

EU RoHS-2 Technical Documents for CE Mark

Summary

This document describes the technical document requirements for EU RoHS-2, which is necessary to apply the CE Mark. The paper also offers recommendations about the qualifications of compliance documents in preparing the technical documents for Technical Document File - EU RoHS-2, based on GreenSoft's experience in collecting various RoHS compliance documents from suppliers.

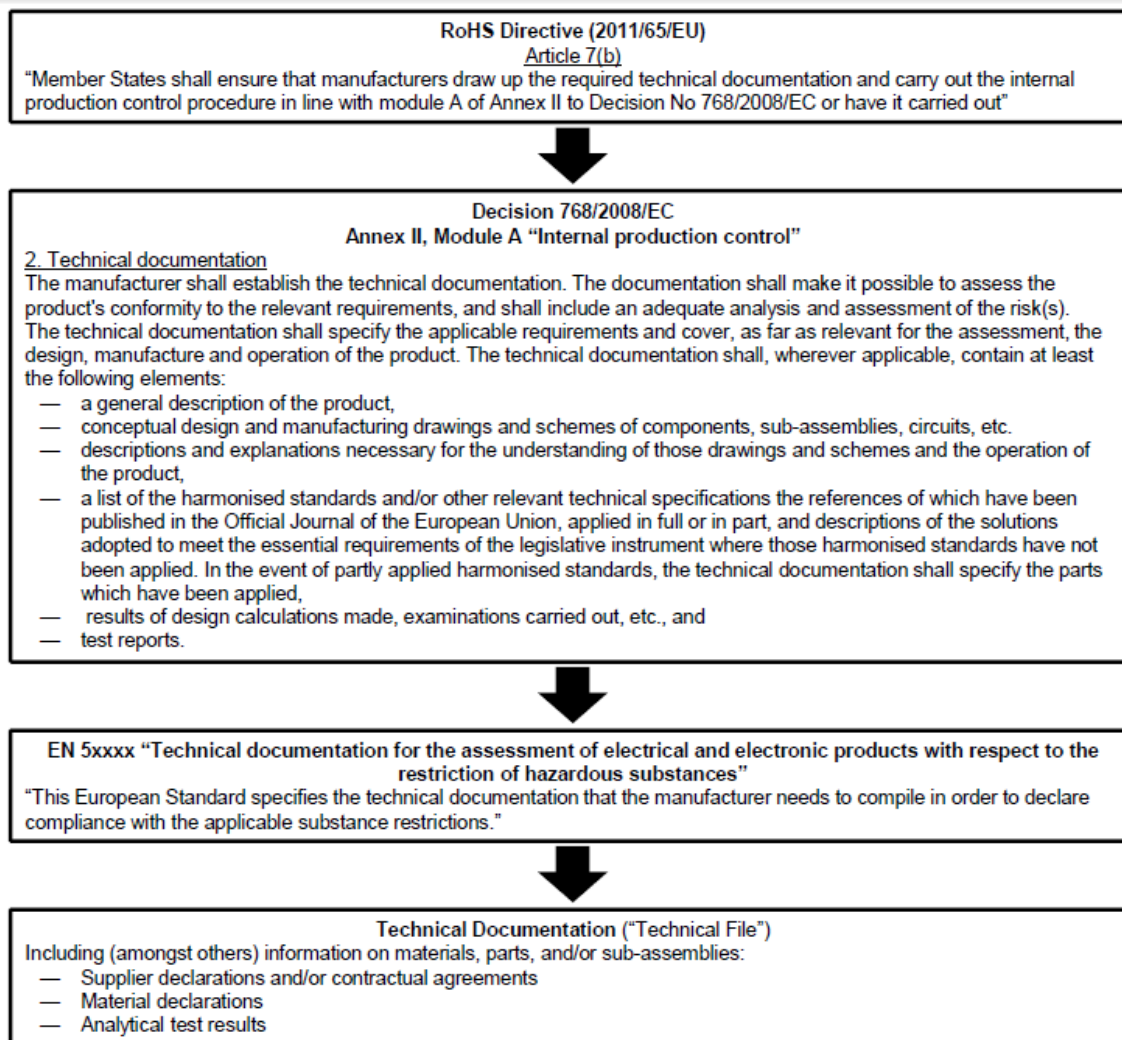
Requirements of Technical Documents for Obtaining CE Mark

The updated RoHS Directive 2011/65/EC (also known as RoHS Recast or RoHS-2) has requirements on technical documents, which is part of the requirements to affix the CE Mark. Article 7(b) from the updated RoHS Directive specifies the requirements on technical documents by referencing to another EU Directive – 768/2008/EC. Annex II of Module A (Internal Production Control) of EU Directive 768/2008/EC points out that the requirements for technical documents are the same as those from the EN 50581 specification. But the draft EN 50581 specification requires that the RoHS-2 technical documentation file must have one or more of the following documents:

- (1) Supplier declaration or contractual agreement
- (2) Material declaration, or
- (3) Test report

The logical sequence of these regulations and the final requirements on technical documents are shown in both summary chart and detailed below.





Technical Documentation

- 1. Test Report** – Test reports are commonly available from Asia-based suppliers but far less common in other regions. Typically the test report will show the name of the material that was under testing but not the name of the component or the manufacturer part number. Therefore, the recipient of the test report will have to spend time matching the part number of the component to the material name listed in the test report. A sample test report is shown below. Once the validation of the component part number with the material name is done and the matching has been validated, the test report can be used as a technical document for RoHS-2.



測試報告

Test Report

號碼(No.) : CE/2012/72681 日期(Date) : 2012/07/20 頁數(Page) : 2 of 12

KEMET CORPORATION

P.O BOX 5928, GREENVILLE, SC 29606, USA



測試結果(Test Results)

測試部位(PART NAME)No.1 : 白色顆粒狀 (WHITE GRAIN)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
鎘 / Cadmium (Cd)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電漿原子發射光譜儀檢測。 / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電漿原子發射光譜儀檢測。 / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
汞 / Mercury (Hg)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電漿原子發射光譜儀檢測。 / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
六價鉻 / Hexavalent Chromium Cr(VI)	mg/kg	參考IEC 62321: 2008方法, 以UV-VIS檢測。 / With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	參考US EPA 3550C: 2007方法, 以液相層析/質譜儀檢測。 / With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	10	n.d.
全氟辛酸(鈹) / PFOA (CAS No.: 335-67-1)	mg/kg	參考US EPA 3550C: 2007方法, 以液相層析/質譜儀檢測。 / With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	10	n.d.

2. Material Declaration – Material declaration means the full material declaration data provided by the supplier. The declaration must show the chemical composition of every homogeneous material if the component is composed of many homogeneous materials. The declaration can also be a flat chemical composition list if the component itself is composed of a single material. Two typical material declaration documents are shown below. The full material declaration document can be a technical document for RoHS-2.

The first sample from Diodes, Inc. is of a surface mount component. Please note that it is the full material declaration data on a package material which discloses the full material declaration on a number of part families. The detailed chemical composition also lists the associated CAS number for each chemical.



Diodes Inc. Material Data Sheet
Rev: July 2009

Package: **SMA** ES1x-p-F ES2xA-p-F RS1xx-p-F RS2xA-p-F S1x-p-F S2xA-p-F SMAJxx(C)A-p-F SMATxx-p-F US1x-p-F
Weight (mg): 64

Element	Material Group	Materials	CAS (if applicable)	Average mass homogeneous Material(%)	Percent of whole (%)	Mass (mg)	ppm Homogeneous Material	ppm overall
Die,Analog	Doped silicon	Doped silicon *	7440-21-3	95.00%	2.97	1.90	950000	28203
		PbO	1317-36-8	4.00%			40000	1188
		Ni	7440-02-0	1.00%			10000	297
Leadframe & Clip	Copper	Cu	7440-50-8	99.95%	41.56	26.60	999500	415417
		Zn	7440-66-6	0.006%			60	25
		Fe	7439-89-6	0.010%			100	42
		P	7723-14-0	0.034%			340	141
Molding compound	KL-G100S	Silica Fused	7631-86-9	69.50%	50.47	32.30	695000	350758
		Silicon dioxide	14808-60-7	23.00%			230000	116078
		Phenolic Resin	9003-35-4	7.00%			70000	35328
		Carbon black	1333-86-4	0.50%			5000	2523
Die Attach Solder Paste	PbSnAg	Pb	7439-92-1	92.50%	4.00	2.56	925000	37000
		Sn	7440-31-5	5.00%			50000	2000
		Ag	7440-22-4	2.50%			25000	1000
Tin solder	Pure Tin	Sn	7440-31-5	100.00%	1.00	0.64	1000000	10000
					100.00	64.00		1000000

Tolerance ±10%

The second sample from Vishay is of another surface mount component, specifically from the CRCW0603 part family. The declaration details the chemical composition of each subpart or homogeneous material. Please note that the chemical disclosure does not include the associated CAS number. As part of GreenSoft's standard data management services, we will identify and validate the CAS numbers so that your company can focus on core competencies such as improving the product. GreenSoft will validate and convert such full material declaration data into a variety of formats, including IPC-1752A XML format. If you have purchased GreenData Manager software, we will deliver in GreenSoft's PartData XML format.



Materials Declaration

Thick film CRCW0603 Lead Free


Weight (max): 2126 µg / pc

Chemical constituents in % by weight of component: D11/ CRCW0603 e3

Name of part	Weight (µg)	Substance		Weight (µg)	% of part	% of component
Ceramic Substrate	1795.13	Al ₂ O ₃	Aluminum oxide	1716.86	95.64	84.6
		SiO ₂	Silicon dioxide	52.24	2.91	
		MgO	Magnesium oxide	17.77	0.99	
		Fe ₂ O ₃ , CaO, K ₂ O, TiO ₂ , Na ₂ O		8.26	0.46	
Resistive layer	10.61	Ag	Silver	4.25	40	0.5
		RuO ₂	Ruthenium oxide	2.12	20	
		Pd	Palladium	1.06	10	
		Glass (PbO, B ₂ O ₃ , SiO ₂ , TiO ₂)		3.18	30	
Termination	262.69					
Silver contacts		Ag	Silver	81.24	30.93	12.4
		Glass (PbO, B ₂ O ₃ , SiO ₂ , TiO ₂)		3.58	1.36	
Barrier layer		Ni	Nickel	62.25	23.70	
Solder plating		Sn	Tin	115.62	44.01	
Front side		Cu	Copper	0.0012	<0.001	
		Cr	Chromium	0.0007		
		Ni	Nickel	0.0002		
Passivation (overglaze)	12.94	Glass (PbO, B ₂ O ₃ , SiO ₂)		12.67	97.9	0.6
		Cr ₂ O ₃	Chromium oxide (III)	0.27	2.1	
Top Coat, Marking	40.53	Epoxy resin		25.08	61.87	1.9
		Copper Chromite Black Spinel		12.35	30.48	
		SiO ₂	Silicon dioxide	3.10	7.65	
Total	2121.9					100

3. Supplier Declaration and/or Contractual Agreements – Some suppliers cannot or will not provide a test report or any material declaration documentation. They only provide a declaration document to certify RoHS compliant status on their products or parts. Based on the level of declaration, GreenSoft classifies these declarations into two different categories: CoC (Certificate of Compliance) and PoC (Proof of Compliance). Within CoC and PoC there are many subcategories.

3.1 CoC – Type 1 (full loaded) – These documents contain a company logo, RoHS declaration statement (including exemption details), product ID or part number, company and contact information, and signature. An example from Bourns is shown below.



Certificate for RoHS Compliant Products

Bourns, Inc. certifies, as of this date, the products listed below ("Products") are designated as conforming to the requirements of the European Union's Restrictions on use of Certain Hazardous Substances in Electrical and Electronic Equipment Directive, 2002/95/EC (commonly called "RoHS") and amendments and 2011/65/EU (commonly called "RoHS Recast").

The information presented is based on Bourns' understanding of the directives and Bourns' knowledge of the materials that are used in the Products as of the date of disclosure, which, in some cases, is based on information provided by third parties.

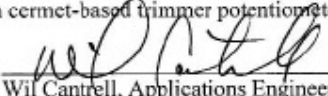
Chip array series: CAT10-LF; CAT16-LF; CAT25-LF;
CAY10-LF; CAY16-LF; CAY17-LF

Restricted Substances	RoHS Maximum Concentration Value (ppm)*
Cadmium (Cd)	100
Lead (Pb)	1,000
Mercury (Hg)	1,000
Hexavalent Chromium (Cr ⁺⁶)	1,000
Polybrominated biphenyls (PBB)	1,000
Polybrominated diphenyl ethers (PBDE)	1,000

* Maximum limit does not apply to applications covered by RoHS exemptions. Maximum Concentration Values are based on homogeneous materials as defined in the RoHS Directive.


Exemptions used (if box is checked):

- 6a. Lead as an alloying element in steel containing up to 0.35% lead by weight
- 6b. Lead as an alloying element in aluminum containing up to 0.4% lead by weight
- 6c. Lead as an alloying element as a copper alloy containing up to 4% lead by weight.
- 7a. Lead in high melting temperature type solders (i.e., lead-based alloys containing more than 85% by weight or more lead).
- 7(c)-I. Electrical & electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors.
- 34. Lead in cermet-based trimmer potentiometer elements.

Signature: 
Wil Cantrell, Applications Engineer Staff

Date: January 27, 2012

3.2 CoC – Type 2 (w/o signature)– These documents contain a company logo, RoHS declaration statement (including exemption details), product ID or part number, company and contact information. An example from Cole-Parmer is shown below.



Cole-Parmer®
Delivering Solutions You Trust

Telephone: 047.540.7600
800.323.4340
Fax: 047.327.2987

RoHS Product Status

8/17/2012

Catalog #: 06365-80

The above product has been declared by the original supplier as:

Compliant – the manufacturer of this item declares that the product complies with the RoHS Directive 2002/95/EC.

Not Compliant – the manufacturer of this item declares that the product is NOT compliant with the RoHS Directive 2002/95/EC.

Exempt – The manufacturer of this item declares that this product falls outside of the scope of the RoHS Directive 2002/95/EC for its intended use; using the exempted categories of CAT 8 Medical Devices or CAT 9 Monitoring and Control. Ultimately, it is your responsibility to decide if this RoHS Compliance Exemption is acceptable when ordering from Cole-Parmer.


Obsolete – This is no longer an active and current Cole-Parmer product and no RoHS status is available.

Unknown - Cole-Parmer has attempted to gather information on this product and at this time no testing has been performed. RoHS status is unavailable.


Cole Parmer RoHs Declaration Team

625 East Bunker Court • Vernon Hills, IL 60061-1844 • ColeParmer.com

3.3 CoC – Type 3 (w/o signature and w/part families) – These documents contain a company logo, RoHS declaration statement (including exemption details), product family ID or part families, company and contact info. An example from Walsin is shown below.



華新科技股份有限公司
Walsin Technology Corporation



RoHS

We are all familiar with the key point of RoHS requirements below which has huge impact on electronics Industry.

- Member States shall ensure that, from 1 July 2006, new electrical and electronic equipment put on the market does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE). National measures restricting or prohibiting the use of these substances in electrical and electronic equipment which were adopted in line with Community legislation before the adoption of this Directive maybe maintained until 1 July 2006.
- Paragraph 1 shall not apply to the applications listed in the Annex.
WTC do its best to meet the requirements of RoHS in the past several years. And we got positive result that all our products are RoHS compliant. The list below is a brief for your reference.
- The CHIP-R contains the lead that is the 7(C)-I exemption of RoHS


Product	Series	Size	Pb 鉛	Hg 汞	Cd 鎘	Cr(VI) 六價鉻	PBB 多溴聯苯	PBDE 多溴二苯醌
MLCC	NPO	0201,0402,0603,0805,1206,1210,1808,1812	○	○	○	○	○	○
	X7R	0201,0402,0603,0805,1206,1210,1808,1812	○	○	○	○	○	○
	X5R	0201,0402,0603,0805,1206,1210,1808,1812	○	○	○	○	○	○
	Y5V	0201,0402,0603,0805,1206,1210,1808,1812	○	○	○	○	○	○
Chip-R	WR	0201,0402,0603,0805,1206,1210,1218,2010,2512	○	○	○	○	○	○
	WW	0402,0603,0805,1206,1210,1218,2010,2512	○	○	○	○	○	○
	WK	0805,1206,1210,2010,2512	○	○	○	○	○	○
	WF	0402,0603,0805,1206,1210,1218,2010,2512	○	○	○	○	○	○
	WA	0201,0402,0603	○	○	○	○	○	○
	WT	1206	○	○	○	○	○	○
	SR,SF,MR	0402,0603,0805,1206,1210	○	○	○	○	○	○
RF devices & High Frequency Inductor	Band Pass Filter	0603,0805,1008,1210	○	○	○	○	○	○
	Low Pass Filter	0402,0603,0805	○	○	○	○	○	○
	Common Mode Filter	1206,0612,0804,0508,0405	○	○	○	○	○	○
	Balun	0603,0805	○	○	○	○	○	○
	WL	0402,0603,0805,1008	○	○	○	○	○	○
	Antenna	3218,5220,7385,8010,9520	○	○	○	○	○	○
Varistors	PVR(Leaded)	5mm-20mm	○	○	○	○	○	○
	SR(Leaded)	5mm-53mm	○	○	○	○	○	○
	VZ(SMD)	0201,10402,0603,0805,1206	○	○	○	○	○	○
	TVZ	14mm, 18mm, 20mm, 25mm, 34mm	○	○	○	○	○	○

○ : RoHS compliant
X : Non RoHS compliant

-I-

www.passthvcomponent.com
 505-1, Kao-Shi Road, Yang-Mei
 Tao Yuan, 325 Taiwan
 Tel: +886-3-475-8711
 Fax: +886-3-475-7130

3.4 CoC – Type 4 (standard IPC-1752 declaration in PDF or IPC-1752A declaration in XML) – These documents are in IPC-1752 PDF format and are of the older RoHS declaration statement, The statement may not detail exemptions; if an exemption is listed, GreenSoft will request an updated IPC-1752A or other type of CoC from the supplier. Sometimes the statement is in IPC-1752A XML format, with product family ID or part families, company and contact info. Sometimes a digital signature is included. An example from AVX is shown below.

 Material Composition Declaration <small>© Copyright 2005, IPC, Bannockburn, Illinois. All rights reserved under both international and Pan-American copyright conventions.</small>		<small>This document is a declaration of the substances within the manufacturer listed item. Note: if the item is an assembly with lower level parts, the declaration encompasses all lower level materials for which the manufacturer has engineering responsibility.</small> Adobe Reader version 7.0.5 is required to complete this declaration.								
1752-2	1.1	IPC Web Site for Information on IPC-1752 Standard http://www.ipc.org/IPC-175x			Form Type *	Declaration Class *				
					Distribute	Class 6 - RoHS Yes/No, Homogeneous Materials and Mfg Inform				
Supplier Information										
Company Name *		Company Unique ID		Unique ID Authority		Response Date *		Response Document ID		
AVX Corporation		05-889-5921		Dun & Bradstreet		2010-09-22				
Contact Name *		Title - Contact		Phone - Contact *		Email - Contact *		<input type="button" value="Duplicate"/> <input type="button" value="Contact -> Authorized Representative"/>		
Dennis Oldland		corporate env. mgr		18439460241		doldland@avxus.com				
Authorized Representative *		Title - Representative		Phone - Representative *		Email - Representative *		Supplier Comments or URL for Additional Information		
Dennis Oldland		corporate env. mgr		18439460241		doldland@avxus.com				
Requester Item Number	Mfr Item Number	Mfr Item Name		Effective Date	Version	Manufacturing Site	Weight *	UOM	Unit Type	
				2010-09-22	2	Myrtle Beach	5	mg	Each	
Alternate Recommendation	0803x(C,D,F,L,W,Z)xxxxTxx		0803 Xxx family	2003-06-30	Alternate Item Comments		Family data sheets encompass request			
Manufacturing Process Information										
Terminal Plating / Grid Array Material			Terminal Base Alloy		J-STD-020 MSL Rating	Peak Process Body Temperature		Max Time at Peak Temperature		Number of Reflow Cycles
Matte Tin (Sn) - with Nickel (Ni) barrier			CU Alloy		1	260 C		10 seconds		3
Comments										

Save the fields in this form to a file	<input type="button" value="Export Data"/>	Import fields from a file into this form	<input type="button" value="Import Data"/>	Clear all of the fields on this form	<input type="button" value="Reset Form"/>	Lock the fields on this form to prevent changes	<input type="button" value="Lock Supplier Fields"/>		
RoHS Material Composition Declaration							Declaration Type *	Detailed	
RoHS Directive 2002/95/EC	RoHS Definition: Quantity limit of 0.1% by mass (1000 PPM) in homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material for Cadmium								
<small>Please indicate whether any homogeneous material (as defined by the RoHS Directive, EU 2002/95/EC and implemented by the laws of the European Union member states) of the part identified on this form contains lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and/or polybrominated diphenyl ethers (each a "RoHS restricted substance") in excess of the applicable quantity limit identified above. If a homogeneous material within the part contains a RoHS restricted substance in excess of an applicable quantity limit, please indicate below which, if any, RoHS exemption you believe may apply. If the part is an assembly with lower level components, the declaration shall encompass all such components.</small> <small>Supplier certifies that it gathered the information it provides in this form using appropriate methods to ensure its accuracy and that such information is true and correct to the best of its knowledge and belief, as of the date that Supplier completes this form.</small> <small>Supplier acknowledges that Company will rely on this certification in determining the compliance of its products with European Union member state laws that implement the RoHS Directive. Company acknowledges that Supplier may have relied on information provided by others in completing this form, and that Supplier may not have independently verified such information. However, in situations where Supplier has not independently verified information provided by others, Supplier agrees that, at a minimum, its suppliers have provided certifications regarding their contributions to the part, and those certifications are at least as comprehensive as the certification in this paragraph.</small> <small>If the Company and the Supplier enter into a written agreement with respect to the identified part, the terms and conditions of that agreement, including any warranty rights and/or remedies provided as part of that agreement, will be the sole and exclusive source of the Supplier's liability and the Company's remedies for issues that arise regarding information the Supplier provides in this form. In the absence of such written agreement, the warranty rights and/or remedies of Supplier's Standard Terms and Conditions of Sale applicable to such part shall apply.</small>									
RoHS Declaration *							1 - Item(s) does not contain RoHS restricted substances per the definition above	Supplier Acceptance *	Accepted
<small>Exemptions: If the declared item does not contain RoHS restricted substances per the definition above except for defined RoHS exemptions, then select the corresponding response in the RoHS Declaration above and choose all applicable exemptions.</small>									

Declaration Signature	
<small>Instructions: Complete all of the required fields on all pages of this form. Select the "Accepted" on the Supplier Acceptance drop-down. This will display the signature area. Digitally sign the declaration (if required by the Requester) and click on Submit Form to have the form returned to the Requester.</small>	
Supplier Digital Signature	Dennis Oldland

3.5 PoC – Type 1 (Web site declaration) – A compliance declaration is made through the supplier’s web site, listing the specific part number and the RoHS compliance status. The RoHS definition statement may be listed in another page. GreenSoft will deem this declaration a Proof of Compliance (PoC) document for RoHS-2. An example from JAE is shown below.

Product Availability and RoHS Compliant information search

Part Number
Key Word SEARCH

Type your part number into the search box, including any dashes.
Asterisks * may be used as wildcards.
Your search results will indicate "yes" or "no" for RoHS compliant.
On many of the "no" items, a RoHS-replacement part number is also provided.

: About provided information

RoHS compliant	
yes	Products comply with RoHS directive: the Restriction of the use of certain Hazardous Substances in electrical and electronic equipment.
* Please contact us if a RoHS-replacement part number was not provided.	

JAE | connectors | product list | FI-W31S

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[Japanese](#)
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Part Number Key Word SEARCH Site Search Google

[TOP](#) | [NEWS RELEASE](#) | [CONNECTOR SEARCH](#) | [CATALOG](#) | [CONTACT US \(JAE GLOBAL SUPPORT\)](#)

[TOP](#)>[FI-W31S](#)

Product List

Product Name	FI-W31S
Status	Active
RoHS compliant	Yes
Series Name	FI Series
Contact spacing (mm)	1.25
Number of rows	2
Number of contacts	31
Connector types	Cable side plug housing
PCB mounting type	-
PCB mounting method	-
Wire termination method	Crimp
Applicable wire	Discrete wire

3.6 PoC – Type 2 (Declaration from Web site plus Excel table) – A compliance statement is made through the supplier’s web site and the compliance status is provided through an Excel table, listing specific part families or part numbers and the RoHS compliance status. GreenSoft will consider this declaration a Proof of Compliance (PoC) document for RoHS-2. An example from Panasonic is shown below.

ROHS Make your product Powered by Panasonic

[Contact Us](#) [Find Sales Reps & Distributors](#) [Search Parts Inventory](#) [Use Business Link \(B2B\)](#)

[Resources - Click to Expand/Close](#)

[<< Back to previous page](#)



The RoHS (Restriction on use of certain Hazardous Substances) Directive for electrical and electronic equipment states that by July 1, 2006 most equipment sold in the EU must be essentially free of six substances: lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBBs) or polybrominated diphenyl ethers (PBDEs).

[Lead-free \(RoHS compliant\) Electronic Components](#)

[Lead-free Process Compatibility](#)

[Hazardous Substances & RoHS Directive](#)

Panasonic Industrial Company : Lead-free (RoHS Compliance) Electronic Components

Category	Product Type	Product Series	Plating Materials for Electrodes, etc.	RoHS Compliant (Pb, Hg, Cd, Cr+6, PBB/PBDE)	Special Soldering Conditions	Part Number Change	
Electrolytic	Aluminum Electrolytic Capacitors (Radial lead type)	ECA, EEA/EEU, ECE-A	Sn	✓++	-	No	
	Aluminum Electrolytic Capacitors (Snap-in type)	ECE-S, ECO-S, ECE-C, EET	Sn	✓	-	No	
	Aluminum Electrolytic Capacitors (Screw Terminal type)	EE6	Al terminals	Not RoHS	-	No (discont'd)	
Capacitors	Aluminum Electrolytic Capacitors (Surface mount type)	EEE (≤10mm dia.) * EEV, ECE-V (≤10mm dia.) contains Pb - not RoHS] -EEV-FX, T6 (≠12.5mm dia.)	Sn/Sn-Bi	✓*	• Base. at 260 deg C (Dia. 4 to 6.3) ; • Base. at 235 deg C (Dia.8 to 18) ≤20sec at 230deg C	No	
	Electric Double Layer Capacitors	EEC	Sn	✓	-	No	
	Specialty Polymer Aluminum Electrolytic Capacitors	EEF - xxxxxxxxER/xE, EEF-CX	Sn	✓	Reflow peak temp: < 10sec at 260 degC	No	
	Specialty Polymer Aluminum Electrolytic Capacitors	EEF	Sn	✓	Reflow peak temp: < 10sec at 240 degC	No	
	Multilayer Ceramic Chip Capacitors	ECJ, ECY, ECD	Sn**	✓	-	No	
Ceramic Products	Multilayer Chip NTC Thermistors	ERT-J	Sn	✓	-	No	
	Multilayer Chip Varistors	EZJ	Sn	✓	-	No	
	Ceramic Resonators	EFJ-(CJN), EFO-	Sn, Au	✓	-	No	
	ZNR Transient / Surge Absorbers (Discrete)	ERZ	Sn	✓	-	No	
	SAW Filters	EFC-H	Au	✓	-	No	
	Ceramic Disc Capacitors (Discrete)	ECK/ECC	Sn	✓	-	No	
	SAW Duplexers	EFS	Au	✓	-	No	
	Disc Type NTC Thermistors (Discrete)	ERT-D	Sn	✓	-	No	
	Glass-sealed NTC Thermistors (Axial)	ERT-6	Sn-Ag-Cu	✓	-	No	
	SMD High-voltage Ceramic Capacitors	ECK/ECC-T3F	Sn-Ag	✓	-	No	
	Adjustable (pre-set) Ceramic Capacitors (Series J and L)	ECR-LA***12, ECV-IZW**63T	Sn-Cu	✓	-	No	
	Resistors	Fixed Resistors (Thick Film Chip)	ERJ	Sn**	✓	260 deg C max.	No
		Fixed Resistors (Carbon: Discrete)	ERO	Sn	✓	260 deg C max.	No
		Fixed Resistors (Metal Oxide Film: Discrete)	ER6/ERX	Sn	✓	260 deg C max.	No
		Fixed Resistors (Army: SMD)	EXB	Sn**	✓	260 deg C max.	No
Fixed Resistors (Metal Film Chip: SMD)		ERA	Sn	✓	260 deg C max.	No	
Fixed Resistors (Metal Film Axial leaded)		ERO	Sn	✓	240 deg C max.	No	
R-C Networks, C Networks		EZA	Sn	✓	240 deg C max.	No	
Thermal Cutoff; Wirewound Resistor w/Thermal Cutoff		EVP; ERU	Sn	✓	Please Inquire	No	
Angle Sensor		EVW-AE	Ag	✓	Please Inquire	No	
Trimmer Potentiometer		EVM-(2, 3, 1B, A, E), EVN	Sn, Pd	✓	Please Inquire	No	

3.7 PoC – Type 3 (Declaration from Web site and table) – A compliance statement is made through the supplier’s web site and the compliance status is provided in another table in the web site, listing specific part families or part numbers and the RoHS compliance status in a table. GreenSoft will consider this declaration as a Proof of Compliance (PoC) document for RoHS-2. An example from Fastron is shown below.

Fastron

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[Get a Catalogue](#)

Product Range

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RoHS Information

Directive 2003/11/EC amending for the 24th. time Council Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations (pentabromodiphenyl ether, octabromodiphenyl ether).
 Products manufactured and supplied by FASTRON do not contain the below substances respectively/do not contain these substances in concentrations higher than 0.1% by mass and comply with the EU Directive 2003/11/EC of 6 February 2003.

- Pentabromodiphenyl ether
- Octabromodiphenyl ether

Directive 2002/95/EC On The Restriction Of The Use Of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS).
 Products manufactured and supplied by FASTRON comply with EU Directive 2002/95/EC of 27 January 2003.
 Until the limits of the substances covered by this Directive are finally defined, we use the limits indicated below:

Lead:	1000 ppm weight in homogenous materials
Mercury:	1000 ppm weight in homogenous materials
Cadium:	100 ppm weight in homogenous materials
Hexavalent Chromium:	1000 ppm weight in homogenous materials
Polybrominated Biphenyls (PBB):	1000 ppm weight in homogenous materials
Polybrominated Diphenyls Ethers (PBDE):	1000 ppm weight in homogenous materials

Lead-Free and RoHS Information for FASTRON SDN BHD Products :

Product-Family - Series	Lead Free		RoHS Compliant		Resistance to soldering heat				Plating / Metallization of Terminals / Leads
	yes/no	since (date)	yes/no	Since (date)	IEC 60068-2 -20 (Wave Soldering)	IEC 60068 -2-58 (Dip test)	JEDEC 20C (Reflow)	Maximum Solder Temperature	
Chip Inductors for RF Applications (Wire Wound - open)									
- 0402AS									Ceramic: W, Ni, Gold- flash Ferrite: Ag, Ni, Gold- flash
- 0603AS									
- 0603AQ									
- 0603F									
- 0805AS	yes	2000	yes	2000	n/a	yes	yes	280°C, 10sec	
- 0805AQ									
- 0805F									
- 1008AS									
- 1008F									
- 1206AS									
- 1206F									
- 1210AS									
- 1210F									
- 1812AS	yes	2006	yes	2006	n/a	yes	yes	280°C, 10sec	Sn 99,9
- 1812AF									
Chip Inductors for Power Applications (shielded)									
- 1212FPS	yes	Aug 2011 May 2011	yes	Aug 2011 May 2011	n/a	yes	yes	250 +/-10°C, 5sec	Sn 99,9
- 1818FPS		May 2012		May 2012					
- 242408FPS									

3.8 PoC – Type 4 (RoHS status obtained from the material declaration)– sometimes the supplier does not provide RoHS compliance status but provides a material declaration instead. GreenSoft will derive the RoHS compliance status from this material declaration. GreenSoft will consider the declaration as a Proof of Compliance (PoC) document for RoHS-2. An example from Jinpao is shown below.

Material Component Properties

Part #:	K6002047				
Part Description:	LCD BRACKET ASSY				
Volume (mm ³):					
Density (g/cc)					
Density (g/mm ³)					
Weight (g):	4576				
No.	Property	CAS #	Content %	Content (g)	Content (ppm)
1	Carbon, C	7440-44-0	0.02	0.915	200
2	Chromium, Cr	7440-47-3	0	0.000	0
3	Iron, Fe	7439-89-8	99.7942	4566.583	997942
4	Manganese, Mn	7439-96-5	0.16	7.322	1600
5	Phosphorous, P	7723-14-0	0.015	0.686	150
6	Silicon, Si	7440-21-3	0.01	0.458	100
7	Sulphur, S	7704-34-9	0.0008	0.037	8
8	Cobalt, Co	7440-48-4	0	0.000	0
9	Chromium Oxide	1308-38-9	0	0.000	0
10	Silver, Ag	7440-22-4	0	0.000	0
11	Cadmium, Cd	7440-43-9	0	0.000	0
12	Copper, Cu	7440-50-8	0	0.000	0
13	Gold, Ag	7440-57-5	0	0.000	0
14	Lead, Pb	7439-92-1	0	0.000	0
15	Antimony, Sb	7440-36-0	0	0.000	0
16	Bromine	7726-95-6	0	0.000	0
17	Zinc, Zn	7440-02-0	0	0.000	0
18	Aluminum, Al	7429-90-5	0	0.000	0
19	Tin, Sn	7440-31-5	0	0.000	0
20	Nickel, Ni	7440-02-0	0	0.000	0
21	Molybdenum, Mo	7439-98-7	0	0.000	0
22	Nb+Ta	UNKNOWN	0	0.000	0
23	Niobium, Nb (Columbium, Cb)	7440-03-1	0	0.000	0
24	Nitrogen, N	7727-37-9	0	0.000	0
25	Oxygen, O	7782-44-7	0	0.000	0
26	Selenium, Se	7782-49-2	0	0.000	0
27	Tantalum, Ta	7440-25-7	0	0.000	0
28	Titanium, Ti	7440-32-8	0	0.000	0
29	WC	7681-38-1	0	0.000	0
30	Magnesium Mg	7439-95-4	0	0.000	0
Total			100	4576.00	1000000

3.9 PoC – Type 5 (RoHS status obtained from the test report) – Sometimes the supplier does not provide the RoHS compliance status but the RoHS test report instead. GreenSoft will derive the RoHS compliance status from the test report. GreenSoft will deem the test report as a Proof of Compliance (PoC) document for RoHS-2. An example from Both Harvest Tech is shown below.



Number : TwNC00188754

Test Conducted

(1) Test Result Summary 測試結果 :

Testing Item 測試項目	Result 結果 (ppm)
	Transparent Material With Black Coating
Heavy Metal / 重金屬	
Cadmium (Cd) content / 鎘含量	ND
Lead (Pb) content / 鉛含量	ND
Mercury (Hg) content / 汞含量	ND
Chromium VI (Cr ⁶⁺) content / 六價鉻含量	ND
Polybrominated Biphenyls (PBBS) / 多溴聯苯	
Monobrominated Biphenyls (MonoBB) / 單溴聯苯	ND
Dibrominated Biphenyls (DiBB) / 二溴聯苯	ND
Tribrominated Biphenyls (TriBB) / 三溴聯苯	ND
Tetrabrominated Biphenyls (TetraBB) / 四溴聯苯	ND
Pentabrominated Biphenyls (PentaBB) / 五溴聯苯	ND
Hexabrominated Biphenyls (HexaBB) / 六溴聯苯	ND
Heptabrominated Biphenyls (HeptaBB) / 七溴聯苯	ND
Octabrominated Biphenyls (OctaBB) / 八溴聯苯	ND
Nonabrominated Biphenyls (NonaBB) / 九溴聯苯	ND
Decabrominated Biphenyl (DecaBB) / 十溴聯苯	ND
Polybrominated Diphenyl Ethers (PBDEs) / 多溴聯苯醚	
Monobrominated Diphenyl Ethers (MonoBDE) / 單溴聯苯醚	ND
Dibrominated Diphenyl Ethers (DiBDE) / 二溴聯苯醚	ND
Tribrominated Diphenyl Ethers (TriBDE) / 三溴聯苯醚	ND
Tetrabrominated Diphenyl Ethers (TetraBDE) / 四溴聯苯醚	ND
Pentabrominated Diphenyl Ethers (PentaBDE) / 五溴聯苯醚	ND
Hexabrominated Diphenyl Ethers (HexaBDE) / 六溴聯苯醚	ND
Heptabrominated Diphenyl Ethers (HeptaBDE) / 七溴聯苯醚	ND
Octabrominated Diphenyl Ethers (OctaBDE) / 八溴聯苯醚	ND
Nonabrominated Diphenyl Ethers (NonaBDE) / 九溴聯苯醚	ND
Decabrominated Diphenyl Ether (DecaBDE) / 十溴聯苯醚	ND

3.10 PoC – Type 6 (Drawing for Built-to-Spec part)– Sometimes the supplier does not provide a RoHS compliance document on a Built-to-Spec or customized part, but the RoHS status has been specified in the drawing file of a customized part. With the customer’s approval, GreenSoft will deem such drawing file as a Proof of Compliance (PoC) document for RoHS-2.

Summary Table

CoC (Certificate of Compliance) and PoC (Proof of Compliance) Subcategory Types

Subcategory Type	Description	Separate Document?	Logo	RoHS Declaration Statement	Exemption Details	Product ID/ Part Number	Company	Contact Information	Signature
CoC Type 1	Full loaded	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CoC Type 2	W/o signature	Yes	Yes	Yes	Yes	Yes	Yes	Maybe	No
CoC Type 3	W/o signature and w/part families	yes	Yes	Yes	Yes	Part Family	Yes	Maybe	No
CoC Type 4	Standard IPC-1752 declaration in PDF or IPC-1752A declaration in XML	Yes	No	Yes, but maybe older RoHS	Yes	Yes or Part Family	Yes	Yes	Maybe
PoC Type 1	Web site declaration	No	Yes	Yes	Yes	Yes or Part Family	Yes	No	No
PoC Type 2	Declaration from Web site with Excel	No	Yes	Yes	Yes	Yes or Part Family	Yes	No	No
PoC Type 3	Declaration from Web site with table	No	Yes	Yes	Yes	Yes or Part Family	Yes	No	No
PoC Type 4	RoHS status from Material Declaration	Yes	Yes	No	No	Yes	Yes	No	No
PoC Type 5	RoHS status from Test Report	Yes	No	No	No	Yes or Part Family	Yes	No	No
PoC Type 6	Drawing for BTS part	Yes	Yes	No	No	Yes	Yes	No	No

EU RoHS-2 Technical Documents for CE Mark

Conclusion

The key to managing the technical documents for RoHS-2 is in the supplier declaration and/or contract agreement. GreenSoft provides different categories and subcategories to help classify the level of strength for each type of declaration. In GreenSoft's experience, to compile the technical documentation to demonstrate compliance with substance restrictions (RoHS 2) to affix the CE Mark, you would need to have a combination of the supplier declaration such as the CoC document/PoC document, and the material composition declaration data/lab test report.

When there is only one type of supplier declaration document available on certain components and no material composition declaration data or lab test reports are available, GreenSoft will recommend to take all CoC documents (from CoC Type-1 to CoC Type-4) or certain types of PoC documents (PoC Type-4 and PoC Type-5) as the minimum due diligence for preparing the technical documents for EN50581:2012.

Please note that the requirements of EN50581:2012 are not just for preparing the declaration documents and the technical documents file, but also for the due diligence frame work that you need to set up in your company – for example, you need to have a procurement policy in buying only the RoHS compliant parts. You also need to have a risk assessment mechanism in evaluating the high risk suppliers that could only provide a simple RoHS compliant declaration document on their components but fail to provide any evidential proof (such as test report or material composition data) on how they arrive at the conclusion of RoHS compliance for their parts. It is the manufacturer's responsibility to carry out the conformity assessment, to set up the technical document file, to issue the declaration of conformity and to affix the CE Mark.

Note - The IP ownership of each diagram or chart illustrated in this article belongs to the respective manufacturer individually.