



Durable multicontact wafer probe with Eye-Pass™ controlled impedance power bypass technology

The multicontact Eye-Pass probe is designed to provide a multitude of simultaneous connections to a wafer or other similar device. The connections may be ground, logic, power supply, ac signal, or power sense path. For the power supply connections, Eye-Pass high performance power bypassing technology provides low-impedance and resonance-free power connections over an extremely wide frequency range.

CASCADE® MICROTECH

Innovating Test Technologies

Description

The multicontact Eye-Pass probe provides controlled impedance power connections enabling functional test of even the most challenging circuits on-wafer. The high-durability composite multi-finger tip provides high compliance and ensures precise alignment.

This custom probe allows the user to select the footprint pattern best suited for the application, with up to 12 contacts per probe head Available contact types are ground, logic, standard and Eye-Pass power supply, power supply sense, and ac signal. The probe design is customized for the particular customer application.

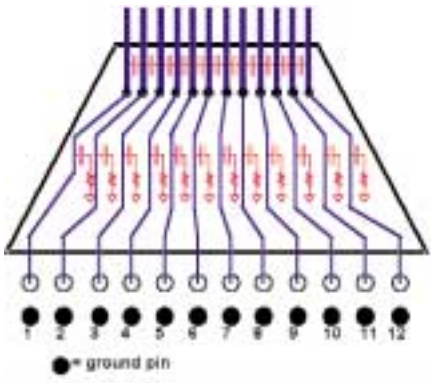
Ruggedly mounted power bypass components are provided for each contacting finger ensuring lowest high frequency inductance by minimizing the distance from the probe tip to the first capacitor.

Features

- High performance power bypassing provides low-impedance and resonant-free connections to 20 GHz
- Long probe life: >250,000 contacts
- Flexible configuration; can mix ground, logic, power supply, ac signal, or power supply sense
- Up to 12 contacts per probe head
- Beryllium-copper tips for gold pads or tungsten for aluminum pads

Benefits

- Allows on-wafer evaluation of high-performance digital circuits
- Oscillation-free testing of wide-bandwidth analog circuits
- Use with ACP-series probes to provide functional at-speed testing for known-good-die
- Long life for production testing
- Fully compatible with your existing Cascade Microtech probes and probe stations

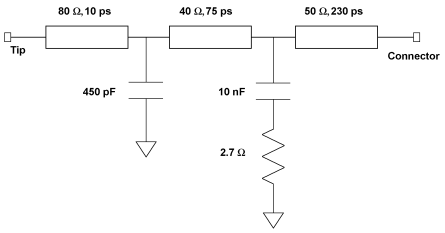


Top view of Eye-Pass Probe with all 12 contacts

Preliminary Specifications

Mechanical

Number of contacts: 2 to 12
Available pitch: 100, 125, 150, 200, or 250 µm, uniform spacing only. Missing contacts allowed but count toward maximum.
Tip material: Beryllium copper (BeCu) or tungsten (W)
Single contact max. total positional error: ~15 µm radius
Contact area: nom. 50 µm square
Operating temperature: -55 to 150°C
Elec/mech spec temperature range: -30 to +100°C
Contact life (Au pads): >500k cycles
Adjacent probe compatibility: able to probe next pad in evenly spaced set
Station compatibility: all Summit and PS21 stations, including MicroChambers, and autoprober top-plates



Nominal Eye-Pass Power contact circuit model

Electrical

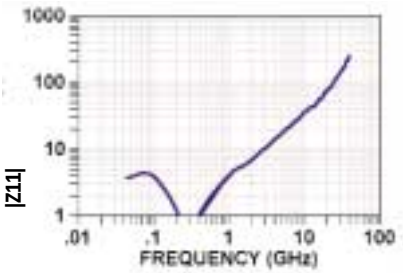
Max current: 1 A
Max voltage: 25 V
Series resistance (not including $R_{contact}$): <1 Ω
Connector: 2 x 12 square pin header (ground row furthest from tip) Direct mapping of connector pins to contacts (no custom routing)

Contact types

Logic/signal
Bandwidth: ~500 MHz
Rise-time: ~ 500 ps
May be used for dc control
Standard power
10k pF in series with 2.7 Ω nom.
Sense (not a contact type)
On-probe connection to Eye-Pass or standard power lead
Displaces one connector pin per sense lead
Series R to contact: <200 mΩ
Eye-Pass power
Additional 450 pF board edge capacitance to adjacent contact.
Nominal high frequency inductance: <0.5 nH
Resonant free bandwidth (probe only): >20 GHz
Total capacitance: 10 nF minimum

Ordering Information

See *Eye-Pass Probe Design Capture* sheet for details



Eye-Pass power contact tip input impedance

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