

Specifications

Complete specifications for the HP 42842A/B/C are listed below. When the HP 42842A/B/C is shipped from the factory, it meets these specifications.

Usable Frequency Range
HP 42842A/B 20 Hz to 1 MHz
HP 42842C 75 kHz to 30 MHz

Applicable DC bias Current
HP 42842A 20 A maximum
HP 42842B 40 A maximum
HP 42842C 10 A maximum
2 A maximum when the SMD test fixture (HP PN 42851-61100) is used.

Measurement Terminals 2-terminal configuration

Measurable Components
HP 42842A/B Smaller than 80(W) by 80(H) by 80(D)(mm)
HP 42842C Smaller than 60(W) by 50(H) by 60(D)(mm)

Protection Function Decrease the back-e.m.f. generated by inductor to a level below 40 V within 0.1 seconds when opening the test fixture protective cover.

When : DC bias current through the DUT is less than I_{max} .

$$I_{max} = \sqrt{\frac{2}{L}} [A]$$

Where : L is in Henrys.

Bias Voltage Monitor Output BNC connector, output resistance approximately 10 k Ω

Furnished Accessories

HP 42842A

Operation and Service Manual HP Part Number 42842-90001
Shorting Bar HP Part Number 42842-00607

HP 42842B

Operation and Service Manual HP Part Number 42842-90001
Shorting Bar HP Part Number 42842-00607
Protection Caps (2 ea.) HP Part Number 1401-0240

HP 42842C

Operation and Service Manual HP Part Number 42842-90001
Shorting Bar HP Part Number 42851-00607
SMD Test Fixture (Option 001 only) HP Part Number 42851-61100

Operation Temperature Range

HP 42842A/B 5°C to 45°C, RH ≤ 95% at 40°C
HP 42842C 0°C to 45°C, RH ≤ 95% at 40°C

Dimensions

HP 42842A 216(W) by 173(H) by 235(D)(mm)
HP 42842B 237(W) by 173(H) by 235(D)(mm)
HP 42842C 213(W) by 173(H) by 235(D)(mm)

Weight

HP 42842A approximately 2.5 kg
HP 42842B approximately 3 kg
HP 42842C approximately 3.1 kg

HP 42842C Option 001

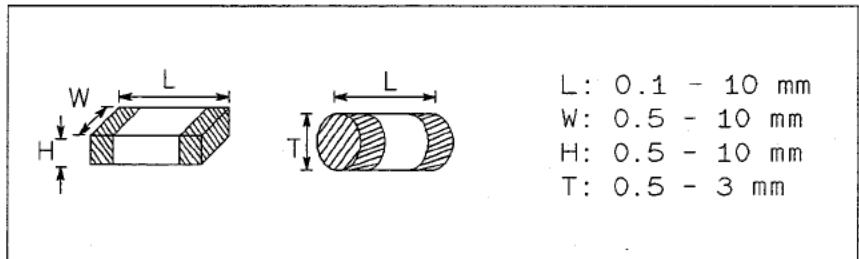
SMD test fixture (HP PN 42851-61100) for chip components is furnished. The followings are specifications of the SMD test fixture.

Usable Frequency Range: 75 kHz to 30 MHz

Applicable DC Bias Current: 2 A maximum

Measurement Terminals: 2 terminal configuration

Measurable Components:



Dimensions: 122(W) by 60(H) by 58(D)(mm)

Weight: approximately 145 g

Supplemental Performance Characteristics

Residual Parameters The following table lists uncertainty values for the residual parameter when OPEN / SHORT correction functions are performed.

Table 1-1. Residual Parameters of HP 42842A/B/C

	HP 42842A	HP 42842B	HP 42842C	HP 42842C with SMD Fixture
Residual inductance	± 150 nH	± 150 nH	± 40 nH	± 10 nH
Residual resistance	$\pm(4 + 60\sqrt{f_m})$ m Ω	$\pm(4 + 60\sqrt{f_m})$ m Ω	$\pm(2 + 7\sqrt{f_m})$ m Ω	± 5 m Ω
Stray capacitance	± 0.03 pF	± 0.06 pF	± 0.05 pF	± 0.03 pF
f_m = measurement frequency [MHz]				

DC Bias Voltage Monitor Accuracy

Voltage monitor accuracy is as follows:

HP 42842A/B $\pm(0.2\% + I_{\text{bias}} \times 3 \text{ m}\Omega + 5 \text{ mV})$

HP 42842C $\pm(0.2\% + I_{\text{bias}} \times 5 \text{ m}\Omega)$

when using with the SMD Test Fixture;

$\pm(0.2\% + I_{\text{bias}} \times 20 \text{ m}\Omega)$

When, input impedance of the digital voltmeter $\geq 10 \text{ M}\Omega$

Where : I_{bias} is DC bias current [A]

Continuous Running Time of HP 42842C

The maximum continuous running time is limited by the ambient temperature and the bias current. The graph in Figure 1-8 gives the relationship between the ambient temperature and bias current to the maximum continuous running time. This figure is not considered to the heating by DUT.

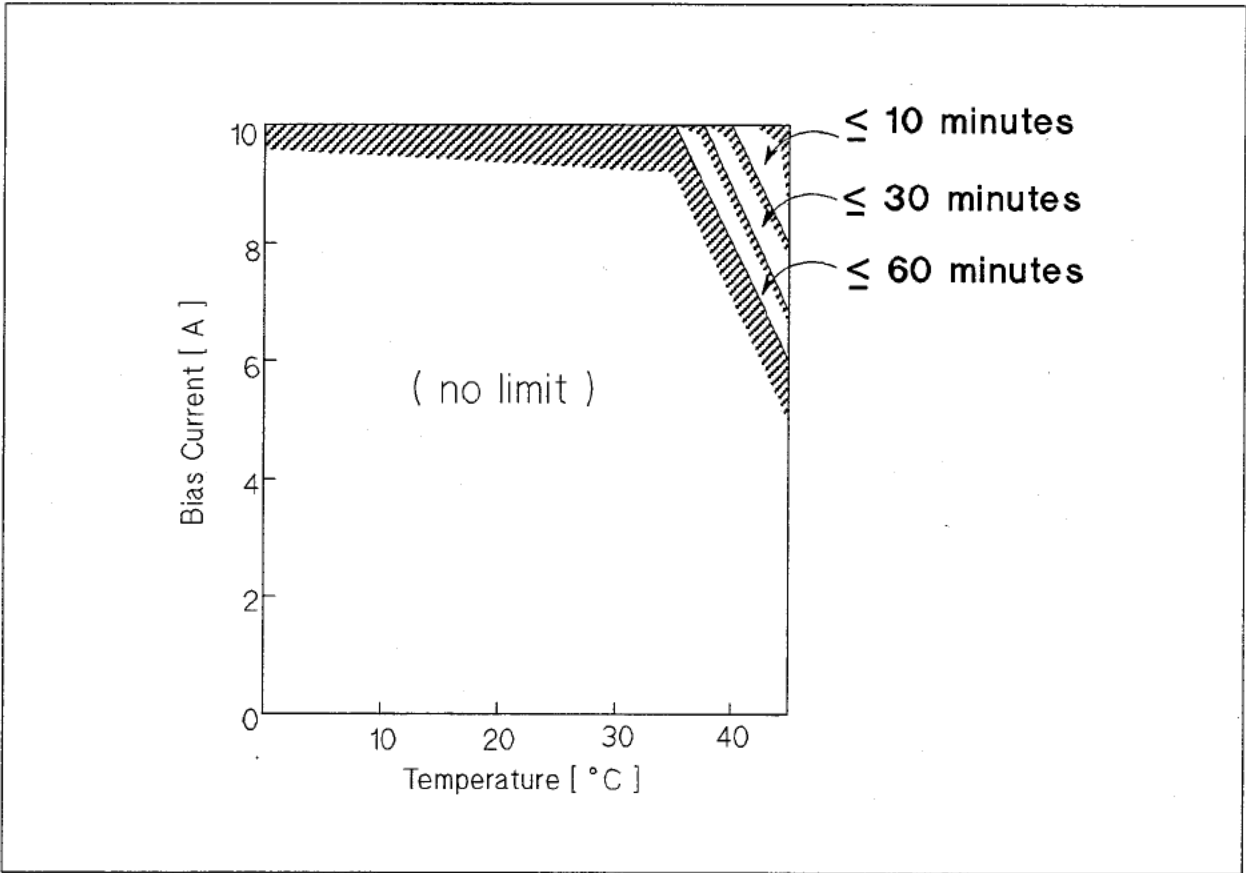


Figure 1-8. Maximum Continuous Running Time of the HP 42842C