

Specifications and Characteristics

Specifications

Agilent 83483A and Agilent 54751A Vertical Specifications

| | |
|---|---|
| Bandwidth (–3 dB) | dc to 12.4 or 20 GHz, user selectable |
| dc Accuracy—single marker ¹ | |
| 12.4 GHz bandwidth | ±0.4% of full scale ±2 mV ±1.5% (reading – channel offset) ± (2%/°C) (ΔT_{cal}^2) (reading) – 0.4%/hr ($\Delta Time^3$) (reading) |
| 20 GHz | ±0.4% of full scale ±2 mV ±3% (reading – channel offset) ± (2%/°C) (ΔT_{cal}^2) (reading) – 0.4%/hr ($\Delta Time^3$) (reading) |
| dc Difference—two marker accuracy on same channel ¹ | |
| 12.4 GHz | ±0.8% of full scale ±1.5% of delta marker reading ± (2%/°C) (ΔT_{cal}^2) (reading) – 0.4%/hr ($\Delta Time^3$) (reading) |
| 20 GHz | ±0.8% of full scale ±3% of delta marker reading ± (2%/°C) (ΔT_{cal}^2) (reading) – 0.4%/hr ($\Delta Time^3$) (reading) |
| <i>Transition Time (10%–90%) characteristic, calculated from $T=0.35/BW$, electrical</i> | |
| 12.4 GHz bandwidth | 28.2 ps |
| 20 GHz bandwidth | 17.5 ps |
| RMS Noise | |
| Typical | |
| 12.4 GHz | 0.25 mV |
| 20 GHz | 0.5 mV |
| Maximum | |
| 12.4 GHz | 0.5 mV |
| 20 GHz | 1.0 mV |

1 It is recommended that a user vertical calibration be performed after every 10 hours of continuous use or if the temperature has changed by greater than 2°C from the previous vertical calibration.

2 Where ΔT_{cal} represents the temperature change in Celsius from the last user vertical calibration. Note that the temperature term goes to zero upon execution of a vertical calibration.

3 Where $\Delta Time$ represents the time since the last user vertical calibration. The uncertainty due to time typically stabilizes after 24 hours. This term goes to zero upon execution of a vertical calibration.

Agilent 83483A and Agilent 54751A Vertical Specifications (continued)

| | |
|---|---|
| Scale Factor | full scale is eight divisions |
| Minimum | 1 mV/div |
| Maximum | 100 mV/div |
| dc Offset Range | ± 500 mV |
| Nominal Input Impedance | 50 Ω |
| Connectors | 3.5mm (m), channel and trigger |
| Input Reflection/Return Loss | $\leq 5\%$ for 30 ps rise time |
| Number of Channels | 2 |
| Dynamic Range/Maximum Specified Input Power | ± 400 mV relative to channel offset |
| Maximum Safe Input | $\pm 2V$ + peak ac (+16 dBm) |

Specifications

Agilent 83484A,B and Agilent 54752A,B Vertical Specifications

| | |
|---|--|
| Bandwidth (–3 dB) | dc to 26.5 or 50 GHz, user selectable |
| dc Accuracy—single marker ¹ | |
| 26.5 GHz bandwidth | ±0.4% of full scale ±2 mV ±1.2% (reading – channel offset) ± (2%/°C) (ΔT_{cal}) ² (reading) |
| 50 GHz bandwidth | ±0.4% of full scale ±2 mV ±2% (reading – channel offset) ± (2%/°C) (ΔT_{cal}) (reading) ² |
| dc Difference—two marker accuracy on same channel ¹ | |
| 26.5 GHz bandwidth | ±0.8% of full scale ±1.2% of delta reading ± (2%/°C) (ΔT_{cal}) ² (reading) |
| 50 GHz bandwidth | ±0.8% of full scale ±2% of delta reading ± (2%/°C) (ΔT_{cal}) (delta reading) ² |
| <i>Transition Time (10%–90%) characteristic, calculated from $T=0.35/BW$, electrical</i> | |
| 26.5 GHz bandwidth | 13.2 ps |
| 50 GHz bandwidth | 7.0 ps |
| RMS Noise | |
| <i>Typical</i> | |
| 26.5 GHz | 0.46 mV |
| 50 GHz | 0.92 mV |
| Maximum | |
| 26.5 GHz | 0.75 mV |
| 50 GHz | 1.5 mV |
| Scale Factor | full scale is eight divisions |
| Minimum | 1 mV/div |
| Maximum | 100 mV/div |
| dc Offset Range | ±500 mV |
| Nominal Input Impedance | 50 Ω |

¹ It is recommended that a user vertical calibration be performed after every 10 hours of continuous use or if the temperature has changed by greater than 2°C from the previous vertical calibration.

² Where ΔT_{cal} represents the temperature change in Celsius from the last user vertical calibration. Note that the temperature term goes to zero upon execution of a vertical calibration.

Agilent 83484A,B and Agilent 54752A,B Vertical Specifications (continued)

| | |
|---|------------------------------------|
| Connectors | |
| Trigger | 3.5mm (m) |
| Channel | 2.4mm (m) |
| Input Reflection/Return Loss | ≤5% for 20 ps rise time |
| Number of Channels | 2 |
| Dynamic Range/Maximum Specified Input Power | ±400 mV relative to channel offset |
| Maximum Safe Input | ±2V + peak ac (+16 dBm) |

Environmental specifications

| | |
|---------------|--|
| Temperature | |
| Operating | 15 °C to +35 °C |
| Non-operating | −40 °C to +70 °C |
| Humidity | |
| Operating | up to 90% relative humidity (non-condensing) at ≤35° C |
| Non-operating | up to 95% relative humidity (non-condensing) at ≤65° C |

Power requirements

Supplied by mainframe.

Weight

| | |
|----------|--------------------------------|
| Net | approximately 1.1 kg (2.4 lb.) |
| Shipping | approximately 2.0 kg (4.4 lb.) |