

# DOCUMENTATION

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## VarioGrid®

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**LTC**®

System for assembly support

# DOCUMENTATION

## VarioGrid®



Relax, take it easy – your assemblies are in good hands with VarioGrid®

The quality of paste volume consistency and repeatability are important requirements within the printing process of electronic manufacturing. Various methods of assembly supports are used to prevent bowing or bending during the printing process. Increasing miniaturization and density of components make it even more difficult to find suitable locations for manual placement of conventional support tools.



VarioGrid® Unterstützungssystem

[www.LTC.de](http://www.LTC.de)



The implementation of the innovative VarioGrid® assembly support system eliminates programming time from individual tooling set-up in printing and placement applications and therefore minimizes common machine down time. The VarioGrid® support system will also eliminate rework due to misplacement of conventional support tools. This results in increased quality as well as throughput and productivity, thus leading to higher cost efficiency for each SMT production line.

Modul range >

VG

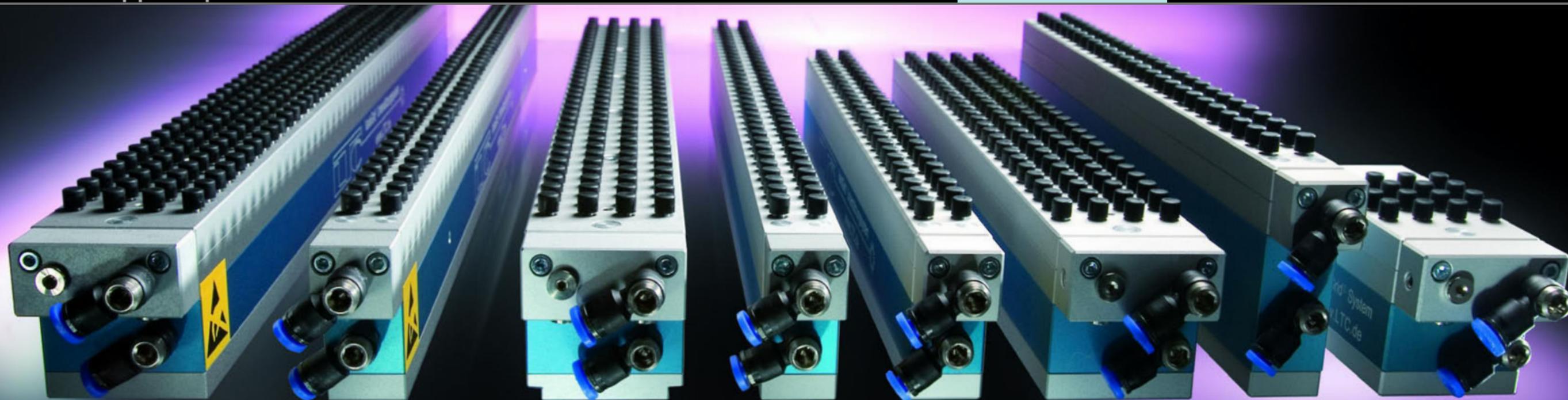
> Never move  
another support pin.

LTC<sup>®</sup>

VarioGrid<sup>®</sup>

developed  
and  
produced by  
BF  
TECH

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Bring your SMT production line up to record levels with the VarioGrid<sup>®</sup> assembly support system. This innovative and patented system features unique modular grids of air suspension support pins with ESD-safe pin tops which automatically conform to the underside of each electronic assembly. We offer seven different module sizes with fully automatic activation to support even the most sophisticated electronic assemblies. All available system modules feature a support pin pitch of 11mm, the highest density worldwide.

**Much better and even support of all assemblies**  
**Flexible and modular system**

>



Integration into pick and place systems.  
Your production yield will set new standards  
with shortest line changeover.

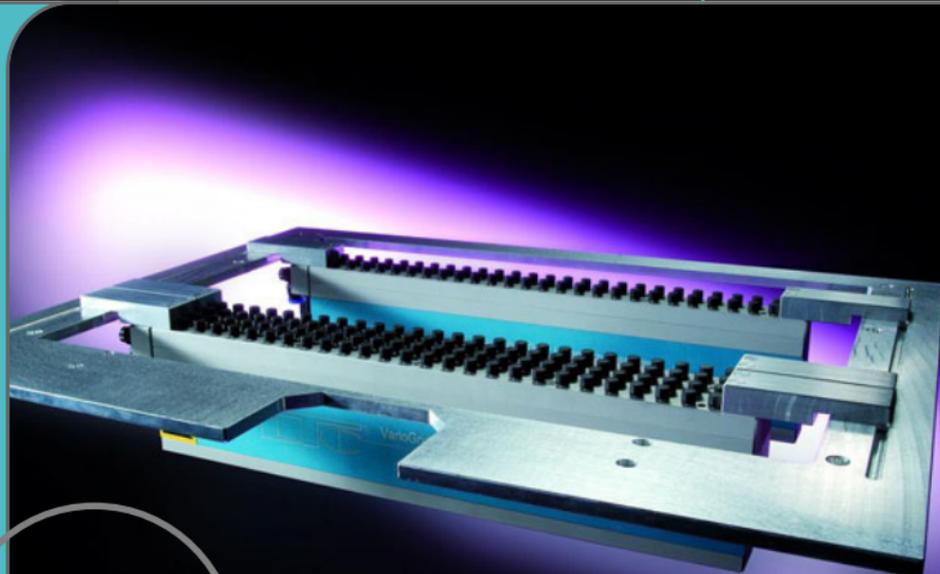
Adapter frame



VarioGrid® blackline

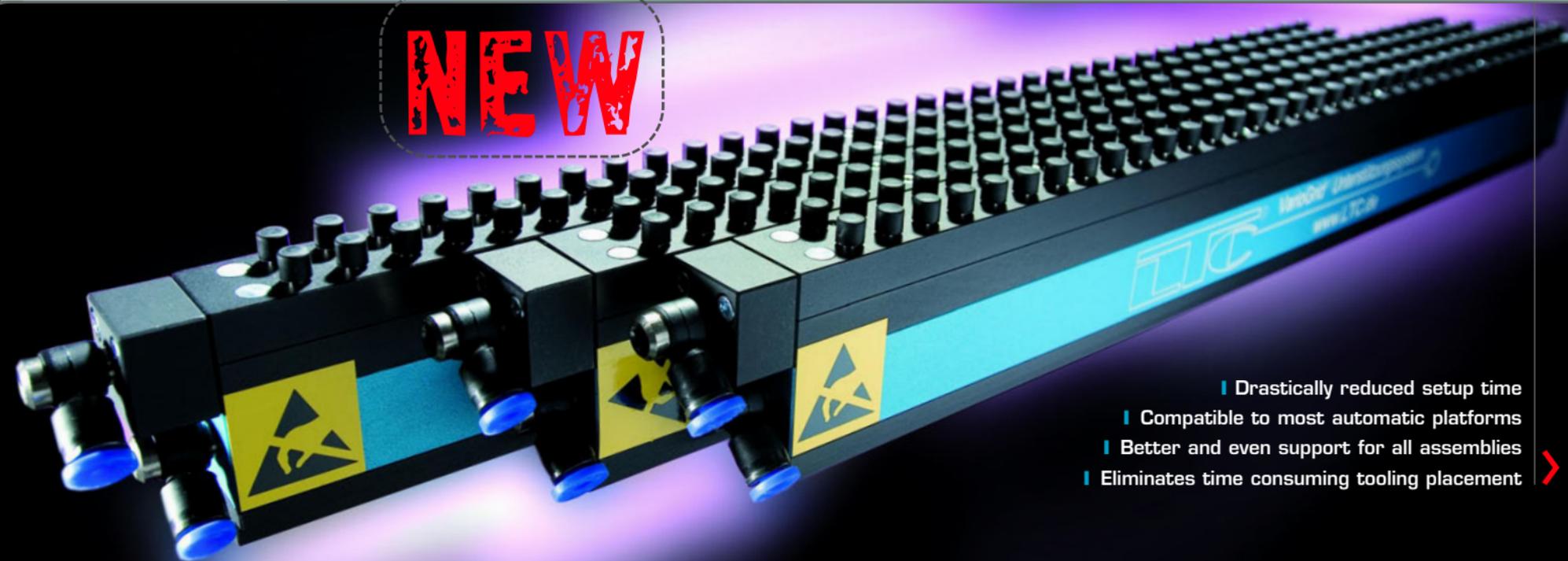
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The VarioGrid® assembly support system is not limited to be used only in automatic screen print systems, but also suitable for placement systems and other applications. Increasing miniaturization and density of components on both sides of electronic assemblies require the use of accurate, high speed and very flexible pick and place systems. For this process it is also absolutely necessary to provide good support to prevent vibrations which could result in lost or misplaced components thus leading to more cost due to rework and/or other quality issues. We have already implemented the VarioGrid® assembly support system into SiPlace, Dima, Assembleon, Europlacer and Universal systems.



VG

NEW

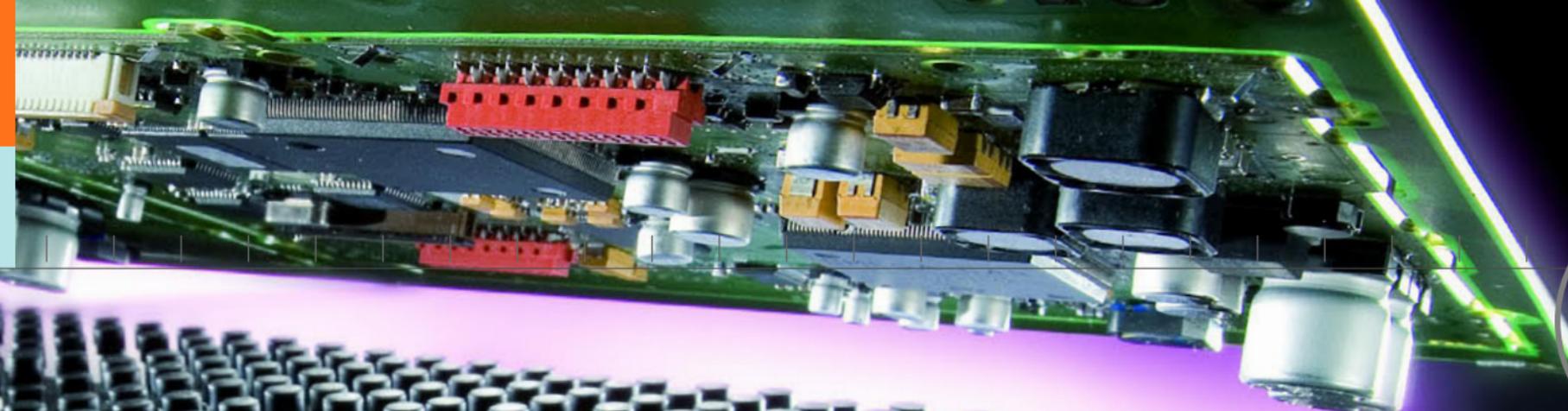


- | Drastically reduced setup time
- | Compatible to most automatic platforms
- | Better and even support for all assemblies
- | Eliminates time consuming tooling placement



# VarioGrid®

# DOCUMENTATION



> Our standard: record levels.

The innovative VarioGrid® assembly support system offers sensational support for electronic assemblies during the first and therefore most critical processes in SMT production lines. The patented system features unique modular grids of air suspension support pins with ESD-safe pin tops. They produce unsurpassed while gentle support of the entire PCB assembly and therefore results in higher quality and yield. VarioGrid® will minimize costly machine down time and increases throughput and productivity which leads to higher cost efficiency.



The installation and operation of the VarioGrid® system is as easy as 1-2-3. Just position the VarioGrid® system modules within the working area, place the control unit near the interface of the system and connect the pneumatic tubing according to the installation instructions.

VG

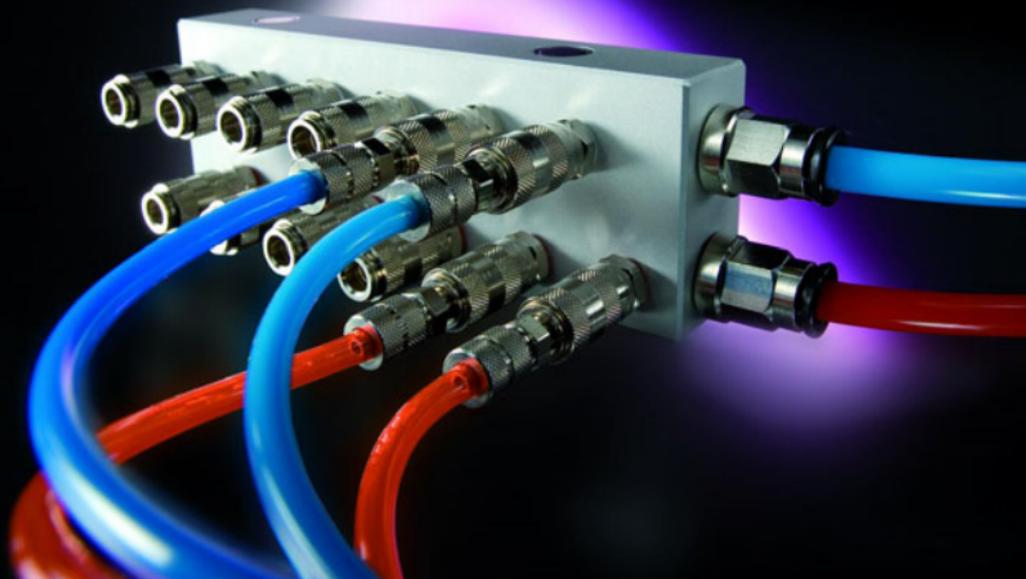
LTC®

VarioGrid® Accessories

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Control unit

Multiple distributor



Simple and easy to use system.  
Maintenance free operation.  
Fast return of investment.

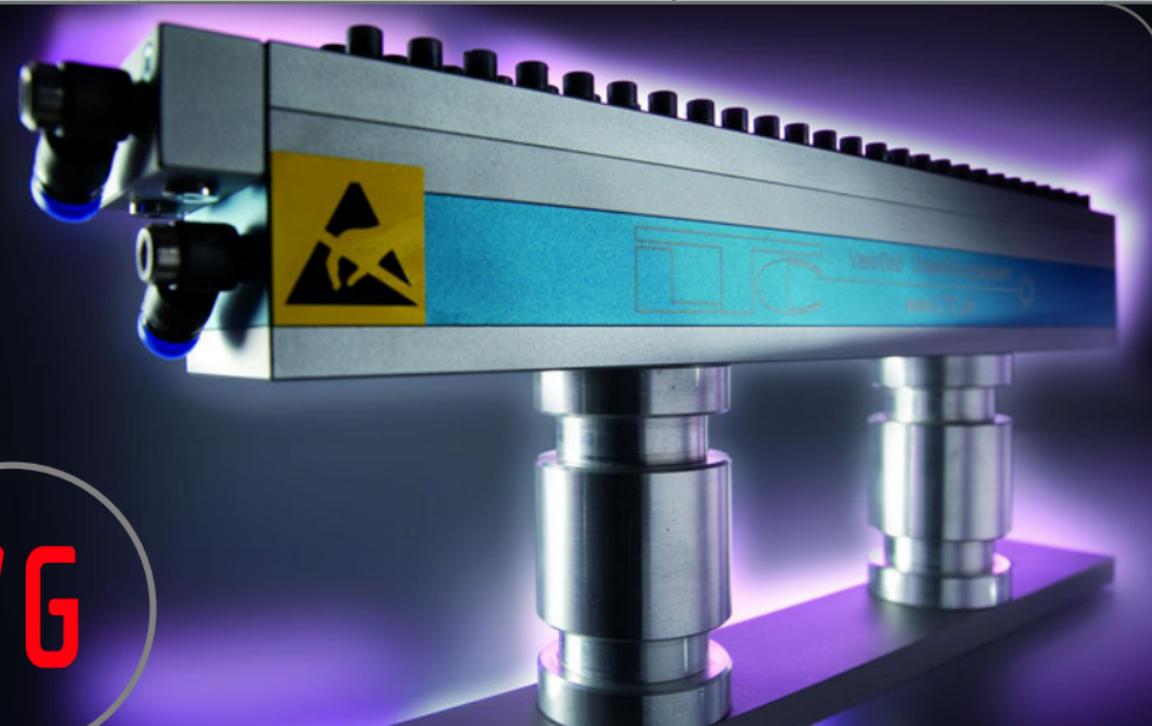
With the VarioGrid® system only minimal operator training is required. After the board has been locked in place, the operator simply enables the pin lift and then the pin clamp and the system is ready for production. With this the set up is completed and needs to be repeated once another product changeover takes place. Or use the optional automatic mode and the VarioGrid® system sets and resets for each individual assembly which is handled by the transport unit. The technical realization of this system complies with the valid ESD standards DIN IEC 61340-5-1 and DIN IEC 61340-5-2 (previously DIN EN 100015).



# VarioGrid<sup>®</sup> Accessories



|| Precision build-up



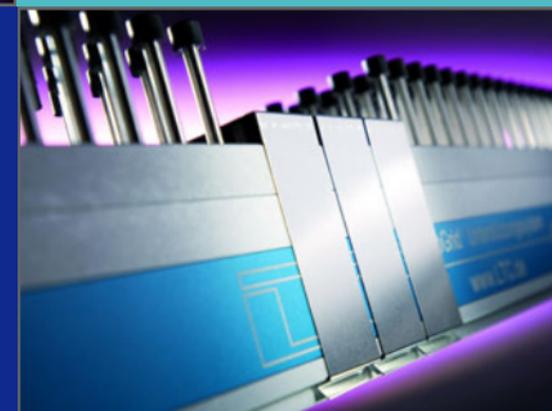
Always on top of things. We offer a large variety of precision build-up to implement the VarioGrid<sup>®</sup> assembly support system into all different automatic platforms, i.e. screen printers, pick & place- and dispense systems.

> Download technical data [www.ltc.de](http://www.ltc.de)

## Simple and intelligent solutions.

You have pin-in-paste applications:  
use this tool to partly cover the support area during the printing or pick and place process.

### Pin-cover



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## Overview product range

> Our innovation potential has no limits.



Continuous and intense developments and improvements of the LTC product range illustrates our competence as a service provider and demonstrates our ability as a partner to the industry. LTC sets industrial trends with their powerful product range covering stencils, QUATTRO-FLEX® self tensioning frames, VarioGrid® assembly support systems and last but not least stencil archiving systems. We invite you to test our quality products and our outstanding customer services.



SMT

SMT Stencils



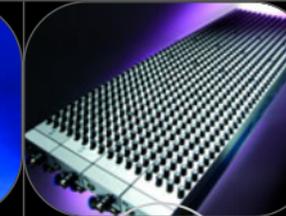
LTCC+W

LTCC und Waferstencils



QFP

Quattro-Flex Self tensioning frames



VG

VarioGrid System for assembly support



AS

Archiving systems Accessories

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# DOCUMENTATION 1

VG

VarioGrid®  
System for assembly support



SMT

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QFP

AS



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