKETS: 2009. 40

Technology Overview: 40

•Dual-In-Line Package Resistor Networks. 40

•Single-In-Line Package Resistor Networks. 40

Surge Resistor Networks (Line Feed): 42

Global Thick Film Resistor Network Markets: 2009. 42

Top 34 Traditional Thick Film Resistor Network Vendors: 2009. 43

INTEGRATED PASSIVE DEVICE NETWORK MARKETS: 44

Integrated Passive Device Network Markets: 2009. 45

Thin Film Network and Integrated Passive Device Vendors: 2009. 45

WIREWOUND RESISTOR MARKETS: 2009. 46

Technology Overview: 46

Wirewound Resistor Market Value and Volume: 2009. 47

Top 29 Wirewound Resistor Vendors: 2009 and Market Leaders. 48

NICHROME METAL FILM RESISTORS MARKETS (AXIAL AND RADIAL LEADED): 2009. 49

Technology Overview: 49

Nichrome Metal Film Markets: 2009. 49

Nichrome MELF Markets: 2009. 50

Nichrome Axial and Radial Leaded Markets: 2009. 50

Top Nichrome Film Resistor (Axial and Radial Leaded): 2009 and Market Leaders. 51

BULK METAL FOIL RESISTOR MARKETS: 2009. 52

Technology Overview: 52

Bulk Metal Foil Resistor Market Estimates: 2009. 52

Top 7 Bulk Metal Foil Resistor Vendors: 2009 and Market Leaders. 52

TIN-OXIDE RESISTOR MARKETS: 2009. 52

Tin-Oxide Resistor Markets: 2009. 53

Tin-Oxide Resistor Vendors: 2009. 53

CARBON FILM RESISTOR MARKETS: 2009. 53

Technology Overview: 53

Carbon Film Resistor Markets: 2009. 54

Top 14 Carbon Film and Carbon Composition Resistor Vendors:

2009 and Market Leaders. 55

8.0 RESISTOR VENDORS: GLOBAL SALES & MARKET SHARES:

55

LINEAR RESISTOR SALES & MARKET SHARES. 55

CHIP RESISTORS: 56

Thick Film Chip Resistor Market Shares: 56

Thick Film Chip Resistors: Global Market Shares: 2007-2008-2009. 57

NETWORKS: 57

Resistor Network, Array and IPD Market Shares.: 57
Resistor Network, Array and IPD: Global Market Shares: 2007-2008-2009. 58

THROUGHOLE.: 58
THROUGHOLE Resistor Market Share: 2009. 58
Throughole Resistors: 2008 FY Global Market Shares. 59

9.0 MARKET OPPORTUNITIES:

59

Single Product Focus. 59
Broad Product Line. 59
High-Growth Product Portfolio. 60

OPPORTUNITIES BY END-USE MARKET SEGMENT: 2009

60

Product Sub-categories By End-Use Market Segment: 2009. 61
Top Linear Resistor Manufacturers and Their Revenues by End-Use Market Segment: 2009 FY Ending March. 61

2010 FORECASTS FOR CONSUMPTION BY END-USE MARKET SEGMENT: .63
Value of Linear Resistor Demand By End-Use Market Segment: FY 2007, 2008, 2009 and 2010 Forecasts. 63

TELECOMMUNICATIONS MARKET SEGMENT:

64

TELECOMMUNICATIONS EQUIPMENT MARKETS: FY 2009-2010 OUTLOOK . 64
HANDSET MARKET UPDATE FY 2008-FY 2009-FY 2010. 66
LONG-TERM OUTLOOK FOR PASSIVE COMPONENTS IN HANDSETS TO 2014 . 66
THE READER NEEDS TO KNOW.... 67
TELECOMMUNICATIONS INFRASTRUCTURE EQUIPMENT MARKET UPDATE: 2009. 67

CONSUMER AUDIO & VIDEO IMAGING (HOME THEATRE) MARKET SEGMENT:

68

TELEVISION SETS AND HOME THEATRE ELECTRONICS: FY 2009-2010 OUTLOOK. 68
PASSIVE COMPONENT VENDORS TO THE CONSUMER AUDIO AND VIDEO IMAGING/HOME THEATRE INDUSTRY: 2009. 69

CONSUMER ELECTRONICS: MARKET OUTLOOK FOR PASSIVE COMPONENTS: 2009 AND 2010. 69
Consumer Segment Outlook: 2010 . 70

COMPUTER AND BUSINESS MACHINE MARKET SEGMENT:

72

COMPUTERS & BUSINESS MACHINE MARKET SEGMENT: FY 2009-2010 OUTLOOK. 72
PASSIVE COMPONENT VENDORS TO THE COMPUTER AND BUSINESS MACHINE INDUSTRY: 2009. 73
COMPUTER MARKET: FY 2010 OUTLOOK. 73

AUTOMOTIVE ELECTRONICS: MARKET SEGMENT:

74

AUTOMOTIVE ELECTRONICS MARKET SEGMENT: FY 2009-2010 OUTLOOK . 74
GLOBAL LIGHT VEHICLE SALES OUTLOOK TO 2015: . 74
Class 3-7 Sedan and Light Truck Sales and Forecasts: 2004-2008; 2008-2015 Estimates. 75
Percent Decline in Unit Sales of Class 3-7 Sedans and Light Trucks: 2008 and 2009. 75

UNITED STATES AUTOMOTIVE MARKET 2008 AUTO SALES AND PROJECTION FOR 2009 VOLUMES: . 76
CHINA AUTOMOTIVE MARKET OUTLOOK. 77
EUROPEAN AUTOMOTIVE MARKET OUTLOOK: . 77
European Automotive Sales Forecasts (2008e-2010e). 78

EMERGING MARKETS RUSSIA, BRAZIL AND INDIA: 78
GROWING DEMAND FOR HYBRID VEHICLE TECHNOLOGIES. 78
Hybrid Solution Should Change The Numbers For Passive Content Per Automobile: . 78
AUTOMOTIVE: OVERALL IMPACT ON PASSIVE COMPONENTS: . 78
PASSIVE COMPONENT VENDORS WITH EXPOSURE TO AUTOMOTIVE ELECTRONICS SEGMENT: . 79
2010-2014 GROWTH OUTLOOK: . 79

INDUSTRIAL AND SPECIALTY ELECTRONICS MARKET SEGMENT:

80

INDUSTRIAL AND SPECIALTY ELECTRONICS MARKET SEGMENT: . 81

POWER TRANSMISSION AND DISTRIBUTION MARKET SEGMENT:

81

2009 GLOBAL MARKET OUTLOOK. 81
An Important Market Opportunity for Manufacturers of High Voltage Power Components: . 81
State Goals: Renewable Energy Generation as A Percentage of Total Power Consumption: 2009-2025. 82

WHITE GOODS MARKET SEGMENT:

83

2009 GLOBAL MARKET OUTLOOK: . 83
INTERNATIONAL APPLIANCE SALES: 2008. 85

POWER SUPPLY MARKET SEGMENT:

85

2009 GLOBAL MARKET OUTLOOK. 85

LIGHTING BALLAST MARKET SEGMENT:

86

2009 GLOBAL MARKET OUTLOOK: . 86

MEDICAL ELECTRONICS: MARKET SEGMENT

87

2009 GLOBAL MARKET OUTLOOK. 87

DEFENSE ELECTRONICS MARKET SEGMENT:

87

2009 GLOBAL DEFENSE MARKET OUTLOOK: 2009. 87
Changes in Defense Spending On Electronics in 2009: . 87
MIL-R-39035 Nichrome Metal Film Resistors: . 89
MIL-R-55342 Thick Film Chip Resistor. 89
MIL-R-93 Wirewound Resistors. 89
MIL-T-23648 NTC Thermistor and Probe Assemblies. 89
PASSIVE COMPONENT VENDORS TO THE INDUSTRIAL AND SPECIALTY ELECTRONICS INDUSTRY: 2009. 90

OPPORTUNITIES BY WORLD REGION

91

GLOBAL VALUE OF PASSIVE COMPONENT CONSUMPTION BY DIELECTRIC, TYPE & WORLD REGION: 2009.91

Linear Resistor Consumption Value By World Region: 2008, 2009 and 2010 Forecast. 93

THE READER NEEDS TO KNOW.... 93

Exposure Levels To World Regions: Manufacturers of Passive Components and Percentage of Revenues by World Region: FY 2008. 94

10.0 RESISTORS: RAW MATERIAL SUPPLY CHAIN REVIEW

94

PRIMARY RAW MATERIAL USAGE & SUPPLY IN THE FIXED RESISTOR INDUSTRY: 2009.94

Ruthenium Metal Consumption In Planar Resistors: 94

Palladium Metal Consumption In Planar Resistors: 95

Sputtering Target Consumption For Leaded Resistors: 95

Nichrome & Tin-Oxide Targets: 95

Carbon Film Targets (Blanks): 96

Nichrome Wire Consumption For Wirewound Resistors: 97

Alumina Substrate Consumption In Planar & Leaded Resistors: 97

SUMMARY OF FORECASTED CHANGES IN THE SUPPLY CHAIN: 2014.98

Comparison with Similar event in MLCC: 98

11.0 COMPETITIVE INTELLIGENCE: TOP RESISTOR MANUFACTURERS: 2009

99

KOA

99

14.1 KOA CORPORATION (6999)

99

2009 UPDATE: 99

KOA Passive Component Revenues: 100

KOA Expansion Strategy Analysis: 100

KOA Revenues by World Region: 100

KOA Revenues by End-Use Market Segment: 100

KOA Manufacturing Facilities & Production By World Region: 100

Resistor Product Portfolio: 101

KOA Technology Assessment: 101

PANASONIC

101

14.2 PANASONIC ELECTRONIC DEVICES (RIC: 6752):

101

Panasonic Revenue Update 2009: 102

Components and Devices. Passive Component and Other Product Lines: 102

2009 Earnings Update: 103

Panasonic Passive Component Revenues: 104

Panasonic Revenues by World Region: 104

Panasonic Revenues by End-Use Market Segment: 104

Panasonic Passive Component Production By World Region & Plant Location: 104

Panasonic Technology

Assessment: 105

Panasonic: Outlook for Fiscal 2010: 106

VISHAY

107

14.3 VISHAY INTERTECHNOLOGY (NYSE:VSH)

107

2009 UPDATE 107

Costs of Goods Sold in 2009: 108

Vishay Passive Component

Revenues: 108

Vishay Revenues by World Region: 109

Vishay Revenues by End-Use Market Segment: 109

Vishay Production of Passive Components By World Region: 109

WALSIN

111

14.5 WALSIN TECHNOLOGY CORPORATION (2492):

111

2009 UPDATE 111

Benefit of Non-Yen Based Manufacturing: 111

Passive Components As a Percentage of Overall Sales In 2009: 112

Walsin Passive Component Revenues: 113

Walsin Revenues by World Region: 113

Walsin Revenues by End-Use Market Segment: 113

Walsin Expansion Strategy

Analysis: 114

Walsin Monthly MLCC and Chip R Output 2008: 114

Walsin Technology Development 114

Walsin Capacity Expansion 2008: 114

YAGEO

115

14.6 YAGEO CORPORATION (TW 2327):

115

2009 UPDATE: 115

Yageo Monthly Sales Data: 2007-2009 (NT\$: 100MM). 115

COMPANY DESCRIPTION: 116

Yageo Passive Component Revenues: 117

Yageo Revenues by World Region: 117

Yageo Revenues by End-Use Market Segment: 117

Yageo Expansion Strategy Analysis: 117

15.0 DIRECTORY OF LINEAR RESISTOR MANUFACTURERS: 2009

118

ABCO ELECTRONICS CO., LTD. 118

AKAHANE ELECTRONICS INDUSTRIAL CORP. 118

ALPHA ELECTRONICS CORP. 118

BARRY INDUSTRIES, INC. 118

BEIHAI YINHE HI-TECH IND. CO., LTD. 119

BI TECHNOLOGIES (TT ELECTRONICS). 119

CHAOZHOU THREE-CIRCLE CO., LTD. 119

BOURNS, INC. 119

CADDOCK ELECTRONICS, INC. 119

CINETECH RESISTOR CO., LTD. 120

CLAROSTAT MFG. COMPANY LTD. 120

C-MAC MICROTECHNOLOGY 121

COMPOSTAR TECHNOLOGY 121

COSONIC ENTERPRISE CORP. 121

CTS CORP. 121

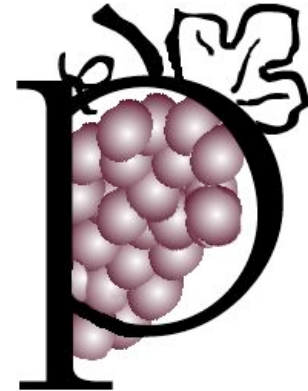
DANAM CORP. 122

DIABLO INDUSTRIES, INC. 122

DONGGUAN SHIHHAO ELECTRONICS CO.. 122
 EBG ELEKTRONISCHE BAUELEMENTE. 122
 EVER OHMS TECHNOLOGY CO., LTD.. 122
 FENGHUA ADVANCED TECHNOLOGY (GROUP) CO. .122
 FIRST RESISTOR & CONDENSER CO., LTD. 123
 FIRSTRONICS COMPONENTS .123
 FUKUSHIMA FUTABA ELECTRIC CO., LTD.. 123
 HAN RYUK ELECTRONICS CO., LTD.. 123
 HMR CO., LTD. 123
 HOKURIKU ELECTRIC INDUSTRY CO., LTD. 124
 HUNTINGTON ELECTRIC. 124
 HYMEG CORPORATION. 124
 INTERNATIONAL MFG SERVICES (IMS). 124
 IRC- TT ELECTRONICS. 124
 IRC WIRE AND FILM TECHNOLOGY-TT ELECTRONICS. 125
 ISABELLENHÜTTE HEUSLER GMBH & CO. KG. 125
 ISOTEK Corporation. 125
 IWAKI MUSEN KENKYUSHO CO., LTD. 125
 JAPAN RESISTOR MFG. CO., LTD.. 126
 K-Tronics, Inc. 126
 KAMAYA ELECTRIC CO., LTD. (WALSIN). 126
 KOA CORP.. 126
 KRL / Bantry Components, Inc.. 127
 METALLUX SA. 127
 MERITEK Electronics Corporation (PANJIT). 127
 MICRO-OHM CORPORATION .127
 MERRIMAC INDUSTRIES, INC. .127
 MINI-SYSTEMS, INC.. 127
 MMC ELECTRONICS AMERICA (KAMAYA). 128
 NIC COMPONENTS CORP.. 128
 NIKKOHM CO., LTD.. 128
 OHMITE MANUFACTURING CO., INC. 128
 OHMCRAFT, INC.. 129
 OSI OPTOELECTRONICS AS. 129
 PACIFIC RESISTOR COMPANY .129
 PANASONIC ELECTRONIC DEVICES CO. LTD.. 130
 POWEROHM RESISTOR, INC. .130
 PRECISION RESISTOR COMPANY INC. 130

PRECISION RESISTIVE PRODUCTS, INC. (PRP). 130
 PRIME TECHNOLOGY, INC. / General Resistance /Shurite. 131
 PROSPERITY DIELECTRIC CO. (WALSIN). 131
 QCIRCUITS. 131
 RALEC ELECTRONICS CORP. .131
 RCD COMPONENTS, INC. 131
 RFE INTERNATIONAL, Inc.. 132
 RIEDON. 132
 RIVER ELECTRONICS PTE. LTD. .132
 ROHM CO., LTD. 132
 Royal Electronic Factory (Thailand) Company Limited. 133
 RUWIDO AUSTRIA GMBH & CO. 133
 SAMSUNG ELECTRO-MECHANICS. 134
 SANSHIN ELECTRIC. 134
 SICHUAN YONGXING ELECTRONICS CO., LTD.. 134
 SMART ELECTRONICS COMPANY (KOREA). 134
 SRT RESISTOR TECHNOLOGY GMBH. 134
 STACKPOLE ELECTRONICS, INC. 135
 STATE OF THE ART, INC. (SOTA) .135
 SUSUMU CO., LTD.. 135
 SYNTON-TECH CORP. 135
 TA-I ELECTRONICS CO., LTD. .136
 TAIYO DENKI CO., LTD. (TAIYOHM). 136
 TALEMA ELECTRONIK GMBH .136
 TEIKOKU TSUSHIN KOGYO CO., LTD.. 136
 TEPRO-VAMISTOR. 136
 TOKEN (Token Electronics Industry Co., Ltd.). 137
 THIN-FILM TECHNOLOGY CORP. (SUSUMU). 137
 TOKYO COSMOS ELECTRIC CO., LTD. 138
 VIKING TECH CORP. 138
 VISHAY INTERTECHNOLOGY, INC. 138
 VITROHM GMBH (YAGEO). 139
 WALSIN TECHNOLOGY CORP. .139
 WILBRECHT ELECTRONICS, INC. 139
 YAGEO CORP. 139

PUBLISHED July 2009
 NUMBER OF PAGES: 141
 PRICE: \$2500.00 USD
[ISBN: 1-89-3211-38-X](http://www.paumanok.com)
 ©2009 PAUMANOK USA



Paumanok Publications, Inc.

3608-200 Davis Drive, #349
Morrisville, NC 27560 USA
(919) 468-0384
(919) 468-0386 Fax
dennis@paumanokgroup.com
www.paumanokgroup.com

Linear Resistors: World Markets, Technologies & Opportunities: 2009-2014



Ordering Information:

Automatic Download To Your Hard Drive-

This study can be automatically downloaded from our secure website at www.paumanokgroup.com

Or Contact Our Sales Department-

If you wish to purchase the study directly from us, you can contact our sales team at (919) 468-0384 or by Fax at (919) 468-0386 or by email at info@paumanokgroup.com

Payment Methods:

Paumanok Publications, Inc. accepts all major credit cards including American

Express, VISA, Mastercard and Discover. To purchase by wire transfer, please contact our sales department at info@paumanokgroup.com

Study Format:

This study is available in PDF format. It can also be printed in a paper format and sent to you via Federal Express.

Freight Charges For Paper Copies:

If you purchase this study in paper format, we will ship it to anywhere in the world via Federal Express. Domestic and international freight charges will be added depending upon your location. Generally this is \$125.00 USD for Asia; 80.00 USD for Europe and \$25.00 for within the USA.



Paumanok
Publications,
Inc.

Mailing Address:

3608-200 Davis Drive, #349
Morrisville, NC 27560 USA
(919) 468-0384
(919) 468-0386 Fax

Website:

Our website contains more than 60 titles on the worldwide market for capacitors, resistors and inductors-

www.paumanokgroup.com

Email:

You may contact any of our sales team or if you have technical or market questions on passive components, or are interested in a single client study, please contact us at:

CONTACT US:

dennis@paumanokgroup.com

