

RoHS Compliance Status

Stackpole Electronics has joined the worldwide effort to reduce the amount of lead in electronic components and to meet the various regulatory requirements now prevalent, such as the European Union's directive regarding "Restrictions on Hazardous Substances" (RoHS 3). As part of this ongoing program, we periodically update this document with the status regarding the availability of our compliant components. All our standard part numbers are compliant to EU Directive 2011/65/EU of the European Parliament as amended by Directive (EU) 2015/863/EU as regards the list of restricted substances.

| Resistors | | | | | | |
|-------------------------|--|----------------------------|--------------------------------|-----------------------------------|--|---------------------------------------|
| Standard Product Series | Description | Package / Termination Type | Standard Series RoHS Compliant | Lead-Free Termination Composition | Lead-Free Mfg. Effective Date (Std Product Series) | Lead-Free Effective Date Code (YY/WW) |
| ASR | Anti-Surge Leded Resistor | Axial | YES ⁽¹⁾ | 99.3/0.7 Sn/Cu | Apr-05 | 05/14 |
| ASRM | Mini-Anti Surge Leded Resistor | Axial | YES ⁽¹⁾ | 99.3/0.7 Sn/Cu | Apr-05 | 05/14 |
| BR | Open Air Bare Element Current Sense Resistor | Special | YES | 100% Matte Sn | Jan-06 | 06/01 |
| BVM | Ceramic Housed Vertical Wirewound Bracket Mount Resistor | Special | YES | 100% Matte Sn | Always | Always |
| CB | General Purpose Ceramic Housed with Axial Leads Wirewound Resistor | Axial | YES | 100% Matte Sn | Jan-06 | 06/01 |
| CBT | High Power Ceramic House Wirewound with Tabs | Axial | YES | 100% Matte Sn | Always | Always |
| CD | Axial Leded Zero Ohm Resistor | Axial | YES | 100% Matte Sn | Jan-04 | 04/01 |
| CF | Carbon Film Leded Resistor | Axial | YES | 100% Matte Sn | Jan-04 (Taiwan, China) | 04/01 |
| CFM | Mini-Carbon Film Leded Resistor | Axial | YES | 100% Matte Sn | Jan-04 (Taiwan, China) | 04/01 |
| CSM | Molded Metal Plate Sensing Resistor | SMD | YES | 100% Matte Sn over Ni | Always | Always |
| CSNL | Metal Plate Current Sensing Surface Mount Chip Resistor | SMD | YES | 100% Matte Sn over Ni | May-04 | 04/18 |
| CSR | Thick Film Current Sensing Surface Mount Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | May-04 | 04/18 |
| CSRF | Foil on Ceramic Current Sensing Surface Mount Chip Resistor | SMD | YES | 100% Matte Sn over Ni | Jul-04 | 04/27 |
| CSRN | Thick Film Current Sensing Surface Mount Chip Resistor, Narrow | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | May-04 | 04/18 |
| CSRT | Thin Film Current Sensing Resistor | SMD | YES | 100% Matte Sn over Ni | Always | Always |
| CSS | Ultra Precision Current Sensing Chip Resistor | SMD | YES | 100% Matte Sn over Ni | Always | Always |
| CSSH | Ultra Precision Current Sensing Chip Resistor (High Power) | SMD | YES | 100% Matte Sn over Ni | Always | Always |
| CSSK | Kelvin Termination Current Sensing Resistor | SMD | YES | 100% Matte Sn over Ni | Always | Always |
| EL/CEL | Commercial Power Resistor (Uncoated) DISCONTINUED (July 1, 2014) | Axial | YES | 100% Matte Sn | Always | Always |
| ESD(U) | Low and Ultra-Low Capacitance ESD Suppressor | SMD | YES | 100% Matte Sn over Ni | Always | Always |
| EWT | Non-Flammable Edgewound Tubular Wirewound Vitreous Enamel Coating Resistor | Special | YES | 100% Matte Sn | Always | Always |
| FCR | Trimmable Thick Film Surface Mount Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Jan-04 | 04/01 |
| FRC | Fusible Thick Film Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Always | Always |
| FRN | Axial Leded Fusing Resistor | Axial | YES | 99.3/0.7 Sn/Cu | Apr-05 | 05/14 |
| GP | Commercial Grade - Conformal Coated Leded Wirewound Resistor DISCONTINUED (July 1, 2014) | Axial | YES | 100% Matte Sn | Jan-06 | 06/01 |
| HCC | High Current Chassis Mount Shunt Resistor | SMD | YES | 100% Copper | Always | Always |
| HCJ | Molded Metal Plate Sensing Resistor | SMD | YES | 100% Matte Sn over Ni | Always | Always |
| HCS | High Current Shunt Resistor | SMD | YES | 100% Copper | Always | Always |
| HCSK | Kelvin Termination Current Shunt Resistor | SMD | YES | 100% Copper | Always | Always |

Note (1): RoHS Compliant by means of exemption 7c-l.

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| HCSM | High Current Shunt Resistor | SMD | YES | 100% Copper | Always | Always |
| HDM | Moisture Resistant Carbon Film Leaded Resistor | Axial | YES | 100% Matte Sn | Always | Always |
| HGC | Thick Film Precision High Resistance Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Always | Always |
| HLD | Open air Bare Element Current Shunt / Sensing Resistor DISCONTINUED | Special (4 Leads) | YES | 100% Matte Sn | Always | Always |
| HMC | High Value Thick Film Surface Mount Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Jan-04 | 04/01 |
| HPC | High Power Surface Mount Resistor DISCONTINUED (May 12, 2016) | SMD | YES ⁽¹⁾ | 100% Matte Sn | Always | Always |
| HVA | High Voltage Axial Leaded Resistor | Axial | YES ⁽¹⁾ | 100% Matte Sn | Always | Always |
| HVAM | Precision High Voltage Leaded Resistor DISCONTINUED (January 19, 2022) | Axial | YES | 100% Matte Sn | Always | Always |
| HVC | High Voltage Thick Film Surface Mount Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn ("T") | Always | Always |
| HVD | High Voltage Leaded Resistor Dividers | Radial Special | YES ⁽¹⁾ | 96.3/3.7 Sn/Ag | Always | Always |
| HVR | High Voltage Leaded Resistor Networks | Radial Special | YES ⁽¹⁾ | 100% Matte Sn | Always | Always |
| JW | Tin Plated Jumper Wire Resistor | Axial | YES | 100% Matte Sn | Jan-04 | 04/01 |
| KAL | Aluminum Housed Surface Mount Resistor General Purpose/Precision High Power Resistor | Special | YES | 100% Matte Sn | Jan-06 | 06/01 |
| LCB | Ceramic Housed Current Sensing Resistor with 2 Leads | Axial | YES | 100% Matte Sn | Jan-06 | 06/01 |
| LVM | Ceramic Housed Vertical Mount Low Resistance Resistor (Ribbon Element) | Radial | YES | 100% Matte SN | Jan-06 | 06/01 |
| MCB | Ceramic Housed General Purpose Metal Oxide Element Resistor | Axial | YES | 100% Matte Sn | Jan-06 | 06/01 |
| MG | High Voltage Metal Glaze Leaded Resistor | Axial | YES ⁽¹⁾ | 100% Matte Sn | Jan-06 | 04/01 |
| MGE | High Voltage Metal Glaze Leaded Resistor (Epoxy Coating) | Axial | YES ⁽¹⁾ | 100% Matte Sn | Jan-06 | 04/01 |
| MGM | High Voltage Mini Metal Glaze Leaded Resistor | Axial | YES ⁽¹⁾ | 100% Matte Sn | Always | Always |
| MGME | High Voltage Mini Metal Glaze Leaded Resistor (Epoxy Coating) | Axial | YES ⁽¹⁾ | 100% Matte Sn | Always | Always |
| MHL | Metal Clad Wirewound Resistor | Special | YES | 100% Matte Sn | Always | Always |
| MLF | Precision Metal Film Melf Resistor | SMD | YES | 100% Matte Sn | Always | Always |
| MLFA | Metal Film Melf Resistor (AEC-Q200 Qualified) | SMD | YES | 100% Matte Sn | Always | Always |
| MLFM | Precision Metal Film Mini Melf Resistor | SMD | YES | 100% Matte Sn | Always | Always |
| MPR | Flameproof Rectangular Type Metal Plate Resistor | Radial Special | YES | 100% Matte Sn | Always | Always |
| MR | Low Resistance Value Leaded Resistor - Molded 2 Leads | Axial Kelvin | YES | 100% Matte Sn | Jan-06 | 06/01 |
| MVM | Ceramic Housed Vertical Mount Wirewound Resistor (Metal Oxide) | Radial | YES | 100% Matte Sn | Jan-06 | 06/01 |
| MWW | General Purpose and Precision Leaded Wirewound Resistor - Molded | Axial | YES | 100% Matte Sn | Jan-06 | 06/01 |

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RoHS Compliance Status

| Resistors | | | | | | |
|-------------------------|--|----------------------------|--------------------------------|-----------------------------------|--|---------------------------------------|
| Standard Product Series | Description | Package / Termination Type | Standard Series RoHS Compliant | Lead-Free Termination Composition | Lead-Free Mfg. Effective Date (Std Product Series) | Lead-Free Effective Date Code (YY/WW) |
| NSP | Ceramic Housed - Consumer Grade Leaded Resistor DISCONTINUED (May 3, 2013) | Axial | YES | 99.3/0.7 Sn/Cu | Jan-04 | 04/01 |
| NSZ | Ceramic Housed Wirewound Resistor with Specialty Leads | Radial | YES | 99.3/0.7 Sn/Cu | Jan-04 | 04/01 |
| NVM | Ceramic Housed Vertical Mount Wirewound Resistor (Standard WW) | Radial | YES | 100% Matte Sn | Always | Always |
| NWW | General Purpose and Precision Leaded Wirewound Resistor - Conformal Coated - Non-Inductive | Axial | YES | 100% Matte Sn | Jan-06 | 06/01 |
| PCB | Ceramic Housed Leaded Wirewound Resistor - PC Mount DISCONTINUED (July 1, 2014) | Radial | YES | 100% Matte Sn | Always | Always |
| RACF | Thick Film Surface Mount Chip Resistor Array Concave Terminations DISCONTINUED (Nov. 15, 2019) | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Jan-04 | 04/01 |
| RAF | Thick Film Surface Mount Chip Resistor Array Flat Terminations | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Jul-04 | 04/27 |
| RAVF | Thick Film Surface Mount Chip Resistor Array Convex Terminations | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Jan-04 (Japan) Jul-04 (Taiwan) | 04/01 04/27 |
| RAVS | Convex Anti-Sulfur Chip Resistor Array | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Always | Always |
| RC | Carbon Composition Leaded Resistor | Axial | YES | 100% Matte Sn | Jan-86 | 86/01 |
| RGC | Semi-Precision Thick Film Surface Mount Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Jul-04 | 04/27 |
| RHC | High Power Thick Film Surface Mount Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Jul-04 | 04/27 |
| RMCF | General Purpose Thick Film Surface Mount Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Jan-04 (Japan) Jan-05 (Taiwan, China) | 04/01 05/01 |
| RMCG | Gold Barrier Thick Film Surface Mount Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Jan-06 | 06/01 |
| RMCP | General Purpose High Power Thick Film Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Always | Always |
| RMCS | Sulfur Resistant Thick Film Surface Mount Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Always | Always |
| RCWV | Wide Termination Thick Film Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Always | Always |
| RMEF | General Purpose Thick Film Surface Mount Chip Resistor 100% Lead Free | SMD | YES | 100% Mtte Sn over Ni | Always | Always |
| RNCF | Precision Thin Film Surface Mount Chip Resistor | SMD | YES | 100% Matte Sn over Ni | May-04 | 04/18 |
| RNCH | Anti-Corrosive Tantalum Nitride Replacement Surface Mount Chip Resistor | SMD | YES | 100% Matte Sn over Ni | Always | Always |
| RNCP | High Power Anti-Sulfur Thin Film Chip Resistor | SMD | YES | 100% Matte Sn over Ni | Always | Always |
| RNCS | Anti-Corrosive Tantalum Nitride Replacement Surface Mount Chip Resistor | SMD | YES | 100% Matte Sn over Ni | May-04 | 04/18 |
| RNCW | Thin Film Wire-Bondable Chip Resistor - DISCONTINUED (Jan. 17, 2018) | SMD | YES | Gold Plating | Always | Always |
| RNF | General Purpose Metal Film Leaded Resistor | Axial | YES | 99.3/0.7 Sn/Cu 100% Matte Sn | Apr-05 (Japan) Jan-04 (Taiwan, China) | 05/14 04/01 |
| RNMF | General Purpose Mini Metal Film Leaded Resistor | Axial | YES | 99.3/0.7 Sn/Cu 100% Matte Sn | Apr-05 (Japan) Jan-04 (Taiwan, China) | 05/14 04/01 |
| RNS | Ultra-Miniature Metal Film Resistor | Axial | YES | 100% Matte Sn | Always | Always |

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| Resistors | | | | | | |
|-------------------------|---|----------------------------|--------------------------------|-----------------------------------|--|---------------------------------------|
| Standard Product Series | Description | Package / Termination Type | Standard Series RoHS Compliant | Lead-Free Termination Composition | Lead-Free Mfg. Effective Date (Std Product Series) | Lead-Free Effective Date Code (YY/WW) |
| RNV | High Voltage Anti-Moisture Metal Film Resistor | Axial | YES | 100% Matte Sn over Ni | Always | Always |
| RPC | Pulse Withstanding Thick Film Surface Mount Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Jan-03 | 03/01 |
| RSF | General Purpose Metal Oxide Leaded Resistor | Axial | YES | 99.3/0.7 Sn/Cu 100% Matte Sn | Apr-05 (Japan) Jan-04 (Taiwan, China) | 05/14 04/01 |
| RSMF | Mini-Metal Oxide Leaded Resistor | Axial | YES | 99.3/0.7 Sn/Cu 100% Matte Sn | Apr-05 (Japan) Jan-04 (Taiwan, China) | 05/14 04/01 |
| RSPF | Flameproof Power Leaded Resistor | Axial | YES | 99.3/0.7 Sn/Cu | Apr-05 | 05/14 |
| RSPL | Flameproof Power Leaded Resistor Low Resistance | Axial | YES | 99.3/0.7 Sn/Cu | Apr-05 | 05/14 |
| RTAN | Tantalum Nitride Thin Film Chip Resistor | SMD | YES | 100% Matte Sn | Always | Always |
| RVC | Medium Voltage Thick Film Surface Mount Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Jan-03 | 03/01 |
| RWT | Thermal Fusing Vertical Mount Wirewound Leaded Resistor | Radial | YES | 100% Matte Sn | Always | Always |
| SM | Surface Mount - General Purpose and Precision Wirewound Resistor | SMD | YES | 100% Matte Sn | Jan-06 | 06/01 |
| SP | Fusing Wirewound Resistor | Axial | YES | 100% Matte Sn | Always | Always |
| SPR | Discharge Path Leaded Resistor | Axial | YES | 99.3/0.7 Sn/Cu | Apr-05 | 05/14 |
| TCB | Ceramic Housed Current Sensing Resistor with 4 Leads | Special (4 Leads) | YES | 100% Matte Sn | Jan-06 | 06/01 |
| TMR | Low Resistance Value Leaded Resistor - Molded 4 Leads | Axial Kelvin | YES | 100% Matte Sn | Jan-06 | 06/01 |
| TR | TO-220 and TO-247 Style Power Leaded Resistor | Radial Special | YES ⁽¹⁾ | 100% Matte Sn | Always | Always |
| UHV | Ultra-High Voltage Chip Resistor | SMD | YES ⁽¹⁾ | 100% Matte Sn over Ni | Always | Always |
| VM | Ceramic Housed Vertical Mount Wirewound Resistor (Standard WW) | Radial | YES | 100% Matte Sn | Jan-06 | 06/01 |
| WCB | Ceramic Housed with Axial Leads Wirewound Resistor | Axial | YES | 100% Matte Sn | Jan-06 | 06/01 |
| WCBF | Ceramic Housed with Axial Leads Wirewound Resistor | Axial | Yes | 100% Matte Sn | Always | Always |
| WRC | Conformal Coated Welded Wirewound Resistor | Axial | YES | 100% Matte Sn | Always | Always |
| WRF | Consumer Grade - Conformal Coated Leaded Wirewound Resistor DISCONTINUED (July 1, 2014) | Axial | YES | 99.3/0.7 Sn/Cu | Jan-04 | 04/01 |
| WVM | Ceramic Housed Vertical Mount Wirewound Resistor (Precision Wirewound) | Radial | YES | 100% Matte Sn | Jan-06 | 06/01 |
| WW | General Purpose and Precision Leaded Wirewound Resistor - Conformal Coated - Non-Inductive | Axial | YES | 100% Matte Sn | Jan-06 | 06/01 |
| WWF | General Purpose and Precision Fusing Wirewound Resistor | Axial | YES | 100% Matte Sn | Always | Always |
| WWP | Pulse Withstanding Wirewound Resistor | Axial | YES | 100% Matte Sn | Always | Always |
| WWS | General Purpose and Precision Wirewound Resistor (Mini) | Axial | YES | 100% Matte Sn | Always | Always |

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RoHS Compliance Status

| Capacitors | | | | | | |
|-------------------------|-----------------------------------|----------------------------|--------------------------------|-----------------------------------|--|---------------------------------------|
| Standard Product Series | Description | Package / Termination Type | Standard Series RoHS Compliant | Lead-Free Termination Composition | Lead-Free Mfg. Effective Date (Std Product Series) | Lead-Free Effective Date Code (YY/WW) |
| CML | Multilayer Ceramic Chip Capacitor | SMD | YES | 100% Matte Sn over Ni | Always | Always |

| Varistors | | | | | | |
|-------------------------|--|----------------------------|--------------------------------|---|--|---------------------------------------|
| Standard Product Series | Description | Package / Termination Type | Standard Series RoHS Compliant | Lead-Free Termination Composition | Lead-Free Mfg. Effective Date (Std Product Series) | Lead-Free Effective Date Code (YY/WW) |
| AV_AVY | Automotive SMD Varistor (12 & 24 Volt Power Supply) | SMD | YES | Proprietary Barrier Termination (special designation "N") for lead-free assembly; AgPd for Pb-containing assembly | Always | Always |
| AVL_AVYL | Automotive Leaded Varistor Straight Leads | Leaded | YES | 100% Matte Sn | Jul-05 | 05/27 |
| CV | Low and Medium Voltage Leaded Varistor | Leaded | YES | 100% Matte Sn | Always | Always |
| CVH | Medium Voltage Leaded Varistor | Leaded | YES | 100% Matte Sn | Always | Always |
| DV | Low and Medium Voltage SMD Varistor | SMD | YES | Ag/Pd | Always | Always |
| PV | Low and Medium Voltage Plastic Encapsulated SMD Varistor | SMD | YES | 100% Matte Sn | Always | Always |
| RV | Standard Metal Oxide Varistor | Leaded | YES | 96.5/3/0.5 Sn/Ag/Cu | Always | Always |
| SV | Special Medium Voltage Leaded Varistor | Leaded | YES | 100% Matte Sn | Always | Always |
| ZV_ZVY | Standard Low Voltage SMD Varistor | SMD | YES | Proprietary Barrier Termination (special designation "N") for lead-free assembly; AgPd for Pb-containing assembly | Always | Always |
| ZVE | ESD Suppression SMD Varistor | SMD | YES | Proprietary Barrier Termination (special designation "N") for lead-free assembly; AgPd for Pb-containing assembly | Always | Always |
| ZVL | Low Voltage Radial Leaded MLV Varistor | Leaded | YES | 100% Matte Sn | Jul-05 | 05/27 |
| ZVX | Low Energy, Low Capacitance SMD Varistor | SMD | YES | Proprietary Barrier Termination (special designation "N") for lead-free assembly; AgPd for Pb-containing assembly | Always | Always |

RoHS Compliance Status

| Inductors | | | | | | |
|-------------------------|--|----------------------------|--------------------------------|-----------------------------------|--|---------------------------------------|
| Standard Product Series | Description | Package / Termination Type | Standard Series RoHS Compliant | Lead-Free Termination Composition | Lead-Free Mfg. Effective Date (Std Product Series) | Lead-Free Effective Date Code (YY/WW) |
| FB | Multilayer Ferrite Chip Bead Inductor | SMD | YES | 100% Matte Sn | Always | Always |
| LDRS | Shielded SMD Power Inductor | SMD | YES | 100% Matte Sn | Aug-05 | 05/31 |
| LP | Unshielded SMD Power Inductor | SMD | YES | 100% Matte Sn | Aug-05 | 05/31 |
| LPC | Unshielded SMD Power Inductor | SMD | YES | 100% Matte Sn | Aug-05 | 05/31 |
| LPCS | Shielded SMD Power Inductor | SMD | YES | 100% Matte Sn | Aug-05 | 05/31 |
| LPM | Miniature Wirewound Surface Mount Power Inductor | SMD | YES | 100% Matte Sn | Aug-05 | 05/31 |
| LPS | Shielded SMD Power Inductor | SMD | YES | 100% Matte Sn | Aug-05 | 05/31 |
| LTF | Thin Film Surface Mount Chip Inductor | SMD | YES | 100% Matte Sn over Ni | May-04 | 04/18 |
| LWF | Surface Mount Ferrite Wirewound Inductor | SMD | YES | 100% Matte Sn | Aug-05 | 05/31 |
| LWW | Wirewound Ceramic Surface Mount Chip Inductor | SMD | YES | 100% Matte Sn | Aug-05 | 05/31 |

Jose Barron

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