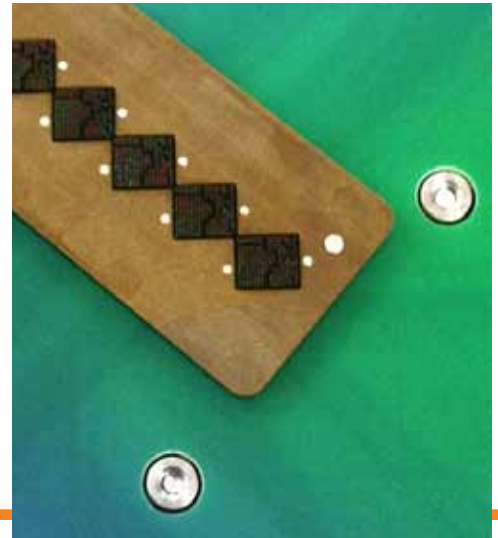


ViperSeries

High-performance
WLCSP probe card



DATA SHEET

Recent advancements in high-performance wireless devices, such as Bluetooth, GPS, digital TV and wireless LAN, require Wafer-Level Chip-Scale Package (WLCSP) probe technology to fulfill the demanding test requirements. The Viper™ Series probe cards achieve full-functional performance test at the wafer sort level and provide multi-DUT test capability with high parallel test efficiency, which drives down the overall test cost and accelerates time-to-market.

FEATURES / BENEFITS

Patented WLCSP-probing technology	Unlike traditional spring pins, Viper probe contacts are prevented from rotating during compression, effectively eliminating PCB wear and ensuring contact consistency on solder balls.
Field-replaceable contacts and contact engines	Per-DUT contact engines and individual contacts can be easily replaced in the field - neither require housing disassembly.
One-piece contact engine housing	Provides rigid, mechanically robust housing assembly.
Near-device decoupling	Small housing footprints with larger clearance under the frame allow for close-in placement of decoupling or other components.
Laminated housing technology	Laser-cut features ensure higher contact tip positional accuracy and orientation to DUT, providing reliable electrical contact. Laminated housing technology achieves tighter-tolerance retention of the contacts during compression preventing unwanted out-of-plane deflections.
Superior electrical performance	A short signal path achieves low inductance and low insertion loss, providing a nearly invisible electrical connection.
Stable power supplies	Bypass capacitors physically close to DUT ensure ripple-free DUT power supplies.
Mechanical robustness	Housing ensures less deflection under PCB pre-load and more stable force delivered to all DUT balls over the DUT and probe face providing consistent contact resistance over the probe lifetime.
Versatile and cost-effective	Lower maintenance overhead with less cleaning and fast contact engine and contact replacement reduce the cost of ownership. No-rotation contact tips ensure consistent probe-to-pad alignment.
Global support and service	Cascade Microtech's highly-skilled service engineers provide prompt and excellent technical support.

MECHANICAL REQUIREMENTS

	WLP40
Minimum pitch	400 µm
Pad and bump materials	All types of solder balls
Contact free height	3.47 mm
Probe Card (PCB) pre-load	220 µm
DUT (Wafer) over-travel	300 µm
Contact Length at recommended over-travel	2.95 mm
Force per Contact at recommended travel	19 gf
Operating temperature range	-55 C to 150 C
Material: contacts	BeCu, NiAu Plated
Material: spring	Steel, Au Plated
Recommended cleaning media	MIPOX SWE

ELECTRICAL REQUIREMENTS

	WLP40
Measured signal/ground configuration	G-S
Current carrying capacity	2A (20 C thermal rise)
Resistance of contact	< 50 mΩ
Time delay through contact	14.8 ps
Insertion loss	-1 dB @ 27 GHz -3 dB @ 38 GHz
Return loss	Better than 10 dB From DC to 29 GHz
Loop inductance	1.1 nH
Shunt capacitance (signal to ground)	0.240 pF

© Copyright 2011 Cascade Microtech, Inc.
All rights reserved. Cascade Microtech, Infinity Probe and IZI Probe are registered trademarks, and LRM+, LRRM, Nucleus, ProberBench and WinCal XE are trademarks of Cascade Microtech, Inc. All other trademarks are the property of their own respective owners.

Data subject to change without notice

**Cascade Microtech, Inc.
Corporate Headquarters**
toll free: +1-800-550-3279
phone: +1-503-601-1000
email: cmi_sales@cmicro.com

Germany
phone: +49-811-60005-0
email: cmg_sales@cmicro.com

Japan
phone: +81-3-5615-5150
email: cmj_sales@cmicro.com

China
phone: +86-21-3330-3188
email: cmc_sales@cmicro.com

Singapore
phone: +65-6873-7482
email: cms_sales@cmicro.com

Taiwan
phone: +886-3-5722810
email: cmt_sales@cmicro.com

VIPER-DS-0911