



Directive on the Restriction of the Use of Hazardous Substances (RoHS)

Dear customer,

the Vishay Aluminum Capacitor and Energy Storage part numbers / series of the brands Vishay BCcomponents, Vishay Roederstein, Vishay OS-CON, and Vishay Sprague as listed in the Annex comply with the following European and Chinese Directives starting from the dates shown in the Annex:

- a) 2000/53/EC End of Life Vehicle (ELV)
- b) 2000/53/EC Amendment (2002/525/EC) of Annex II of ELV
- c) 2011/65/EU Restriction of the use of Hazardous Substances in EEE (RoHS)
- d) Administrative Measures on the Control of Pollution Caused by Electronic Information Products (“China RoHS”)
- e) 2015/863/EU Change of Annex II from 2011/65/EU

These products do not contain any of the following substances in more than the following concentrations in any of the homogeneous materials:

Cadmium	0.01 % in weight
Chromium VI	0.1 % in weight
Mercury	0.1 % in weight
Lead	0.1 % in weight
Polybrominated biphenyls (PBB)	0.1 % in weight
Polybrominated diphenyl ethers (PBDE)	0.1 % in weight
Bis(2-ethylhexyl)phthalate (DEHP)	0.1 % in weight
Butyl benzyl phthalate (BBP)	0.1 % in weight
Dibutyl phthalate (DBP)	0.1 % in weight
Diisobutyl phthalate (DIBP)	0.1 % in weight

No technology exemptions are applicable for these products.

The EFUP (Environmental Friendly User Period) for China RoHS is not applicable.

The data provided are correct to the best of our knowledge.

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REACH, RoHS, and Hazardous Substances Coordinator Aluminum Capacitors Division



ANNEX

VISHAY BCCOMPONENTS		
SERIES	RoHS COMPLIANT PART NUMBER	AS FROM DATE
Axial and mounting ring	MAL2021xxxxxE3	Since introduction in 2005
	MAL2030xxxxxE3	Since introduction in 2005
	MAL2031xxxxxE3	Since introduction in 2005
	MAL2041xxxxxE3	Since introduction in 2005
	MAL2042xxxxxE3	Since introduction in 2005
	MAL2043xxxxxE3	Since introduction in 2005
	MAL2117xxxxxE3	Since introduction in 2005
	MAL2118xxxxxE3	Since introduction in 2005
	MAL2119xxxxxE3	Since introduction in 2005
	MAL2120xxxxxE3	Since introduction in 2005
	MAL2132xxxxxE3	Since introduction in 2005
	MAL2133xxxxxE3	Since introduction in 2005
	MAL2138xxxxxE3	Since introduction in 2005
Radial and SMD	MAL2013xxxxxE3	Since introduction in 2005
	MAL2036xxxxxE3	Since introduction in 2005
	MAL2038xxxxxE3	Since introduction in 2005
	MAL2046xxxxxE3	Since introduction in 2005
	MAL2047xxxxxE3	Since introduction in 2005
	MAL2048xxxxxE3	Since introduction in 2005
	MAL2097xxxxxE6	Since introduction in 2005
	MAL2116xxxxxE3	Since introduction in 2005
	MAL2134xxxxxE3	Since introduction in 2005
	MAL2136xxxxxE3	Since introduction in 2005
	MAL2139xxxxxE3	Since introduction in 2005
	MAL2140xxxxxE3	Since introduction in 2005
	MAL2142xxxxxE3	Since introduction in 2009
	MAL2146xxxxxE3	Since introduction in 2008
	MAL2148xxxxxE3	Since introduction in 2005
	MAL2150xxxxxE3	Since introduction in 2005
	MAL2151xxxxxE3	Since introduction in 2005
	MAL2152xxxxxE3	Since introduction in 2005
	MAL2153xxxxxE3	Since introduction in 2005
	MAL2160xxxxxE3	Since introduction in 2012
	MAL2180xxxxxE3	Since introduction in 2015
	MAL2181xxxxxE3	Since introduction in 2018
	MAL2182xxxxxE3	Since introduction in 2018
	MAL2183xxxxxE3	Since introduction in 2018
	MAL2184xxxxxE3	Since introduction in 2018
	MAL2185xxxxxE3	Since introduction in 2018
	MAL2186xxxxxE3	Since introduction in 2018
	MAL2165xxxxxE3	Since introduction in 2005
	MAL2196xxxxxE3	Since introduction in 2005
	MAL2220xxxxxE3	Since introduction in 2015
	MAL2225xxxxxE3	Since introduction in 2018
	MAL2230xxxxxE3	Since introduction in 2018
	MAL2246xxxxxE3	Since introduction in 2015
MAL2250xxxxxE3	Since introduction in 2015	
MAL2260xxxxxE3	Since introduction in 2015	
Solid axial	MAL2123xxxxxE3 ⁽¹⁾	Since introduction in 2005
Solid radial	MAL2128xxxxxE3	Since introduction in 2005



VISHAY BCCOMPONENTS		
SERIES	RoHS COMPLIANT PART NUMBER	AS FROM DATE
Snap-in and PW	MAL2050xxxxxE3	Since introduction in 2005
	MAL2051xxxxxE3	Since introduction in 2005
	MAL2052xxxxxE3	Since introduction in 2005
	MAL2053xxxxxE3	Since introduction in 2005
	MAL2056xxxxxE3	Since introduction in 2005
	MAL2057xxxxxE3	Since introduction in 2005
	MAL2058xxxxxE3	Since introduction in 2005
	MAL2059xxxxxE3	Since introduction in 2005
	MAL2090xxxxxE3	Since introduction in 2005
	MAL2093xxxxxE3	Since introduction in 2005
	MAL2094xxxxxE3	Since introduction in 2005
	MAL2095xxxxxE3	Since introduction in 2005
	MAL2096xxxxxE3	Since introduction in 2005
	MAL2100xxxxxE3	Since introduction in 2005
	MAL2156xxxxxE3	Since introduction in 2005
	MAL2157xxxxxE3	Since introduction in 2005
	MAL2158xxxxxE3	Since introduction in 2005
	MAL2159xxxxxE3	Since introduction in 2005
	MAL2162xxxxxE3	Since introduction in 2005
	MAL2163xxxxxE3	Since introduction in 2005
	MAL2193xxxxxE3	Since introduction in 2010
	MAL2197xxxxxE3	Since introduction in 2005
	MAL2198xxxxxE3	Since introduction in 2005
	MAL2199xxxxxE3	Since introduction in 2005
MAL2256xxxxxE3	Since introduction in 2013	
MAL2259xxxxxE3	Since introduction in 2017	
MAL2299xxxxxE3	Since introduction in 2017	
Screw terminal	MAL2101xxxxxE3	Since introduction in 2005
	MAL2102xxxxxE3	Since introduction in 2005
	MAL2104xxxxxE3	Since introduction in 2005
	MAL2106xxxxxE3	Since introduction in 2005
	MAL2500xxxxxE3	Since introduction in 2005
Mounting clamps	MAL804324011E3 (case Ø 25)	Since introduction in 2005
	MAL804324021E3 (case Ø 30)	Since introduction in 2005
	MAL804324031E3 (case Ø 35)	Since introduction in 2005
	MAL804324041E3 (case Ø 40)	Since introduction in 2005
	MAL804324051E3 (case Ø 50)	Since introduction in 2005
	MAL804324061E3 (case Ø 65)	Since introduction in 2005
	MAL804323321E3 (case Ø 76)	Since introduction in 2005
	MAL804324921E3 (case Ø 90)	Since introduction in 2005
Synthetic cap nuts	MAL804305561E3 (case Ø 35)	Since introduction in 2005
	MAL804305571E3 (case Ø ≥ 50)	Since introduction in 2005
Rubber washers	MAL804305591E3 (outer Ø 34)	Since introduction in 2005
	MAL804305531E3 (outer Ø 49)	Since introduction in 2005
	MAL804305521E3 (outer Ø 64)	Since introduction in 2005
	MAL804313001E3 (outer Ø 74)	Since introduction in 2005

Note

(1) The following PNs of series 123 are not compliant to the Directives of page 1 under a), b), c), d), e): MAL2123xxxxx (add suffix "E3" for lead (Pb)-free and RoHS compliant parts)



VISHAY SPRAGUE		
SERIES	RoHS COMPLIANT PART NUMBER	AS FROM DATE
Radial and axial	30D (+ suffix "E3") ⁽¹⁾	Since introduction
	34D (+ suffix "E3") ⁽¹⁾	Since introduction
	39D (+ suffix "E3") ⁽¹⁾	Since introduction
	40D (+ suffix "E3") ⁽¹⁾	Since introduction
	53D (+ suffix "E3") ⁽¹⁾	Since introduction
	500D (+ suffix "E3") ⁽¹⁾	Since introduction
	510D (+ suffix "E3") ⁽¹⁾	Since introduction
	510DX (+ suffix "E3") ⁽¹⁾	Since introduction
	511D (+ suffix "E3") ⁽¹⁾	Since introduction
	515DxxxMyyyXXzZE3	Since introduction in 2005
	516DxxxMyyyXXzZE3	Since introduction in 2005
	517DxxxMyyyXXzZE3	Since introduction in 2005
	600D (+ suffix "E3") ⁽¹⁾	Since introduction
	601D (+ suffix "E3") ⁽¹⁾	Since introduction
	604D (+ suffix "E3") ⁽¹⁾	Since introduction
	610D (+ suffix "E3") ⁽¹⁾	Since introduction
	630D (+ suffix "E3") ⁽¹⁾	Since introduction
	672D (+ suffix "E3") ⁽¹⁾	Since introduction
	678D (+ suffix "E3") ⁽¹⁾	Since introduction
TE (+ suffix "E3") ⁽¹⁾	Since introduction	
TVA (+ suffix "E3") ⁽¹⁾	Since introduction	
Snap-in	80DxxxMyyyXXzZE3	Since introduction in 2005
Screw terminal (STs)	36D	1 st May 2005
	36DE	1 st May 2005
	36DX	1 st May 2005
	36DY	1 st May 2005
Bracket ("clamps") for STs	1245860035A	Since introduction in 2006
	1245860036A	Since introduction in 2006
	1245860037A	Since introduction in 2006
	1245860038A	Since introduction in 2006

Note

⁽¹⁾ **IMPORTANT:** Affected are only part numbers with suffix "E3". Examples: 30D476M025BB2AE3 or TVA1318.7-E3. (Part numbers without suffix "E3" contain lead (Pb). Consequently, these PNs are non-compliant to RoHS directive.)

VISHAY ROEDERSTEIN		
SERIES	RoHS COMPLIANT PART NUMBER	AS FROM DATE
Axial	ELM and MALAELM (all PNs)	1 st January 2005
	EBM and MALAEBM (all PNs)	1 st January 2005
	EBC and MALAEBC (all PNs)	1 st January 2005
	EBR and MALAEBR (all PNs)	1 st January 2005
	EBL and MALAEBL (all PNs)	1 st January 2005
	EGL and MALAEGL (all PNs)	1 st January 2005
Radial	EKA and MALREKA (all PNs)	1 st January 2005
	EKB and MALREKB (all PNs)	1 st January 2005
	EKC and MALREKC (all PNs)	1 st January 2005
	EKE and MALREKE (all PNs)	1 st January 2005
	EKV and MALREKV (all PNs)	1 st January 2005
SMD	ECA and MALSECA (all PNs)	1 st January 2003
	ECL and MALSECL (all PNs)	1 st January 2003
	ECV and MALSECV (all PNs)	1 st January 2003
Snap-in	EYN and MALIEYN (all PNs)	1 st January 2004
	EYH and MALIEYH (all PNs)	1 st January 2004
PW and SL's	EYK and MALLEYK (all PNs)	1 st January 2005
	EYV and MALPEYV (all PNs)	1 st January 2005

VISHAY OS-CON		
SERIES	RoHS COMPLIANT PART NUMBER	AS FROM DATE
SMD	94SVP and MALS94SVP	1 st January 2004
	94SVPD and MALS94SVPD	Since introduction