



**16L – WLCSP  
(1.45X1.55X0.42mm)  
Pb-Free Package**

**PACKAGE MATERIAL DECLARATION DATASHEET**

<b>Cypress Package Code</b>	FN	<b>Body Size (mm)</b>	1.45X1.55X0.42 MM
<b>Package Weight – Site 1</b>	1.8894 mg		

**SUMMARY**

The 35ball-WLCSP Pb-Free package is compliant to RoHS. Cypress Ordering Part Numbers containing an "X" (e.g. CY8C21434A-24LKXI) meet the Directive 2002/95/EC (RoHS) requirement.

**ASSEMBLY Site 1: Deca Technologies Inc. Philippines (Decatech)  
Package Qualification Report # 152203 (Note 1)**

**I. DECLARATION OF PACKAGED UNITS**

**A. BANNED SUBSTANCES**

Materials from Level A of the EIA/JIG/JGPSSI/EICTA Material Composition Declaration Guide and EU RoHS. Listed in the table below are materials that are neither contained nor intentionally added to this product.

SUBSTANCES / COMPOUNDS	Weight by mg	PPM	Analysis Report (Note 2)
Cadmium and Cadmium Compounds	0	< 5.0	CoA-FN16- Decatech
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	0	< 5.0	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	As per MSDS
Azo colorants	0	0	As per MSDS
Ozone Depleting Substances	0	0	As per MSDS
Polychlorinated Biphenyls (PCBs)	0	0	As per MSDS
Polychlorinated Napthalenes	0	0	As per MSDS
Radioactive Substances	0	0	As per MSDS
Shortchain Chlorinated Paraffins	0	0	As per MSDS
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	As per MSDS
Tributyl Tin Oxide (TBTO)	0	0	As per MSDS
Formaldehyde	0	0	As per MSDS

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

**B. MATERIAL COMPOSITION (Note 3)**

Material	Purpose	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Polybenzoxazole1	Dielectric	Proprietary	Trade Secret	0.0167	100.0000	8848	0.8848
Polybenzoxazole2	Dielectric	Proprietary	Trade Secret	0.0144	100.0000	7630	0.7630
RDL Seed Layer	Seed Layer	Ti	7440-32-6	0.0001	3.9334	39	0.0039
	Seed Layer	W	7440-33-7	0.0007	35.4008	351	0.0351
	Seed Layer	Cu	7440-50-8	0.0011	60.6658	602	0.0602
Copper	Interconnect	Cu	7440-50-8	0.0228	100.0000	12046	1.2046
Under Bump Metallization	Seed Layer	Ti	7440-32-6	0.0001	0.1390	49	0.0049
	Seed Layer	W	7440-33-7	0.0008	1.2509	438	0.0438
	Seed Layer	Cu	7440-50-8	0.0014	2.1437	751	0.0751
	UBM	Cu	7440-50-8	0.0639	96.4664	33805	3.3805
Solder Ball	Interconnect	Sn	7440-31-5	0.1986	95.5000	105130	10.5130
	Interconnect	Ag	7440-22-4	0.0083	4.0000	4403	0.4403
	Interconnect	Cu	7440-50-8	0.0010	0.5000	550	0.0550
Die	Circuit	Si	7440-21-3	1.4768	100.0000	781603	78.1603
Top Surface Laminate	Mark Surface	Proprietary	Trade Secret	0.0827	100.0000	43753	4.3753
<b>Package Weight (mg):</b>				<b>1.8894</b>	<b>% Total:</b>		<b>100.0000</b>

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**II. DECLARATION OF PACKAGING / INDIRECT MATERIALS**

Type	Material	Lead PPM	Cadmium PPM	Cr VI PPM	Mercury PPM	PBB PPM	PBDE PPM	Analysis Report (Note2)
Tape & Reel	Cover tape	< 2.0	< 2.0	< 2.0	< 2.0	-	-	CoA-COVT-R
	Carrier tape	< 2.0	< 2.0	< 2.0	< 2.0	-	-	CoA-CART-R
	Plastic Reel	< 2.0	< 2.0	< 2.0	< 2.0	-	-	CoA-PLRL-R
Others	Shielding bag	< 2.0	< 2.0	< 2.0	< 2.0	-	-	CoA-SBAG-R

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## Document History Page

Document Title: 16L WLCSP (1.45X1.55X0.42 MM) - PB-FREE PACKAGE MATERIAL  
DECLARATION DATASHEET  
Document Number: 001-98657

Rev.	ECN No.	Orig. of Change	Description of Change
**	4838320	JSO	New Release
*A	5390320	HLR	Changed Cypress Logo. Changed the substances with "-----" and Proprietary to "Trade Secret".

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