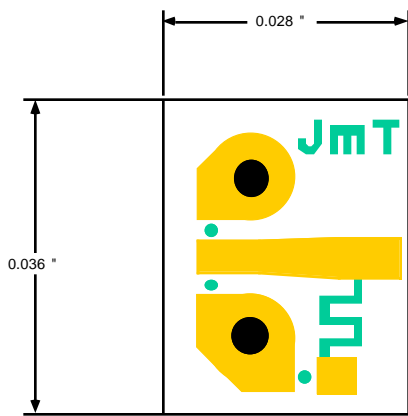


ProbePoint™ 0501 Test Interface Circuit - Coplanar to Microstrip with Kelvin (20X)



Test adapter and interface substrate for microstrip type active and passive components. Useful as a contact for test of devices which have a nominal “back-side ground.” Can also be used as a high impedance test point inserted into the signal path of active components.

Zo 50Ω
 Kelvin Point 950Ω nominal
 20X sample point

Metalization
 Front/Back Au
 Size 5 X 28 X 36 mils

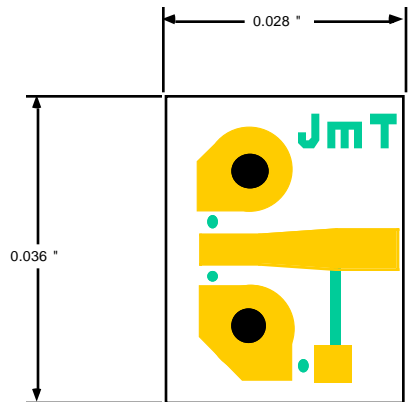
Features

- Compatible to coplanar probes 125μ to 250μ pitch
- Insertible circuit test point
- Kelvin test point
- 20X high speed test point
- Controlled impedance transition
- High quality backside vias

Benefits

- High precision
- High repeatability
- High accuracy measurements
- Calibration structures available
- Low cost test tooling

ProbePoint™ 0502 Test Interface Circuit - Coplanar to Microstrip with Kelvin (10X)



Test adapter and interface substrate for microstrip type active and passive components. Useful as a contact for test of devices which have a nominal “back-side ground.” Can also be used as a high impedance test point inserted into the signal path of active components.

Zo 50Ω
 Kelvin Point 450Ω nominal
 10X sample point

Metalization
 Front/Back Au
 Size 5 X 28 X 36 mils

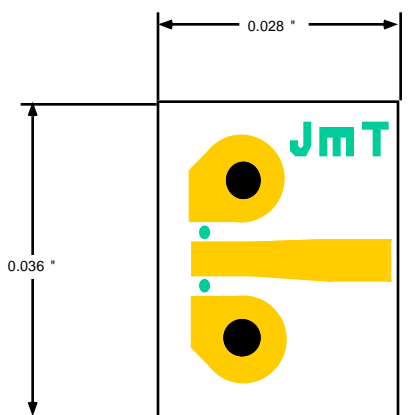
Features

- Compatible to coplanar probes 125μ to 250μ pitch
- Insertible circuit test point
- Kelvin test point
- 10X high speed test point
- Controlled impedance transition
- High quality backside vias

Benefits

- High precision
- High repeatability
- High accuracy measurements
- Calibration structures available
- Low cost test tooling

ProbePoint™ 0503 Test Interface Circuit - Coplanar to Microstrip



Test adapter and interface substrate for microstrip type active and passive components. Useful as a contact for test of devices which have a nominal “back-side ground.” Can also be used as a 50Ω transmission line inserted into the signal path of active components.

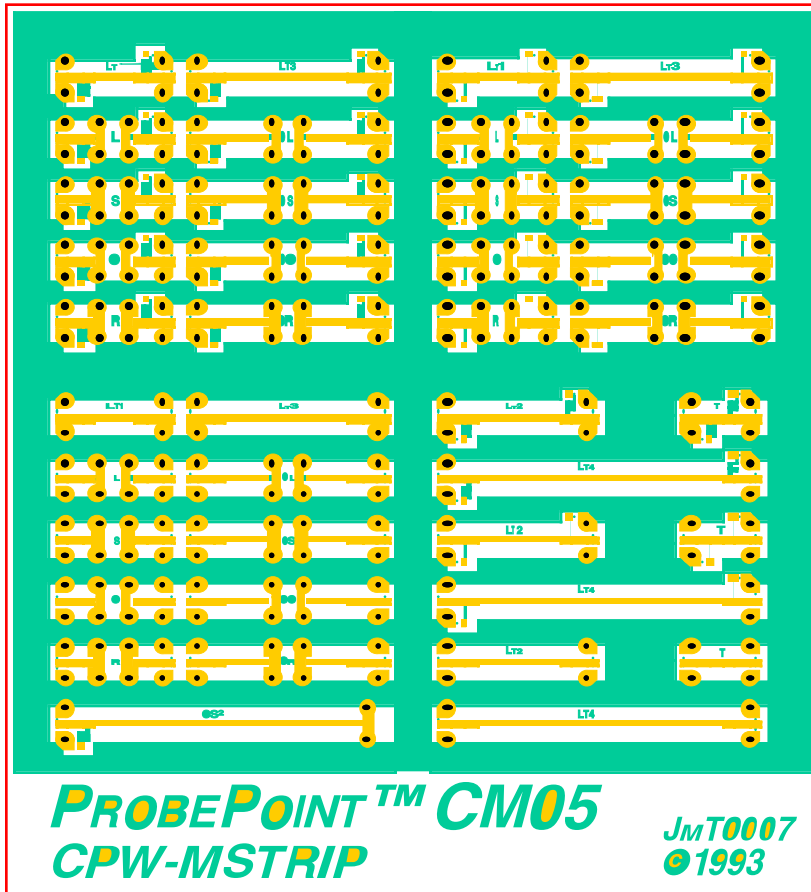
Zo 50Ω
 Metalization
 Front/Back Au
 Size 5 X 28 X 36 mils

Features

- Compatible to coplanar probes 125μ to 250μ pitch
- Controlled impedance transition
- High quality backside vias

Benefits

- High precision
- High repeatability
- High accuracy measurements
- Calibration structures available
- Low cost test tooling



This substrate contains calibration structures to be used in the establishment of measurement corrections terms for measurements using network and time domain analysis. A variety of microwave structures which support the popular calibration methods are available for all the ProbePoint™ 05 Test Interface Circuits. This allows direct calibration to the microstrip bond pad side of the ProbePoint™ Test Interface Structures.

Z₀ 50Ω nominal

Metalization

Front/Back Au

Resistors TaN

Size 15 X 525 X 480 mils

Features

- Compatible to coplanar probes
125μ to 250μ pitch
- Flexible to various calibration methods:

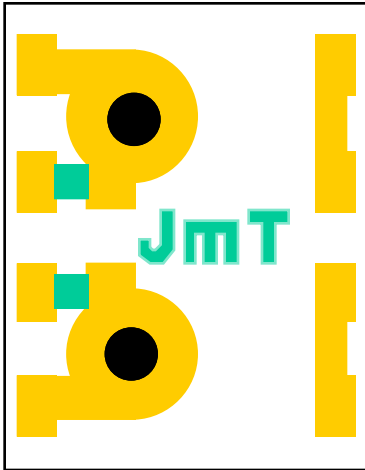
- SOLT
- LRM
- LRL
- TRL

- Laser trimmed resistors - ±1%
- Controlled impedance transition
- High quality backside vias

Benefits

- Direct Calibration
- High repeatability
- High accuracy calibration
- Low cost
- User flexibility

ProbePoint™ 0504 Test Load Circuit



Test load circuit for characterization of packages and interconnection structures. Useful as a “standard” electrical load element mounted at the nominal bond pad region of a package. Electrical elements are in pairs to allow adjacent lead test measurements for modeling cross coupling.

Load Resistor 50Ω nominal

Metalization

Front/Back Au

Resistor TaN
(thermally trimmed)

Size 5 X 28 X 36 mils

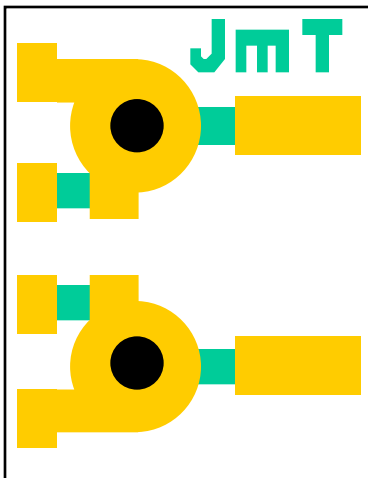
Features

- Compatible with the majority of semiconductor device packages.
- Three pairs of Standards
 - 2 ea 50 Ω “loads”
 - 2 ea “shorts”
 - 2 ea “thru lines”
- Wire bondable Au contacts
- Eutectic or epoxy die attach
- High quality backside vias

Benefits

- High precision and repeatability
- Highly flexible test tooling
- Low cost test tooling

ProbePoint™ 0505 Test Load Circuit



Test load circuit for characterization of packages and interconnection structures. Useful as a “standard” electrical load element mounted at the nominal bond pad region of a package. Electrical elements are in pairs to allow adjacent lead test measurements for modeling cross coupling.

Load Resistor 50Ω nominal

Metalization

Front/Back Au

Resistor TaN
(thermally trimmed)

Size 5 X 28 X 36 mils

Features

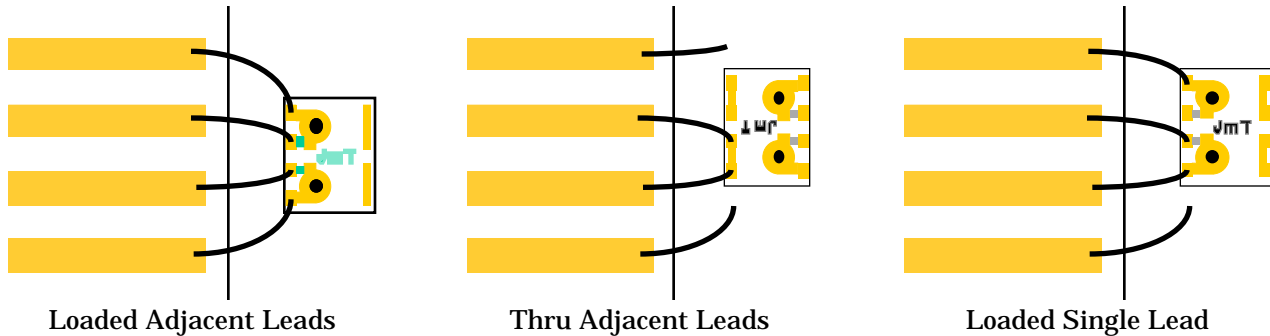
- Compatible with the majority of semiconductor device packages.
- Three pairs of Standards
 - 2 ea 50 Ω “loads”
 - 2 ea “shorts”
 - 2 ea offset 50 Ω “loads”
- Wire bondable Au contacts
- Eutectic or epoxy die attach
- High quality backside vias

Benefits

- High precision and repeatability
- Highly flexible test tooling
- Low cost test tooling

Typical Application of ProbePoint™0504 and ProbePoint™0505

The ProbePoint™0504 and 0505 test loads are general purpose tooling fixture accessories for use with package characterization. Package characterization requires making precision electrical measurements of the desired signal leads under various 'load' conditions. The diagrams below are some of the many options available, using the test load, to 'load' the leads with a specific impedance. The test configuration selected is dependent on the specific self or mutual electrical element to be studied. Mutual parameters are usually best measured using adjacent leads with thru connections, shorts, opens and resistors. Self inductance and capacitance can be determined from single leads, loaded in shorts, opens, or resistors. For all measurement cases it is important that the test load chip offers the test engineer a consistent physical reference point and consistent current return paths. The ProbePoint™0504 and 0505 offer this flexibility in test tooling.



For microstrip packages, other ProbePoint™ adapter substrates may be used as test points for test probes on the input signal leads, calibrated to the measurement system. Non-microstrip packages may require other methods and fixtures for attaching test probes to the desired signal leads.