

COSPHERIC Glass Sphere Qualification Results/Plan



Project Owner: Ariel Villareal/ Enero Policarpio

In-Line Monitors and Screening Test (Reference: MIL-STD-883)

Die Attach Evaluation Material: COSPHERIC Glass Sphere

Package: 8L TO5

Device: LTZ1000ACH

Lot ID: G198566.7 [Assembly Lot]/ [AW65043.1 Test Lot]

Test Description	Sample Size	Results	Remarks
Wire Pull Test	5 units (all wires)	0/50	Pass
Third Optical Inspection	100%	95% (within plan yield / no failure related to package)	Pass
Fine Leak Test	100%	100%	Pass
Gross Leak Test	100%	100%	Pass
Final Visual Inspection	100%	100%	Pass
Electrical Test	100%	0/38	Pass

Reliability Tests (Reference: MIL-STD-883)

Test Description	Test Method	Qty. (Accept #)	Sample size (pcs.)	No. Of Rejects	Remarks
SUBGROUP 1		17 (0)			
Physical Dimensions	2016		17		Result by April 2023
SUBGROUP 2		6 (0)			
Lead Integrity	2004/B2		6		Result by April 2023
Fine Leak Test	1014/A		6		Result by April 2023
Gross Leak Test	1014/C		6		Result by April 2023
SUBGROUP 3		17 (0)			
Test @ +25C			17		Pass
Thermal Shock	1011/B		17		Pass
Temperature Cycle	1010/C		17		Pass
Moisture Resistance	1004		17		Pass
Visual Inspection	1004/1010		17		Pass
Test @ +25C			17		Pass
Test @ -55C			17		Pass
Test @ +125C			17		Pass
Fine Leak Test	1014/A		17		Pass
Gross Leak Test	1014/C		17		Pass

Reliability Tests (Reference: MIL-STD-883)

Test Description	Test Method	Qty. (Accept #)	Sample size	No. Of Rejects	Remarks
SUBGROUP 4		17 (0)			
Test @ +25C			17	0	Pass
Mechanical Shock	2002/B		17	0	Pass
Vibration Variable Frequency	2007/A		17	0	Pass
Constant Acceleration	2001/E		17	0	Pass
Fine Leak Test	1014/A		17	0	Pass
Gross Leak Test	1014/C		17	0	Pass
Visual Exam	2007		17	0	Pass
Test @ +25C			17	0	Pass
Test @ -55C			17	0	Pass
Test @ +125C			17	0	Pass
SUBGROUP 5		17 (0)			
Salt Atmosphere	1009/A		17		Result by April 2023
Visual Exam	1009		17		Result by April 2023
Fine Leak Test	1014/A		17		Result by April 2023
Gross Leak Test	1014/C		17		Result by April 2023
SUBGROUP 6		3 (0)			
Internal Water Vapor Content	1018		3	0	Pass
SUBGROUP 7		17 (0)			
Adhesion of Lead Finish	2025		17 Leads		Result by April 2023

COSPHERIC GLASS SPHERE TECHNICAL DATA

A. Villareal

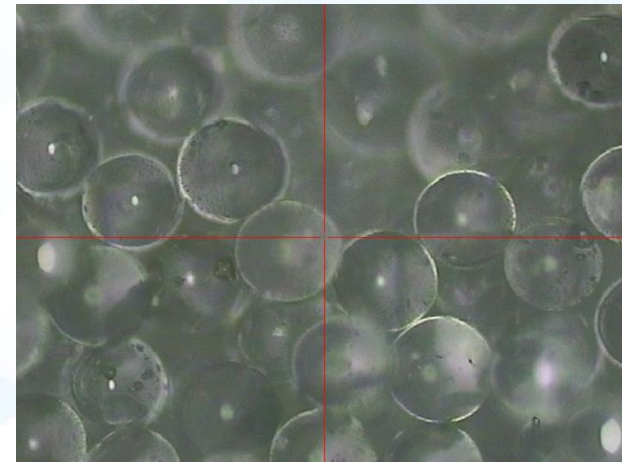
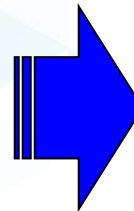


MATERIAL PROPERTIES:

Typical Properties	COSPHERIC
Hazard Classification	Not Classified as hazardous material
Composition/ Information on ingredients	Glass Oxide Microsphere > 99.9%
OSHA Permissible Exposure Limit [PEL] <ul style="list-style-type: none">• Respirable Fraction• Total Dust	5 mg/m ³ 15 mg/m ³
Physical and Chemical Properties <ul style="list-style-type: none">• Relative Density	Per Product Specification (2.5g/cc)
Glass Sphere Size	90 – 106 microns



Cospheric Glass Sphere Packaging: 10g/ Glass Tube



Cospheric Glass Sphere Actual Appearance [100x Magnification]



Product/Process Change Notice - PCN 23_0011 Rev. -

Analog Devices, Inc. One Analog Way, Wilmington, MA 01887, USA

This notice is to inform you of a change that will be made to certain ADI products (see Appendix A) that you may have purchased in the last 2 years. **Any inquiries or requests with this PCN (additional data or samples) must be sent to ADI within 30 days of publication date.** ADI contact information is listed below.

PCN Title:	COSPHERIC Glass Sphere Qualification [Die Attach Mixture Material]
Publication Date:	11-Apr-2023
Effectivity Date:	14-Jul-2023 <i>(the earliest date that a customer could expect to receive changed material)</i>
Revision Description:	Initial Release.

Description Of Change:

From: Z-LIGHT Glass Sphere
To: COSPHERIC Glass Sphere

Reason For Change:

Current Glass Sphere supplier has informed ADI that they will no longer provide this material. ADI is qualifying a replacement Glass Sphere material supplier, COSPHERIC to be used at LTZ1000 Manual Die Attach process.

Impact of the change (positive or negative) on fit, form, function & reliability:

No impact on the form, fit, function or reliability of the affected products.

Product Identification *(this section will describe how to identify the changed material)*

To follow upon actual availability of 1st lot usage of new glass sphere [Cospheric] May 2023.

Summary of Supporting Information:

Qualification will be performed per Industry Standard Test Methods. See attached Qualification Plan.

Supporting Documents

Attachment 1: Type: Qualification Plan

[ADI_PCN_23_0011_Rev_-_COSPHERIC_Glass_Sphere_Qualification.pdf...](#)

Attachment 2: Type: Detailed Change Description

[ADI_PCN_23_0011_Rev_-_Cospheric_Glass_Sphere_Technical_Data.pdf...](#)

Note: If applicable, the device material declaration will be updated due to material change.

ADI Contact Information:

For questions on this PCN, please send an email to the regional contacts below or contact your local ADI sales representatives.

Americas:	Europe:	Japan:	Rest of Asia:
PCN_Americas@analog.com	PCN_Europe@analog.com	PCN_Japan@analog.com	PCN_ROA@analog.com

Appendix A - Affected ADI Models:

Added Parts On This Revision - Product Family / Model Number (1)

LTZ1000 / LTZ1000ACH

Appendix B - Revision History:

Rev	Publish Date	Effectivity Date	Rev Description
Rev. -	11-Apr-2023	14-Jul-2023	Initial Release.