

## 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 2). 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 Leaded Resistor	Axial	YES	99.3/0.7 Sn/Cu	Apr-05	05/14
ASRM	Mini-Anti Surge Leaded Resistor	Axial	YES	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
CD	Axial Leaded Zero Ohm Resistor	Axial	YES	100% Matte Sn	Jan-04	04/01
CF	Carbon Film Leaded Resistor	Axial	YES	100% Matte Sn	Jan-04 (Taiwan, China)	04/01
CFM	Mini-Carbon Film Leaded 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 Foil 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
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

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

# 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)
CSSK	Kelvin Terminated Current Sensing Resistors	SMD	YES	100% Matte Sn over Ni	Always	Always
EL/CEL	Commercial Power Resistor (Uncoated) <b>DISCONTINUED</b> (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	Trimable Thick Film Surface Mount Chip Resistor	SMD	YES(1)	100% Matte Sn over Ni	Jan-04	04/01
FRN	Axial Leaded Fusing Resistor	Axial	YES	99.3/0.7 Sn/Cu	Apr-05	05/14
GP	Commercial Grade - Conformal Coated Leaded Wirewound Resistor <b>DISCONTINUED</b> (July 1, 2014)	Axial	YES	100% Matte Sn	Jan-06	06/01
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
HDM	Moisture Resistant Carbon Film Leaded Resistor	Axial	YES	100% Matte Sn	Always	Always
HLD	Open air Bare Element Current Shunt / Sensing Resistor	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 <b>DISCONTINUED</b> (Last order date 6/1/16)	SMD	YES(1)	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	96.3/3.7 Sn/Ag	Always	Always
HVR	High Voltage Leaded Resistor Networks	Radial Special	YES	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

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

# 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)
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
MGM	High Voltage Mini Metal Glaze Leaded Resistor	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
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
NSP	Ceramic Housed - Consumer Grade Leaded Resistor <b>DISCONTINUED</b> (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
NWW	General Purpose and Precision Leaded Wirewound Resistor - Conformal Coated - Non-Inductive	Axial	YES	100% Matte Sn	Jan-06	06/01
NVM	Ceramic Housed Vertical Mount Wirewound Resistor (Standard WW)	Radial	YES	100% Matte Sn	Always	Always
PCB	Ceramic Housed Leaded Wirewound Resistor - PC Mount <b>DISCONTINUED</b> (July 1, 2014)	Radial	YES	100% Matte Sn	Always	Always

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

# 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)
RACF	Thick Film Surface Mount Chip Resistor Array Concave Terminations	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
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	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

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

# 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)
RNS	Ultra-Miniature Metal Film Resistor	Axial	YES	100% Matte Sn	Always	Always
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
SWT	Non-Flammable Edgewound Tubular Wirewound Silicone Coating Resistor	Special	YES	100% Matte Sn	Always	Always
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

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

## 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)
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 <b>DISCONTINUED</b> (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

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

# RoHS Compliance Status

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
MV	Low Voltage Leaded Dual Function Varistor - RFI Suppressor	Leaded	YES	100% Matte Sn	Jul-05	05/27
OV	Automotive Leaded Dual Function Varistor - RFI Suppressor	Leaded	YES	100% Matte Sn	Jul-05	05/27
PV	Low and Medium Voltage Plastic Encapsulated SMD Varistor	SMD	YES	100% Matte Sn	Always	Always
SV	Special Medium Voltage Leaded Varistor	Leaded	YES	100% Matte Sn	Always	Always
ZOV	High Energy Varistor	Special	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)
LTF	Thin Film Surface Mount Chip Inductor	SMD	YES	100% Matte Sn over Ni	May-04	04/18
FB	Multilayer Ferrite Chip Bead Inductor	SMD	YES	100% Matte Sn	Always	Always
LWF	Surface Mount Ferrite Wirewound Inductor	SMD	YES	100% Matte Sn	Aug-05	05/31
LPC	Unshielded SMD Power Inductor	SMD	YES	100% Matte Sn	Aug-05	05/31
LDRS	Shielded SMD Power Inductor	SMD	YES	100% Matte Sn	Aug-05	05/31
LPDS	Shielded 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
LP	Unshielded SMD Power Inductor	SMD	YES	100% Matte Sn	Aug-05	05/31
LPH	Unshielded SMD Power Inductor	SMD	YES	100% Matte Sn	Aug-05	05/31
LPRS	Shielded SMD 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
LPBS	Shielded SMD Power Inductor	SMD	YES	100% Matte Sn	Aug-05	05/31
LSDS	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
LWW	Wirewound Ceramic Surface Mount Chip Inductor	SMD	YES	100% Matte Sn	Aug-05	05/31



Vice President, Quality