AN10376

Mounting and soldering recommendations for CATV modules

Rev. 04 — 29 June 2009 | Application note

Document information

Info	Content
Keywords	CATV, mounting, soldering, SOT115
Abstract	Mounting recommendations for CATV hybrid modules

founded by Philips

Revision history

Rev	Date	Description
04	20090629	Maximum forces corrected
03	20090615	Changed to NXP format. Handling recommendations added, updated soldering recommendations
02	20051025	Document updated and included soldering recommendations for Sn-plated leads products
01	20050421	Document formant changed from DB1.5 to TDM format

Contact information

For additional information, please visit: http://www.nxp.com

For sales office addresses, please send an email to: salesaddresses@nxp.com

© NXP B.V. 2009. All rights reserved.

1. Mounting Recommendations

The heatsink mounting surface must be flat, free of burrs and oxidation and parallel to the mounting surface.

The heatsink, mounting base and ground leads should be properly RF-grounded.

Heatsink compound should be applied sparingly and evenly on the mounting base.

When mounting CATV hybrid modules, the UNC screws must first be turned finger- tight. The screws should then be tightened to within the tolerance of 0.5 N-m minimum and 0.7 N-m maximum.

1.1 Laminate based CATV modules: situations to avoid

Although the laminate based CATV modules are designed to withstand normal handling and user conditions, some situations exist where high mechanical stresses can be applied to the substrate and should therefore be avoided:

1. Pushing or pulling on the cap with more than 46 N,
2. Pulling or pushing the leads with more than 30 N per lead or 46 N in total,
3. Fixing (soldering) the leads first and after that align and screw down the module,
4. Dropping the module

1.2 How to identify laminate based CATV modules

Laminate based CATV modules can be identified by looking at the exposed substrate at the bottom of the module. The material between the gold metal pads is colored black, while the ceramic based modules are white with silver metal pads.

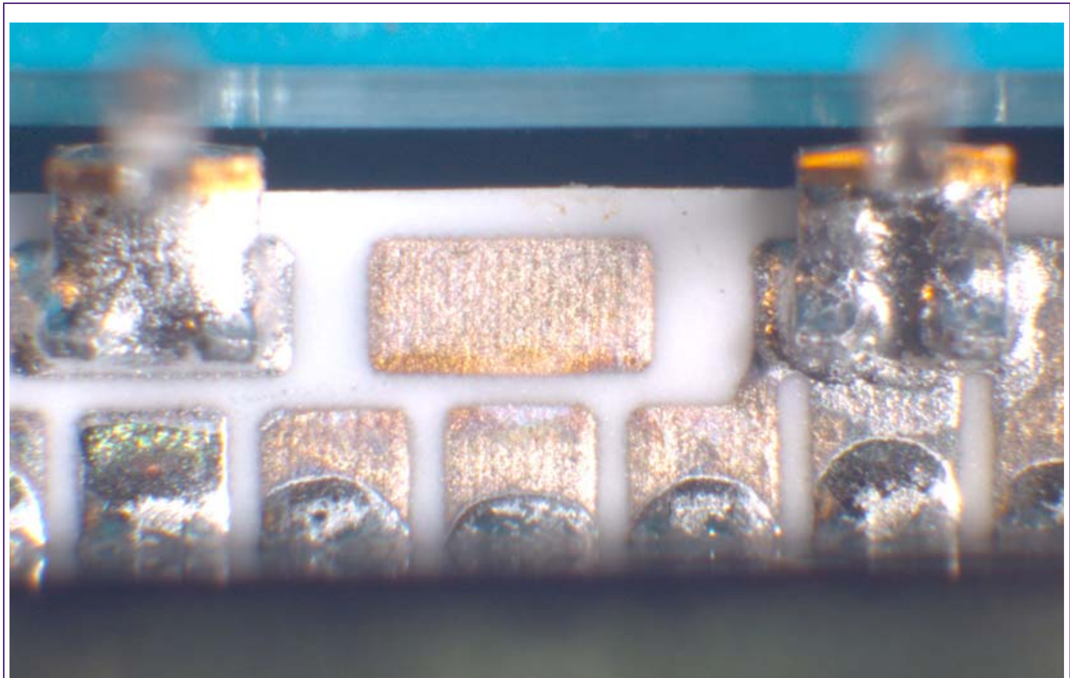

Fig 1. Ceramic based module with silver metal pads and white substrate material.

© NXP B.V. 2009. All rights reserved.

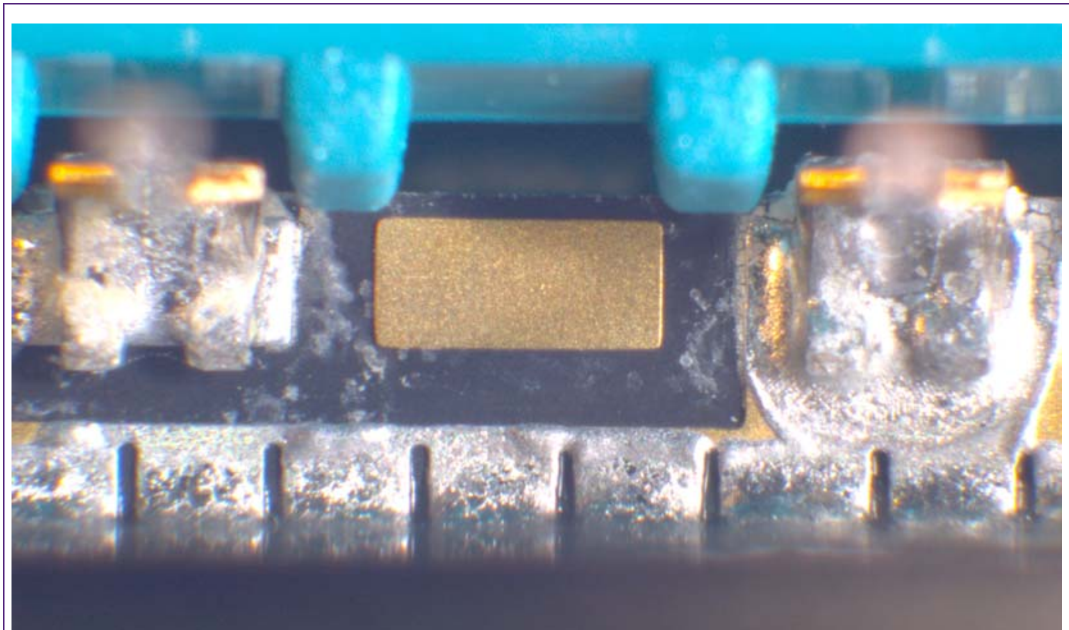

Fig 2. Substrate based module with gold metal pads and black substrate material.

2. Soldering Recommendations

Leads may be plugged-in onto the corresponding sockets or soldered directly into the circuit for robustness and for better RF-connection. The latter is specifically recommended for products that use Sn-plated leads. Soldering may be done using soldering iron with a maximum temperature of 260 ºC for not more than 3 seconds with a minimum lead length between the closest solder joints and the module of 3 mm.

© NXP B.V. 2009. All rights reserved.

3. Legal information

3.1 Definitions

Draft — The document is a draft version only. The content is still under internal review and subject to formal approval, which may result in modifications or additions. NXP Semiconductors does not give any representations or warranties as to the accuracy or completeness of information included herein and shall have no liability for the consequences of use of such information.

3.2 Disclaimers

General — Information in this document is believed to be accurate and reliable. However, NXP Semiconductors does not give any representations or warranties, expressed or implied, as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information.

Right to make changes — NXP Semiconductors reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.

Suitability for use — NXP Semiconductors products are not designed, authorized or warranted to be suitable for use in medical, military, aircraft, space or life support equipment, nor in applications where failure or malfunction of a NXP Semiconductors product can reasonably be expected to result in personal injury, death or severe property or environmental damage. NXP Semiconductors accepts no liability for inclusion and/or use of NXP Semiconductors products in such equipment or applications and therefore such inclusion and/or use is for the customer's own risk.

Applications — Applications that are described herein for any of these products are for illustrative purposes only. NXP Semiconductors makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

Export control — This document as well as the item(s) described herein may be subject to export control regulations. Export might require a prior authorization from national authorities.

© NXP B.V. 2009. All rights reserved.

4. Contents

1. Mounting Recommendations 3
1.1 Laminate based CATV modules: situations to avoid 3
1.2 How to identify laminate based CATV modules.....3
2. Soldering Recommendations.............................4
3. Legal information 5
3.1 Definitions..5
3.2 Disclaimers..5
4. Contents...6

Please be aware that important notices concerning this document and the product(s) described herein, have been included in the section 'Legal information'.

© NXP B.V. 2009. All rights reserved.

For more information, please visit: http://www.nxp.com
For sales office addresses, email to: salesaddresses@nxp.com

Date of release: 29 June 2009
Document identifier: AN10376_4