# Specification For Approval

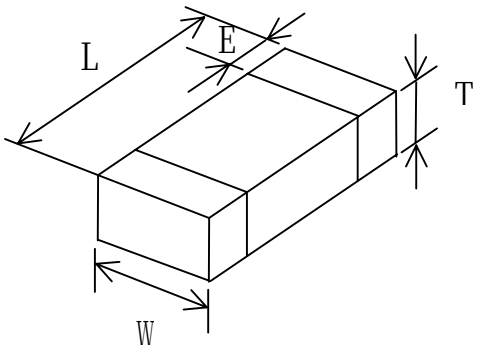
AXIS POWER 經軸電子

**Multilayer chip bead 3216 (1206) series**

## PRODUCT DETAIL

| Electrical Characteristics | | | Test Instruments |
|---|---|---|---|
| Z | Ω (Ref. Page 2) | TEST FREQ: 100 MHz | •HP4291B RF IMPEDANCE / MATERIAL ANALYZER<br>•HP4338A/B MILLIOHMMETER<br>•Agilent 8720ES S-PARAMETER NETWORK ANALYZER<br>•HP6632B SYSTEM DC POWER SUPPLY |
| θ | NA | | |
| SRF | NA | | |
| DCR | Ω (Ref. Page 2) | | |
| IDC | mA (Ref. Page 2) | | |

## SHAPES AND DIMENSIONS




Unit : mm

| TYPE | 3216 |
|---|---|
| L | 3.2±0.20 |
| W | 1.6±0.20 |
| T | 1.1±0.20 |
| E | 0.5±0.30 |

# Specification For Approval

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**Multilayer chip bead 3216 (1206) series**

## ▪PART NUMBER AND CHARACTERISTICS TABLE

BCCB-3216ES SERIES

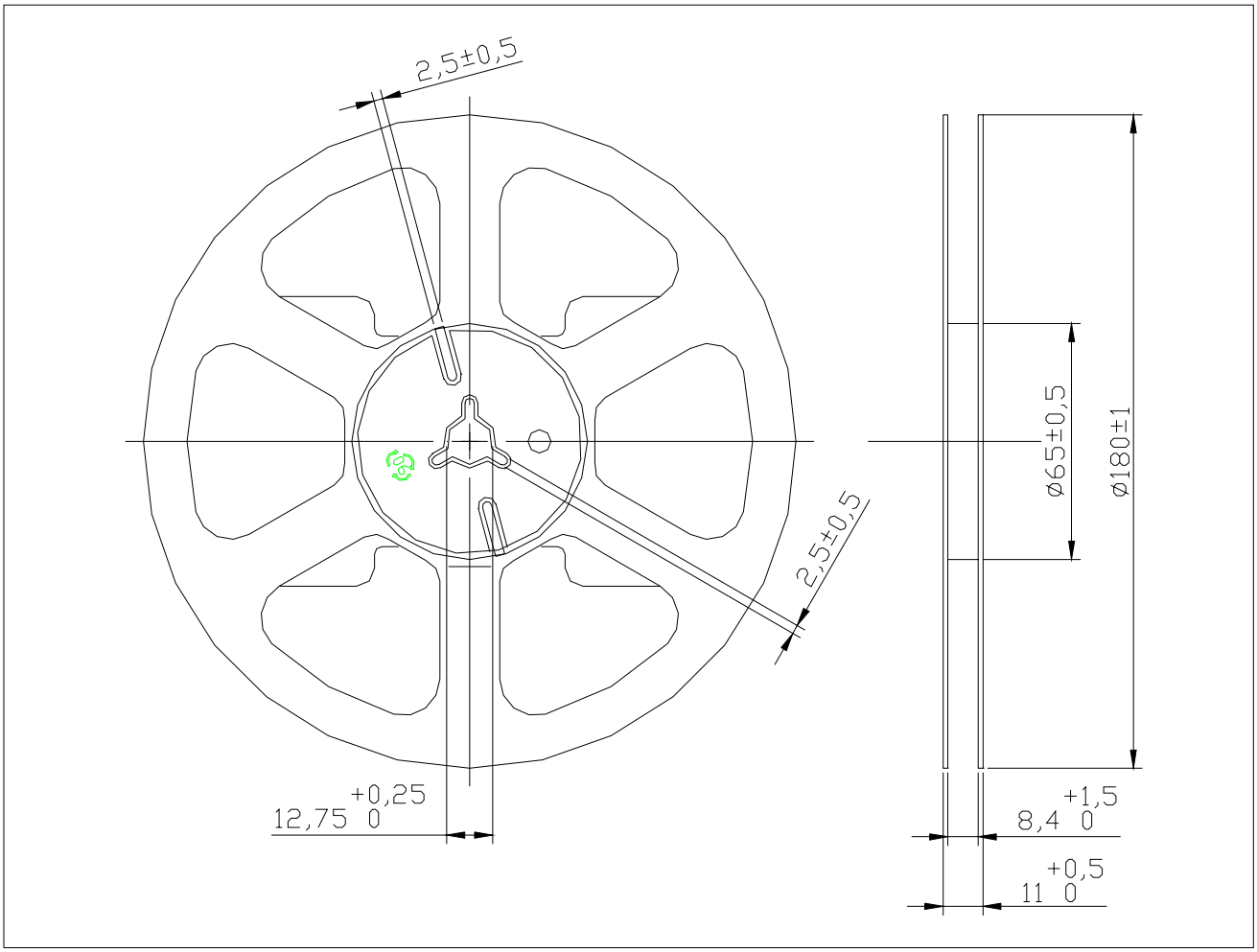
| Part No. | Impedance(Ω) +/-25% | Test Freq.(MHz) | DCR(Ω) (Max.) | Rated Current (mA) |
|---|---|---|---|---|
| BCCB-3216ES-500W | 50 | 100 | 0.015 | 6000 |
| BCCB-3216ES-600Q | 60 | 100 | 0.04 | 3000 |
| BCCB-3216ES-750Q | 75 | 100 | 0.04 | 3000 |
| BCCB-3216ES-800R | 80 | 100 | 0.03 | 4000 |
| BCCB-3216ES-900Q | 90 | 100 | 0.04 | 3000 |
| BCCB-3216ES-121W | 120 | 100 | 0.015 | 6000 |
| BCCB-3216ES-151N | 150 | 100 | 0.09 | 2000 |
| BCCB-3216ES-501P | 500 | 100 | 0.07 | 2500 |
| BCCB-3216ES-601Q | 600 | 100 | 0.07 | 3000 |
| BCCB-3216ES-122L | 1200 | 100 | 0.20 | 1000 |

# Specification For Approval

AXIS POWER 經軸電子

## REEL DIMENSIONS

Unit: mm



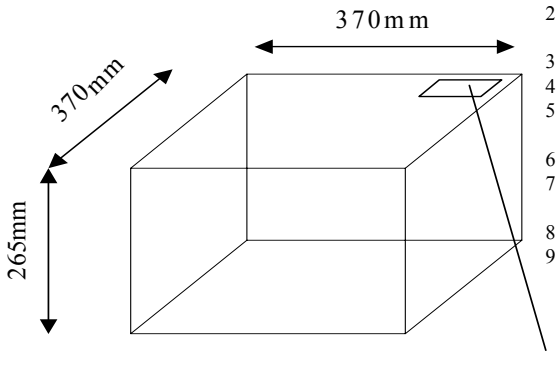

| Reel Packaging Quantity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| PART SIZE | | **1005** | **1608** | **201209** | **201212** | **3216** | **3225** | **4516** | **4532** |
| 7" REEL | Qty. (pcs) | 10,000 | 4,000 | 4,000 | 2,000 | 3,000 | 2,000 | 2,000 | 1,000 |
| 13" REEL | | NA | NA | 10,000 | 10,000 | 10,000 | 5,000 | 5,000 | 2,500 |
| BULK | | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 10,000 | 10,000 | 10,000 |

# Specification For Approval

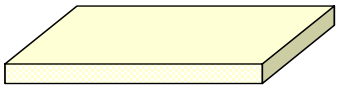
AXIS POWER 經軸電子

## PACKING

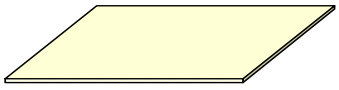
| Carton size | L*W*H (mm) | Loading Quantity 7” (reels) | Loading quantity 13” (reels) |
|---|---|---|---|
| L | 370*370*265 | 40 | 12 |
| M | 370*370*133 | 20 | 5 |
| S | 370*200*133 | 20 | - |



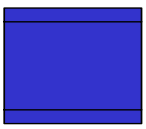

1. Put taped reel in an anti-static bag.
2. Put desiccant in an anti-static bag, and seal the anti-static bag by heat pressing.
3. Put the styrofoam in the bottom and around the box.
4. Put 4 reels which was packed as step 2 in one layer.
5. Then, put the stiffener on the top of those four reels as an isolation on between layer and layer.
6. Repeat step 4 and 5 until there is 10 layers in one box.
7. Before sealing the box, put the styrofoam on the top. Then, using adhesive tape to seal the box.
8. Stick the shipment label on the top of the box.
9. Recommended storage temperature:
   Temp : -40℃ to +85 ℃
   Humidity : 70% RH Max.



Styrofoam: X 6 (350mm*350mm*15mm )



Stiffener: X 10 (340*340mm )



Taped reel + desiccant + anti-static bag: X 40

# Specification For Approval

AXIS POWER 經軸電子

## RELIABILITY AND TEST CONDITION

| Stress | Performance | Test Condition |
|---|---|---|
| **Leaching (Resistance to Solder Heat)** | The chip should not crack ; More than 90% of the terminal electrode should be covered with solder , free from defects, chip body should not exposed. | 1.Solder: Alpha Sn100<br>2.Solder Temp: 260 ±5℃<br>3.Flux: Rosin<br>4.Dip time: 10 ±1 sec |
| **Solderability 1 (IR Re-flow test)** | 1.Sn cover area need to over half thickness of chip<br>2.Chip shift distance under 50% of width<br>3.No short , open ,…etc defect symptom | 1.Solder: KOKI S3x58-M405 SnAg3Cu0.5<br>2.General:135/135/195/235℃<br>3.100%TIN:155/155/220/265℃<br>4.Sn:Pb=63:37 |
| **Solderability 2 (After steam 8 hrs)** | More than 90% of the terminal electrode should be covered with new solder | 1.Steam 8 hrs<br>2.Solder: Alpha Sn100<br>3.Solder Temp.:235 ±5℃<br>4.Flux: Rosin<br>5.Dip time:5 ±1 sec |
| **Terminal Strength** | The terminal electrode should not break off nor the ferrite damaged | 100505>0.2kgt, 160808>0.3kgt, 201209>0.6kgt, 201212>0.6kgt, 321611>1.0kgt, 322513>1.0kgt, 451616>1.0kgt, 453215>1.5kgt, ; pulling time:30 ±5 sec |
| **Bending Strength** | The ferrite should not be damaged by force applied on the right | 100505>0.2kgf, 160808>0.3kgf, 201209>1.0kgf, 201212>1.0kgf, 321611>2.0kgf, 322513>2.5kgf, 451616>2.5kgf, 453215>2.5kgf, BCCBA3216>2.0kgf |
| **Flexure Strength** | No mechanical damage shall be noticed even when the board is bent 2 mm ( 0.079 inches) | 1.At ambient temperature & Humidity<br>2.To bend 2 mm |
| **Thermal Shock (Temperature Cycle)** | 1.No mechanical damage<br>2.Inductance should be within ±10% of the initial value<br>3.Q value should be within ±30% of the initial value<br>4.Impedance value should be within ±20% of the initial value | 1.Temperature:-40 ~ 85℃ For 30 minutes each<br>2.Cycle: 100 cycles<br>3.Measurement: At ambient temperature 24 hours After test completion |

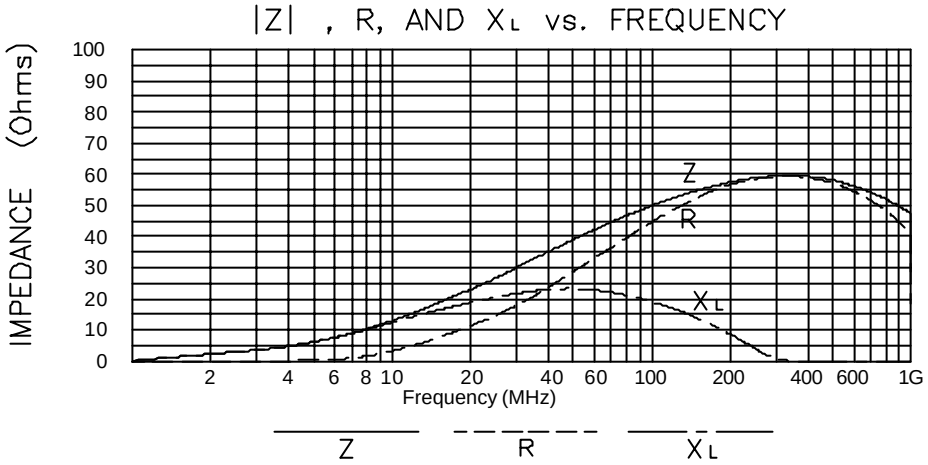
| | | |
|---|---|---|
| **Operational Life** | 1.No mechanical damage<br>2.Inductance should be within ± 10% of the initial value<br>3.Q value should be within ±30% of the initial value<br>4.Impedance value should be within ±20% of the initial value | 1. Temperature: 125 ±5℃<br>2. Testing time: 1000 hrs<br>3. Applied current: Full rated current<br>4. Measurement:<br>At ambient temperature 24 hours<br>After test completion |
| **Biased Humidity** | 1.No mechanical damage<br>2.Inductance should be within ±10% of the initial value<br>3.Q value should be within ±30 % of the initial value<br>4.Impedance value should be within ±20% of the initial value | 1.Temperature: 40℃<br>2.Humidity: 90-95 % RH<br>3.Applied current: Full rated current<br>4.Testing time: 1000 hrs<br>5. Measurement:<br>At ambient temperature 24 hours<br>After test completion |
| **Rated Current** | 1.BCCB / BCCL /BCCLH product Surface temperature below room temperature plus 10 ℃<br>2.BCCB-ES product surface temp. below room temperature plus 40 ℃ | 1.At ambient temperature & humidity<br>2.Testing time:5 minutes<br>( under full rated current ) |

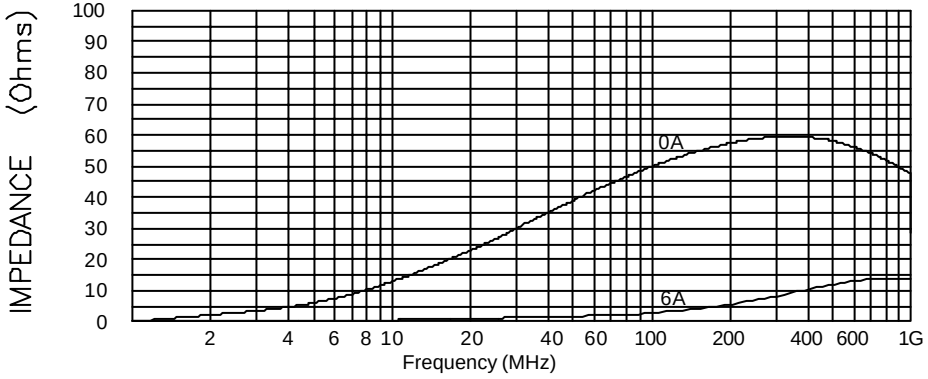
UNCONTROLLED DOCUMENT

# BCCB-3216ES-500W

## ELECTRICAL CHARACTERISTICS:

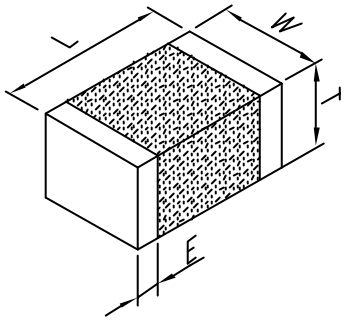
| | Z @ 100MHz (Ohms) | DCR (Ohms) | Rated Current |
|---|---|---|---|
| Nominal | 50 | | |
| Minimum | 37.5 | | |
| Maximum | 62.5 | 0.015 | 6000mA |




Agilent 4291B RF Impedance/Material Analyzer
HP 16192A Fixture

OSC level : 250 mV




## PHYSICAL DIMENSIONS:

L 3.20(0.126) ±0.200(0.008)

W 1.60(0.063) ±0.200(0.008)

T 1.10(0.043) ±0.200(0.008)

E 0.50(0.020) ±0.300(0.012)

NOTES: UNLESS OTHERWISE SPECIFIED

1.-All edges and corners must be rounded.

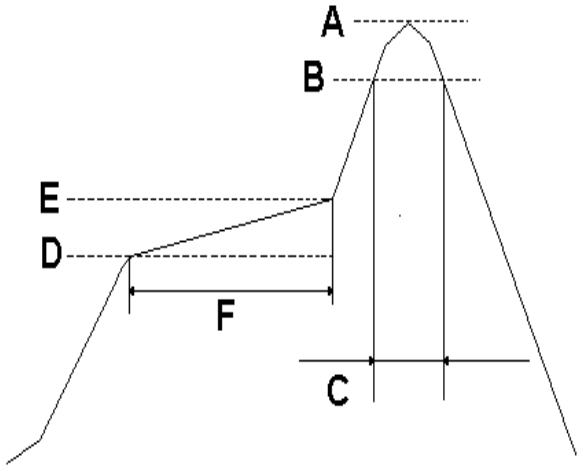
2.-Dimensions are in millimeters (inches)

3.-Taped and Reeled per current EIA specification.

## Recommended Soldering Conditions

(REFLOW TEMPERATURE PR(

| | |
|---|---|
| A | *260 ± 5/-0°C* |
| B | *230°C* |
| C | *5~10 sec* |
| D | *150°C* |
| E | *180°C* |
| F | *90 ± 30sec* |

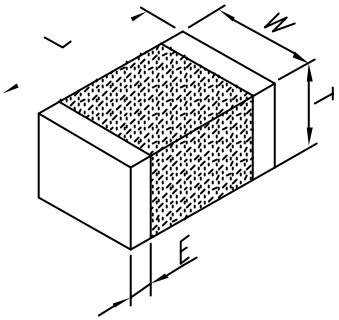


UNCONTROLLED DOCUMENT

# BCCB-3216ES-600Q

## ELECTRICAL CHARACTERISTICS:

| | Z @ 100MHz (Ohms) | DCR (Ohms) | Rated Current |
|---|---|---|---|
| Nominal | 60 | | |
| Minimum | 45 | | |
| Maximum | 75 | 0.04 | 3000mA |




## PHYSICAL DIMENSIONS:

L 3.20(0.126) ±0.200(0.008)

W 1.60(0.063) ±0.200(0.008)

T 1.10(0.043) ±0.200(0.008)

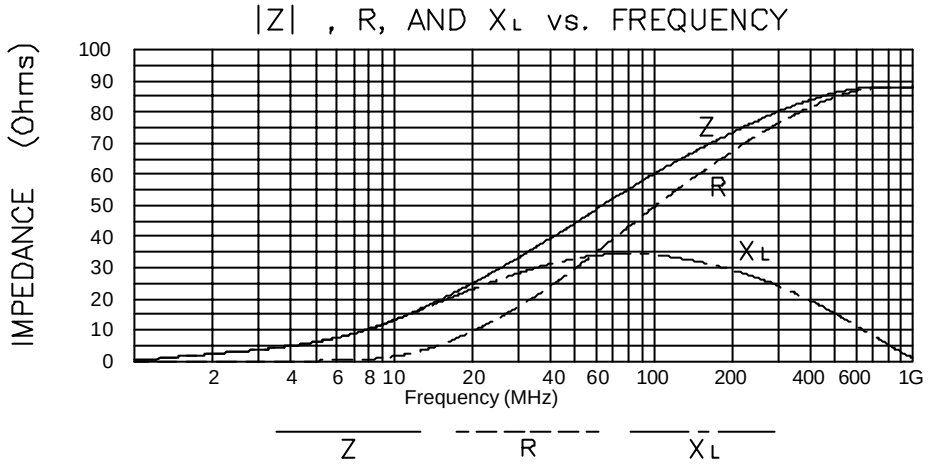
E 0.50(0.020) ±0.300(0.012)

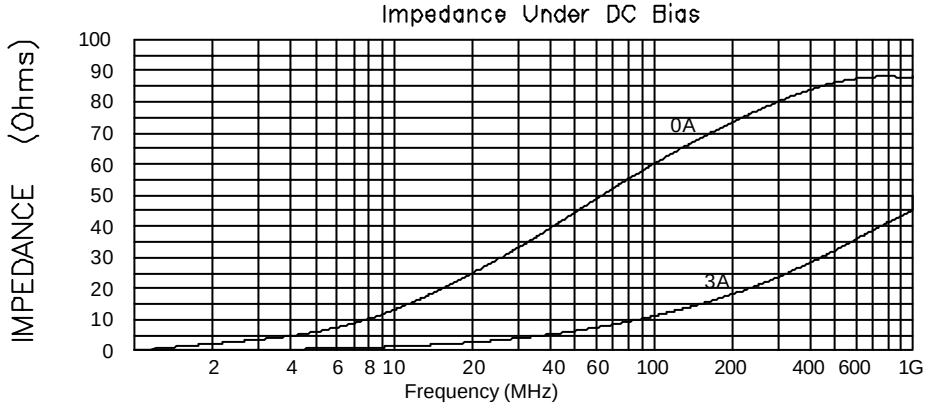
NOTES: UNLESS OTHERWISE SPECIFIED

1.-All edges and corners must be rounded.

2.-Dimensions are in millimeters (inches)

3.-Taped and Reeled per current EIA specification.



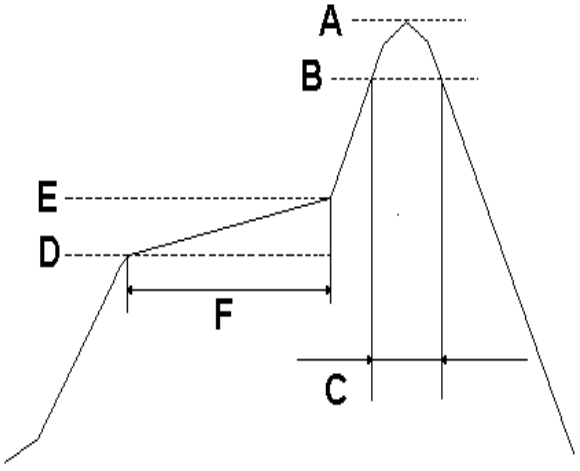

Agilent 4291B RF Impedance/Material Analyzer
HP 16192A Fixture

OSC level : 250 mV

## Recommended Soldering Conditions

(REFLOW TEMPERATURE PR(

| | |
|---|---|
| A | *260 ± 5/-0℃* |
| B | *230℃* |
| C | *5~10 sec* |
| D | *150℃* |
| E | *180℃* |
| F | *90 ± 30sec* |

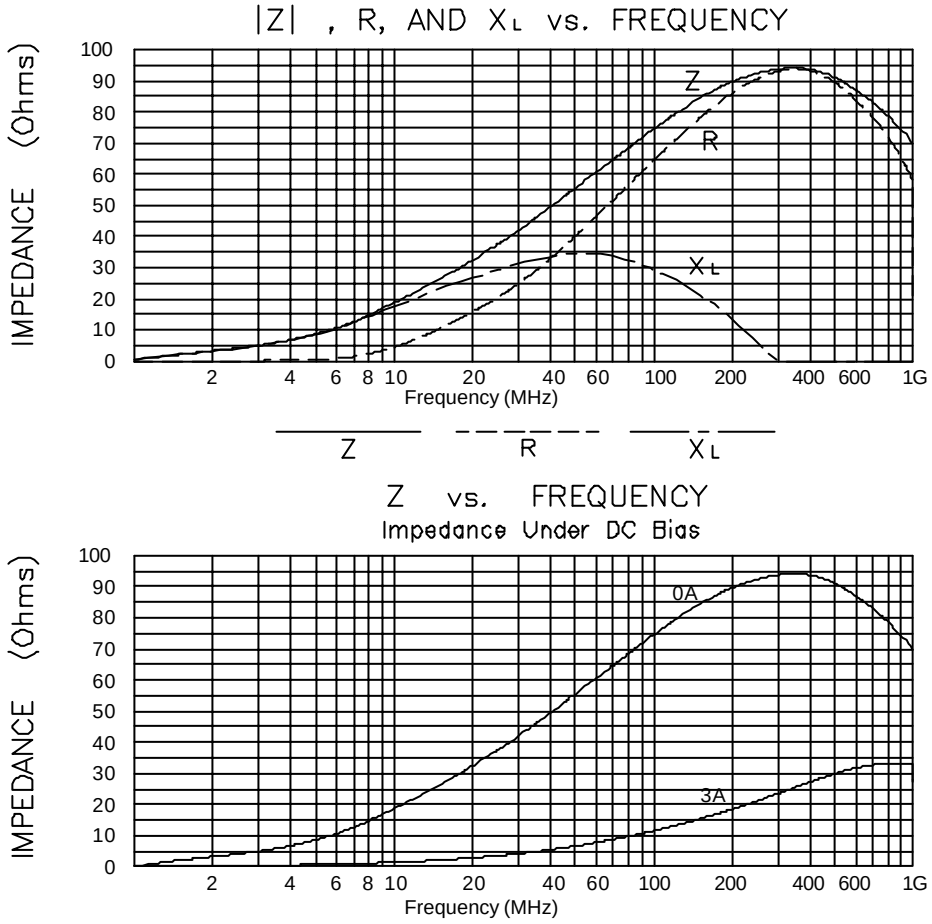


UNCONTROLLED DOCUMENT

# BCCB-3216ES-750Q

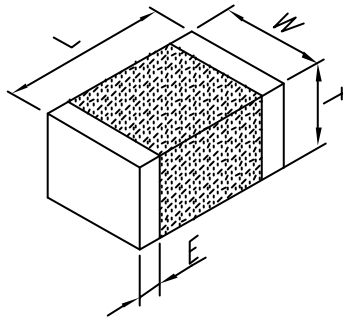
## ELECTRICAL CHARACTERISTICS:

| | Z @ 100MHz (Ohms) | DCR (Ohms) | Rated Current |
|---|---|---|---|
| Nominal | 75 | | |
| Minimum | 56.25 | | |
| Maximum | 93.75 | 0.04 | 3000mA |




Agilent 4291B RF Impedance/Material Analyzer
HP 16192A Fixture

OSC level : 250 mV




## PHYSICAL DIMENSIONS:

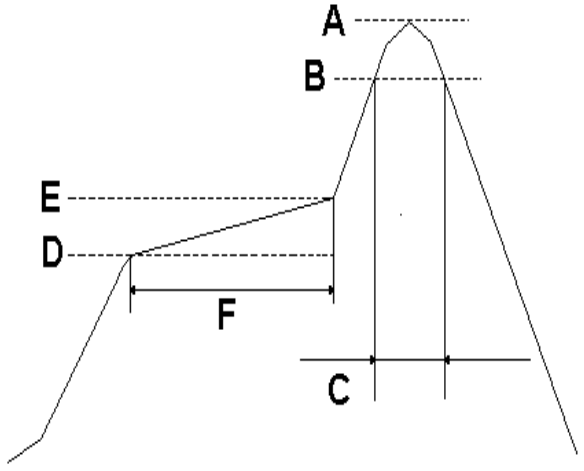
L 3.20(0.126) ±0.200(0.008)
W 1.60(0.063) ±0.200(0.008)
T 1.10(0.043) ±0.200(0.008)
E 0.50(0.020) ±0.300(0.012)

NOTES: UNLESS OTHERWISE SPECIFIED
1.-All edges and corners must be rounded.
2.-Dimensions are in millimeters (inches)
3.-Taped and Reeled per current EIA specification.

## Recommended Soldering Conditions

(REFLOW TEMPERATURE PR(

| | |
|---|---|
| A | *260 ± 5/-0°C* |
| B | *230°C* |
| C | *5~10 sec* |
| D | *150°C* |
| E | *180°C* |
| F | *90 ± 30sec* |

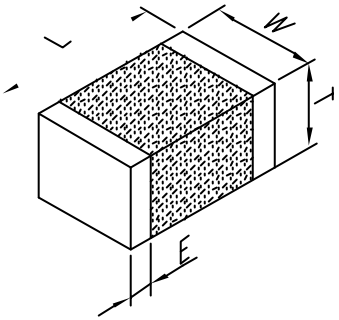


UNCONTROLLED DOCUMENT

# BCCB-3216ES-800R

## ELECTRICAL CHARACTERISTICS:

| | Z @ 100MHz (Ohms) | DCR (Ohms) | Rated Current |
|---|---|---|---|
| Nominal | 80 | | |
| Minimum | 60 | | |
| Maximum | 100 | 0.03 | 4000mA |

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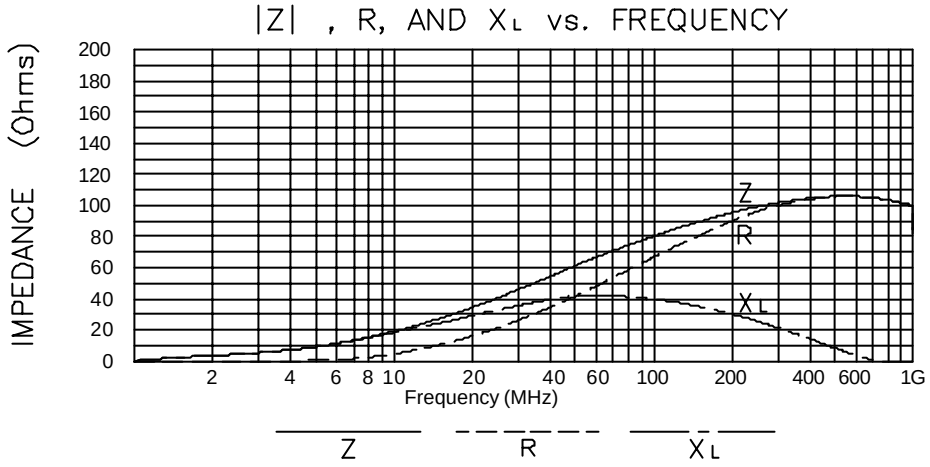
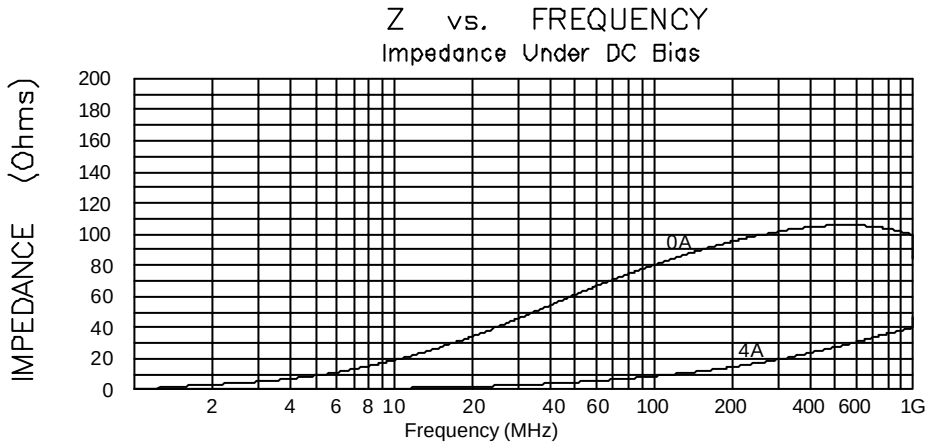


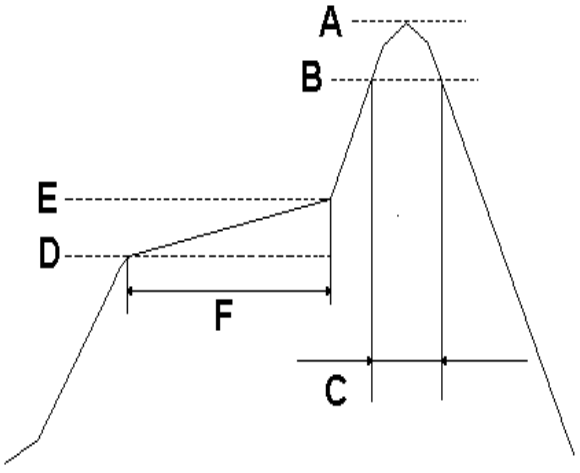

Agilent 4291B RF Impedance/Material Analyzer
HP 16192A Fixture

OSC level : 250 mV

## Recommended Soldering Conditions

(REFLOW TEMPERATURE PR

| | |
|---|---|
| A | *260 ± 5/-0℃* |
| B | *230℃* |
| C | *5~10 sec* |
| D | *150℃* |
| E | *180℃* |
| F | *90 ± 30sec* |

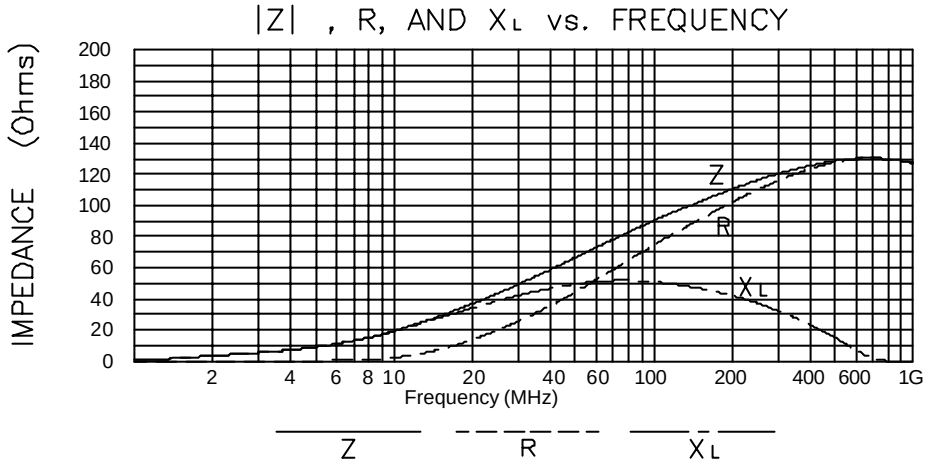


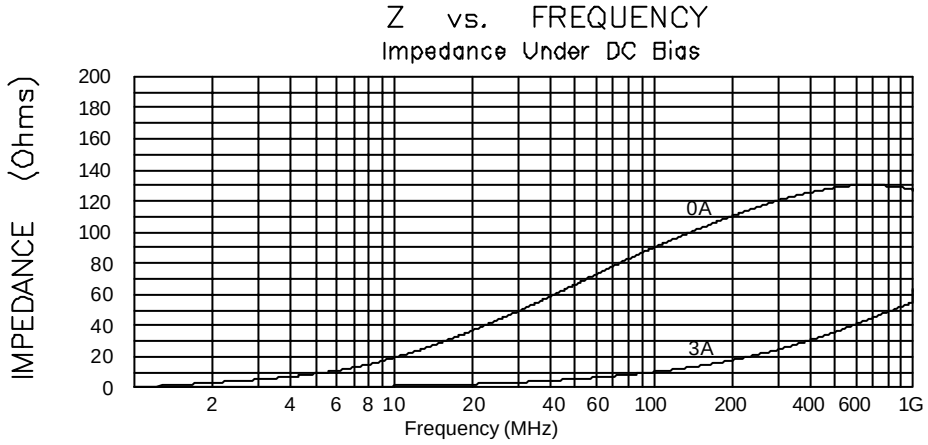
UNCONTROLLED DOCUMENT

# BCCB-3216ES-900Q

## ELECTRICAL CHARACTERISTICS:

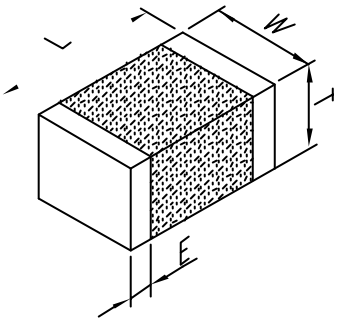
| | Z @ 100MHz (Ohms) | DCR (Ohms) | Rated Current |
|---|---|---|---|
| Nominal | 90 | | |
| Minimum | 67.5 | | |
| Maximum | 112.5 | 0.04 | 3000mA |




Agilent 4291B RF Impedance/Material Analyzer
HP 16192A Fixture

OSC level : 250 mV

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## Recommended Soldering Conditions

(REFLOW TEMPERATURE PR(

| | |
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| A | *260 ± 5/-0°C* |
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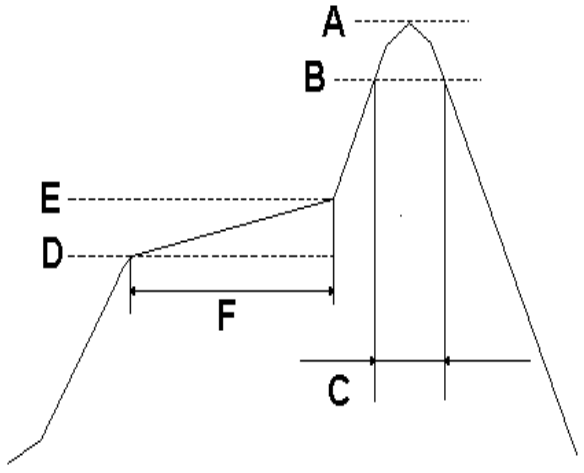
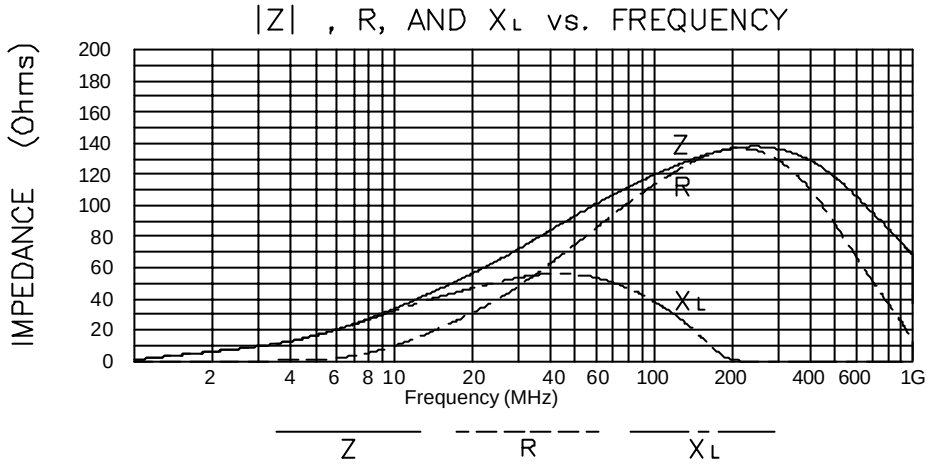


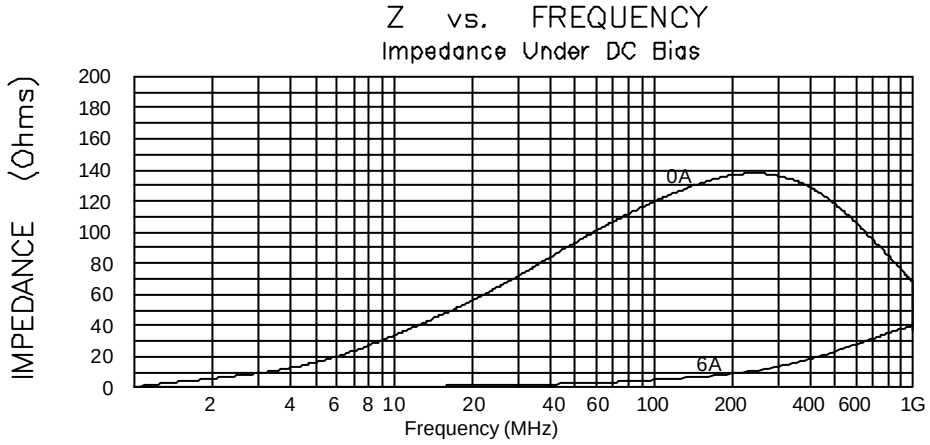
UNCONTROLLED DOCUMENT

# BCCB-3216ES-121W

## ELECTRICAL CHARACTERISTICS:

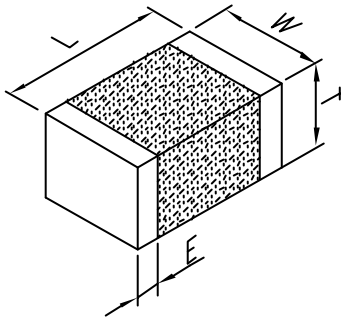
| | Z @ 100MHz (Ohms) | DCR (Ohms) | Rated Current |
|---|---|---|---|
| Nominal | 120 | | |
| Minimum | 90 | | |
| Maximum | 150 | 0.015 | 6000mA |




Agilent 4291B RF Impedance/Material Analyzer
HP 16192A Fixture

OSC level : 250 mV




## PHYSICAL DIMENSIONS:

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W 1.60(0.063) ±0.200(0.008)
T 1.10(0.043) ±0.200(0.008)
E 0.50(0.020) ±0.300(0.012)

NOTES: UNLESS OTHERWISE SPECIFIED
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2.-Dimensions are in millimeters (inches)
3.-Taped and Reeled per current EIA specification.

## Recommended Soldering Conditions

(REFLOW TEMPERATURE PR

| | |
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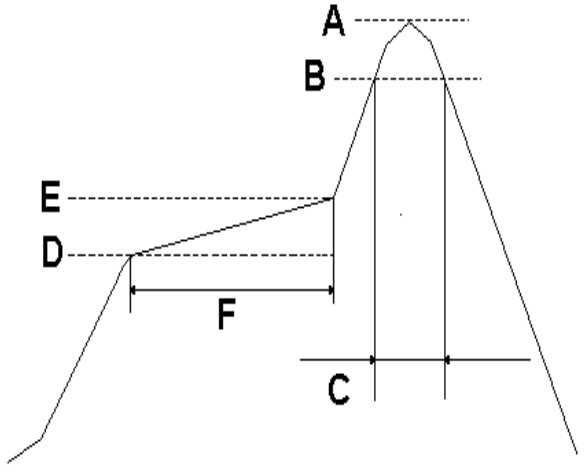
| B | *230°C* |
| C | *5~10 sec* |
| D | *150°C* |
| E | *180°C* |
| F | *90 ± 30sec* |

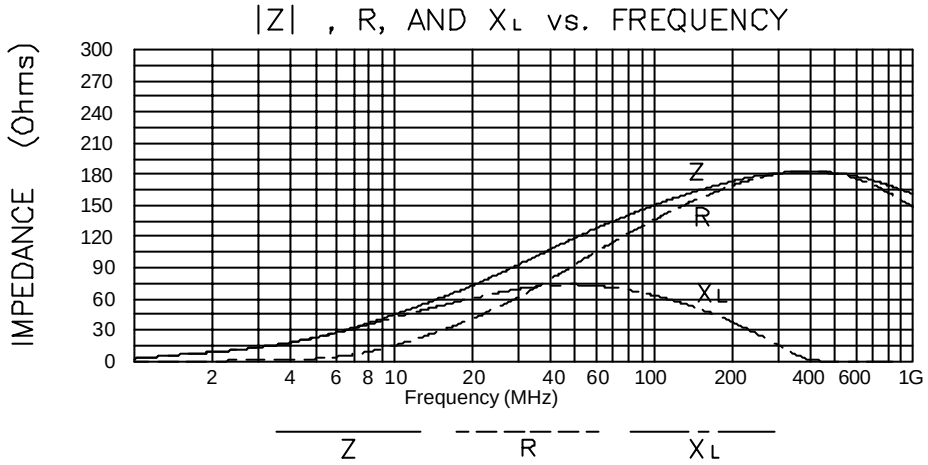


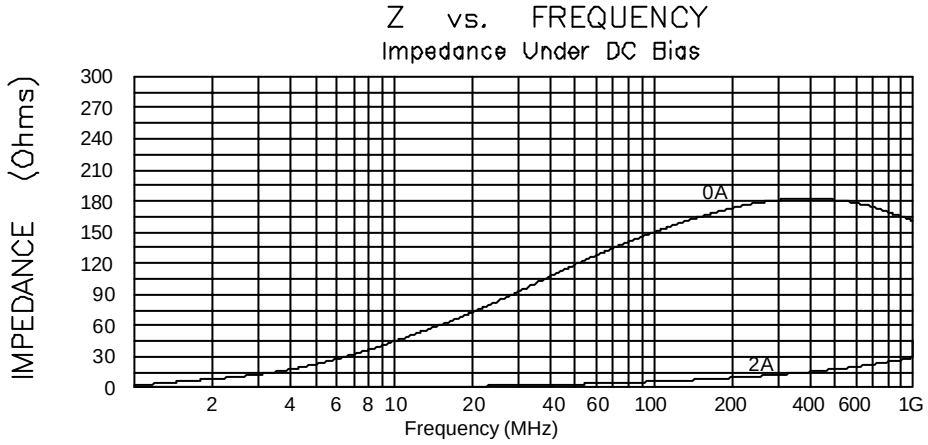
UNCONTROLLED DOCUMENT

# BCCB-3216ES-151N

## ELECTRICAL CHARACTERISTICS:

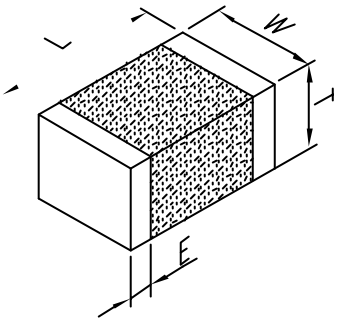
| | Z @ 100MHz (Ohms) | DCR (Ohms) | Rated Current |
|---|---|---|---|
| Nominal | 150 | | |
| Minimum | 112.5 | | |
| Maximum | 187.5 | 0.09 | 2000mA |




Agilent 4291B RF Impedance/Material Analyzer
HP 16192A Fixture

OSC level : 250 mV




## PHYSICAL DIMENSIONS:

L 3.20(0.126) ±0.200(0.008)

W 1.60(0.063) ±0.200(0.008)

T 1.10(0.043) ±0.200(0.008)

E 0.50(0.020) ±0.300(0.012)

NOTES: UNLESS OTHERWISE SPECIFIED

1.-All edges and corners must be rounded.

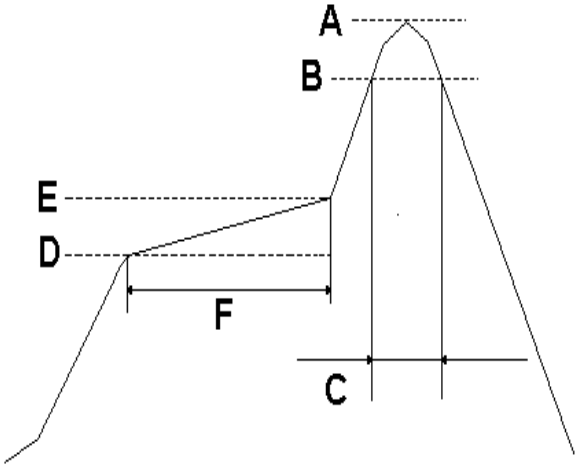
2.-Dimensions are in millimeters (inches)

3.-Taped and Reeled per current EIA specification.

## Recommended Soldering Conditions

(REFLOW TEMPERATURE PR

| | |
|---|---|
| A | *260 ± 5/-0°C* |
| B | *230°C* |
| C | *5~10 sec* |
| D | *150°C* |
| E | *180°C* |
| F | *90 ± 30sec* |

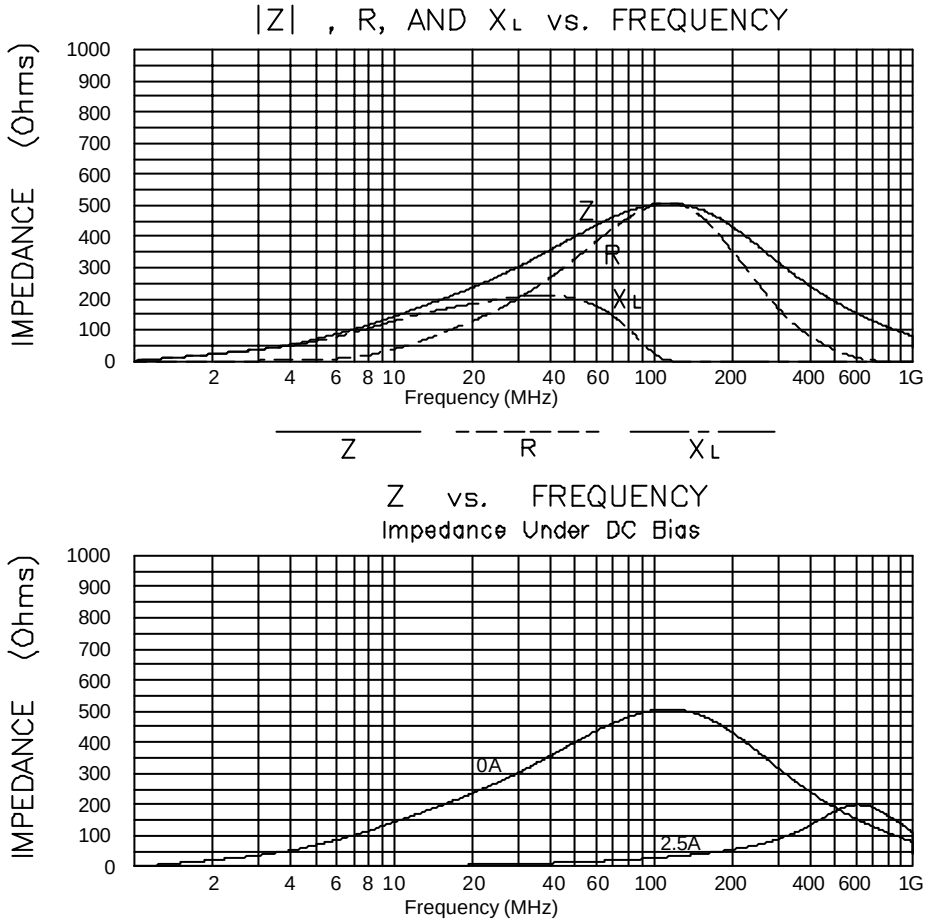


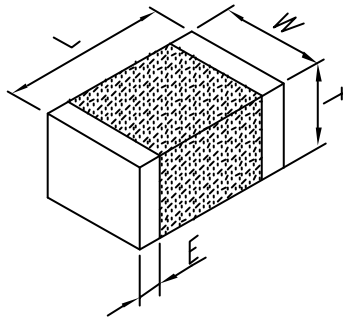
UNCONTROLLED DOCUMENT

# BCCB-3216ES-501P

## ELECTRICAL CHARACTERISTICS:

| | Z @ 100MHz (Ohms) | DCR (Ohms) | Rated Current |
|---|---|---|---|
| Nominal | 500 | | |
| Minimum | 375 | | |
| Maximum | 625 | 0.07 | 2500mA |




## PHYSICAL DIMENSIONS:

L 3.20(0.126) ±0.200(0.008)

W 1.60(0.063) ±0.200(0.008)

T 1.10(0.043) ±0.200(0.008)

E 0.50(0.020) ±0.300(0.012)

NOTES: UNLESS OTHERWISE SPECIFIED

1.-All edges and corners must be rounded.

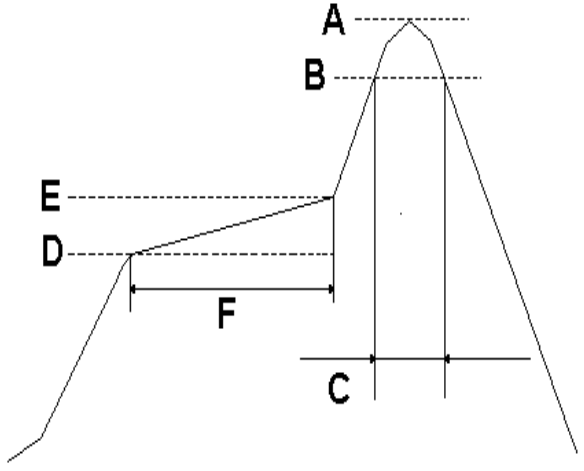
2.-Dimensions are in millimeters (inches)

3.-Taped and Reeled per current EIA specification.

## Recommended Soldering Conditions

(REFLOW TEMPERATURE PR

| | |
|---|---|
| A | *260 ± 5/-0°C* |
| B | *230°C* |
| C | *5~10 sec* |
| D | *150°C* |
| E | *180°C* |
| F | *90 ± 30sec* |




Agilent 4291B RF Impedance/Material Analyzer
HP 16192A Fixture

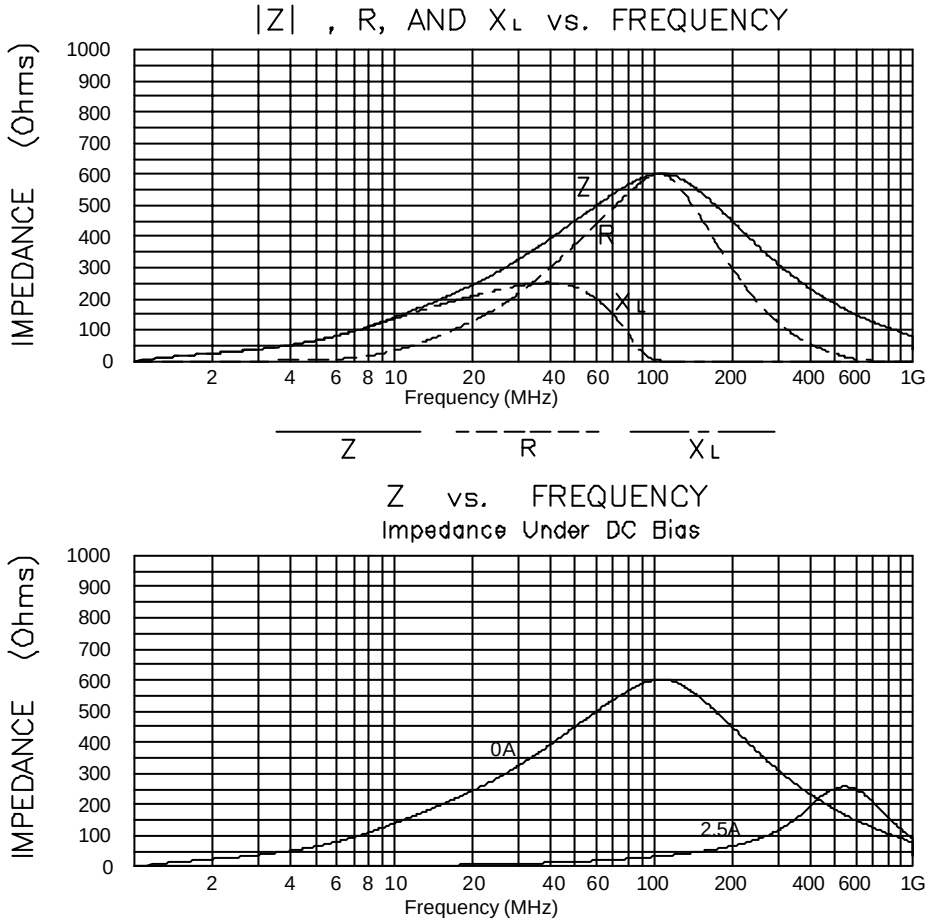
OSC level : 250 mV

UNCONTROLLED DOCUMENT

# BCCB-3216ES-601Q

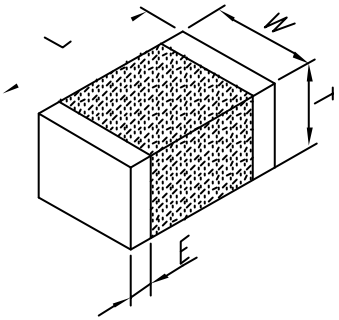
## ELECTRICAL CHARACTERISTICS:

| | Z @ 100MHz (Ohms) | DCR (Ohms) | Rated Current |
|---|---|---|---|
| Nominal | 600 | | |
| Minimum | 450 | | |
| Maximum | 750 | 0.07 | 3000 mA |




Agilent 4291B RF Impedance/Material Analyzer
HP 16192A Fixture

OSC level : 250 mV




## PHYSICAL DIMENSIONS:

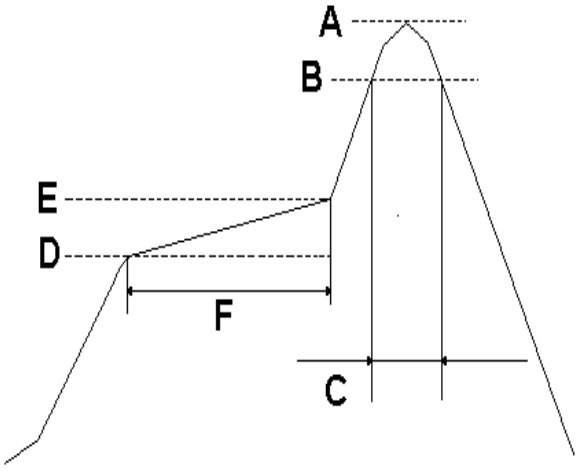
L 3.20(0.126) ±0.200(0.008)
W 1.60(0.063) ±0.200(0.008)
T 1.10(0.043) ±0.200(0.008)
E 0.50(0.020) ±0.300(0.012)

NOTES: UNLESS OTHERWISE SPECIFIED
1.-All edges and corners must be rounded.
2.-Dimensions are in millimeters (inches)
3.-Taped and Reeled per current EIA specification.

## Recommended Soldering Conditions

(REFLOW TEMPERATURE PR

| | |
|---|---|
| A | *260 ± 5/-0°C* |
| B | *230°C* |
| C | *5~10 sec* |
| D | *150°C* |
| E | *180°C* |
| F | *90 ± 30sec* |

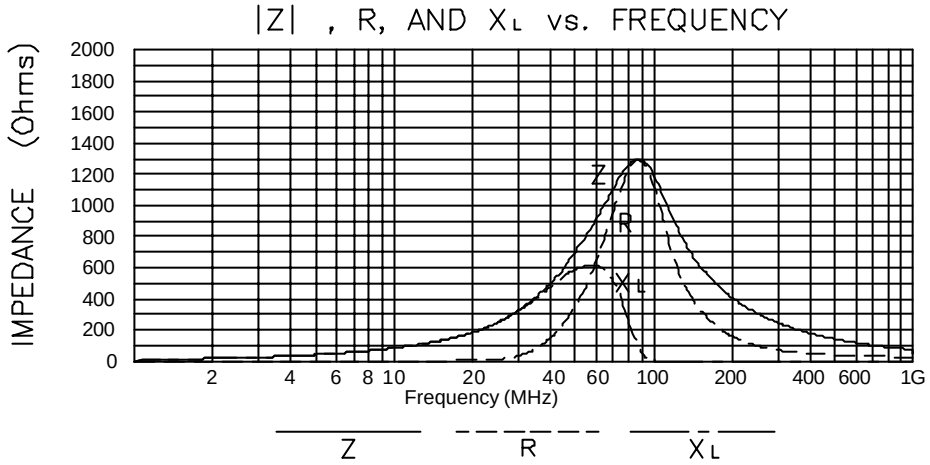


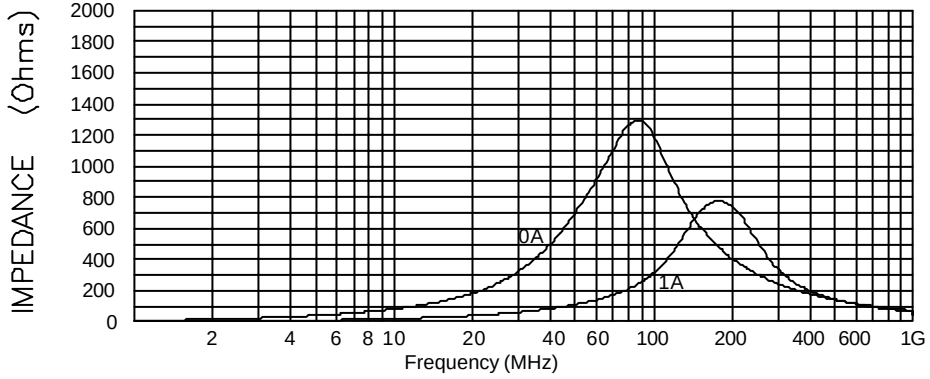
UNCONTROLLED DOCUMENT

# BCCB-3216ES-122L

## ELECTRICAL CHARACTERISTICS:

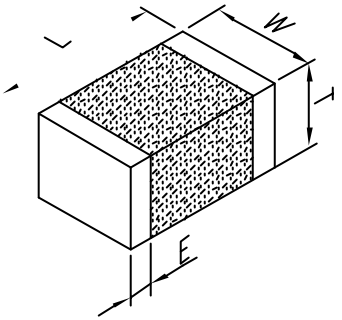
| | Z @ 100MHz (Ohms) | DCR (Ohms) | Rated Current |
|---|---|---|---|
| Nominal | 1200 | | |
| Minimum | 900 | | |
| Maximum | 1500 | 0.2 | 1000mA |




Agilent 4291B RF Impedance/Material Analyzer
HP 16192A Fixture

OSC level : 250 mV




## PHYSICAL DIMENSIONS:

L 3.20(0.126) ±0.200(0.008)
W 1.60(0.063) ±0.200(0.008)
T 1.10(0.043) ±0.200(0.008)
E 0.50(0.020) ±0.300(0.012)

NOTES: UNLESS OTHERWISE SPECIFIED
1.-All edges and corners must be rounded.
2.-Dimensions are in millimeters (inches)
3.-Taped and Reeled per current EIA specification.

## Recommended Soldering Conditions

(REFLOW TEMPERATURE PR

| | |
|---|---|
| A | *260 ± 5/-0°C* |
| B | *230°C* |
| C | *5~10 sec* |
| D | *150°C* |
| E | *180°C* |
| F | *90 ± 30sec* |