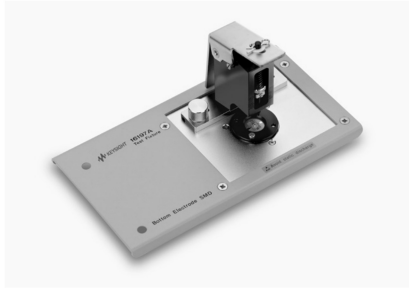


Up to 3 GHz (7 mm): SMD *continued*

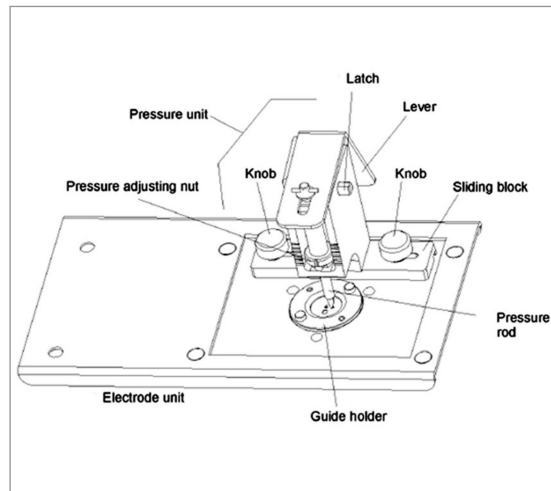
16197A Bottom electrode SMD test fixture



Terminal connector: 7 mm
 DUT connection: 2-Terminal
 Electrical length: 14 mm
 Dimensions (approx.):
 160 (W) x 70 (H) x 86 (D) [mm]
 Weight (approx.): 300 g
 Additional error:

Type of error	Impedance
Proportional error	$1.0 \times f^2$ [%]
Open repeatability	$5 + 40 \times f$ [μ S]
Short repeatability	$30 + 125 \times f$ [m Ω]

f: frequency [GHz]



Test fixture overview

Description: This test fixture is designed for impedance evaluations of bottom electrode SMDs. It achieves stable frequency characteristics up to 3 GHz and provides highly repeatable measurements. This test fixture supports various SMD sizes, as small as 1005 (mm)/0402 (inch) and as large as 3225 (mm)/1210 (inch). Accommodation of the 0603 (mm)/0201 (inch) size is available with option 001.

Applicable instrument: E4982A, E4990A + 42942A*, E4991B, E5061B-3L3/3L4/3L5 with Opt. 005 + 16201A

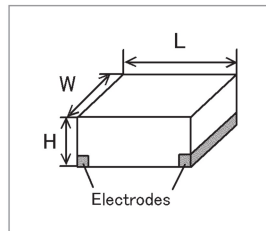
* Option E4990A-120 is required

Frequency: DC to 3 GHz

Maximum voltage: ± 42 V peak max. (AC +DC)

Operating temperature: -55 to $+85^\circ\text{C}$

DUT size: See figure and table below:



Standard option	Applicable SMD size	
SMD size code	L x W [mm]	H [mm]
3225 (mm)/1210 (inch)	$(3.2 \pm 0.15) \times (2.5 \pm 0.15)$	$H \geq 0.4$
3216 (mm)/1206 (inch)	$(3.2 \pm 0.15) \times (1.6 \pm 0.15)$	$H \geq 0.4$
2012 (mm)/0805 (inch)	$(2.0 \pm 0.15) \times (1.25 \pm 0.15)$	$H \geq 0.4$
1608 (mm)/0603 (inch)	$(1.6 \pm 0.15) \times (0.8 \pm 0.15)$	$H \geq 0.4$
1005 (mm)/0402 (inch)	$(1.0 \pm 0.1) \times (0.5 \pm 0.1)$	$H \geq 0.4$

Option 16197A-001	Applicable SMD size	
SMD size code	L x W [mm]	H [mm]
0603 (mm)/0201 (inch)	$(0.6 \pm 0.03) \times (0.3 \pm 0.03)$	$H \geq 0.25$

Furnished accessories:

Description	P/N	Qty.
Operation and service manual	16197-90000	1
Device guide ¹	16197-25005	2
Electrode plate ²	16197-00603	1
Cleaning rod	5182-7586	1
Blank device guide	16197-25006	3
Magnifying glass	16193-60002	1
Tweezers	8710-2081	1
Wrench	8710-0909	1
Carrying case	16197-60060	1

1. One is delivered attached to the test fixture
2. Delivered attached to the fixture



Up to 3 GHz (7 mm): SMD *continued*

16197A Bottom electrode SMD test fixture *continued*

EIA/EIAJ Size shorting bar set (furnished)

Size	P/N	Qty.
1 x 0.5 x 0.5 (mm)	16191-29005	1
1.6 x 0.8 x 0.8 (mm)	16191-29006	1
2.0 x 1.2 x 0.8 (mm)	16191-29007	1
3.2 x 1.6 x 0.8 (mm)	16191-29008	1
Device Guide	16197-25007	1
Electrode Plate	16197-00604	1

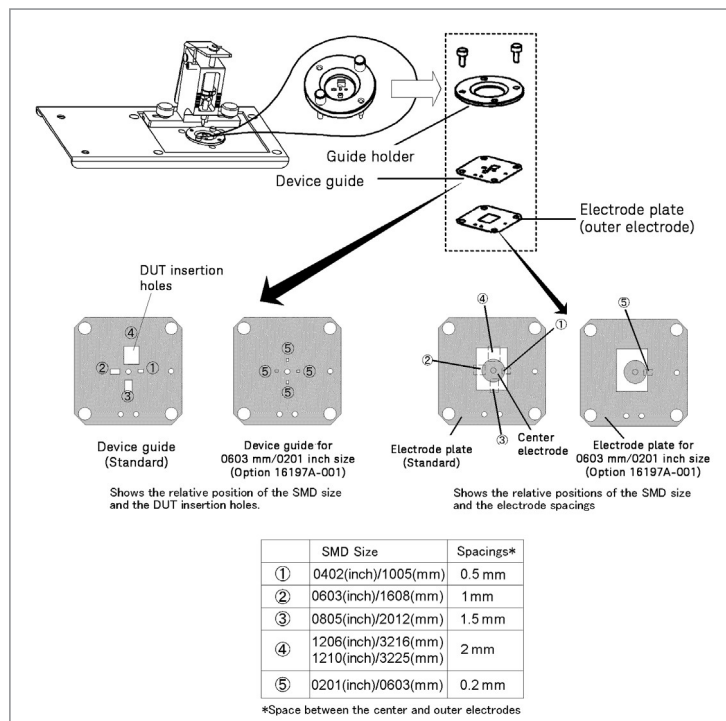
16197A-001 Shorting bar

Size	P/N	Qty.
0.6 x 0.3 x 0.3 (mm)	16197-29001	4

Options:

16197A-001: Add 0603 (mm)/0201 (inch) Device guide set

The 16197A's electrode spaces are 0.5 mm, 1 mm, 1.5 mm and 2 mm and the device guide matches these spaces with appropriate insertion holes for the applicable SMD. The 0.2 mm electrode spacing is available with option 001, which includes a device guide with 0603 mm/0201inch insertion holes, an electrode plate and 4 shorting devices.



Electrodes configuration and SMD size

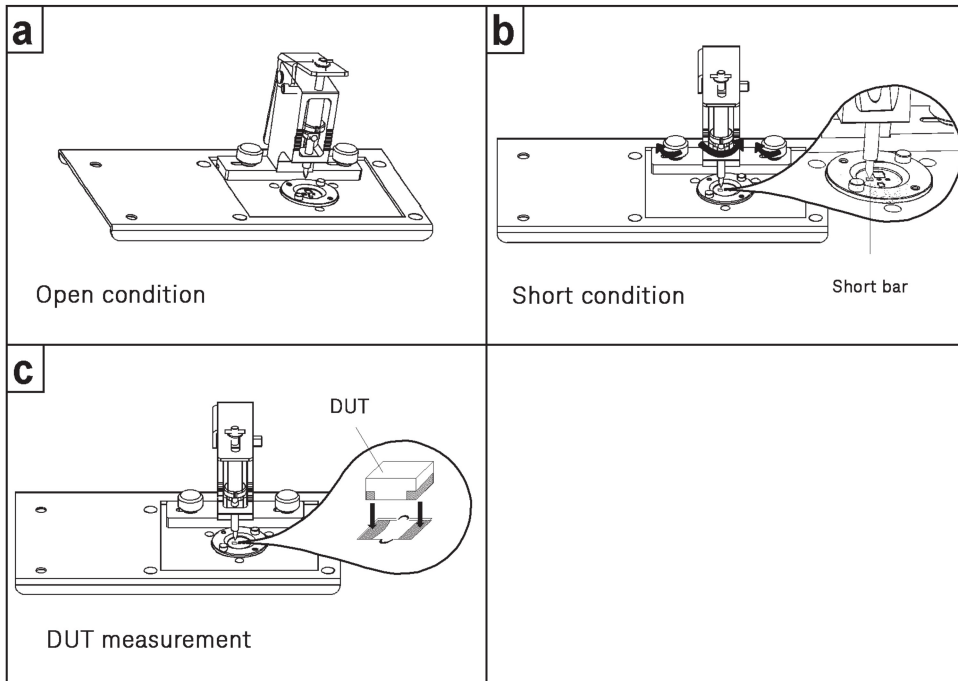
Compensation and measurement: First of all, select the appropriate device insertion hole. If the device insertion hole is not positioned in the pressure arm's contact range, reposition the device guide and the electrode plate. Once this is prepared, perform compensation. Open and short compensations are recommended in combination with the electrical length compensation before measurement. The fixture's electrical length must be entered into the electrical length compensation function of the measurement



Up to 3 GHz (7 mm): SMD *continued*

16197A Bottom electrode SMD test fixture *continued*

instrument first. Next, open compensation is performed by not placing anything in the device insertion hole. Short compensation is performed by placing the furnished shorting device in the device insertion hole. After performing open and short compensations in combination with the electrical length compensation, the DUT is inserted into the device insertion hole. Once the measurement of the DUT is complete, remove the DUT from the fixture. The following figures show how compensation and measurement is performed.



Compensation and measurement

