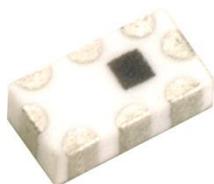


BTLU Series



Chilisin offer multilayer devices of Low-Temperature Cofired Ceramics (LTCC) for applications in wireless communication as WLAN, Bluetooth etc. Our commitment is to meet your goals through extensive technological innovation, excellent quality, short lead time and high volume production capability.

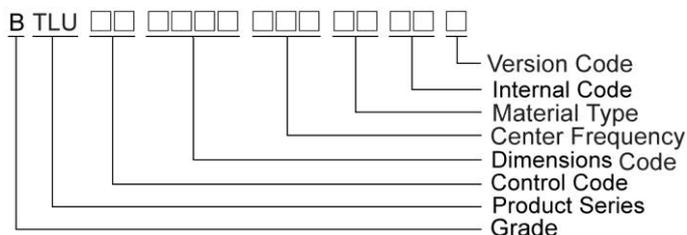
Features

- RoHS, Halogen Free and REACH Compliance
- Miniaturized.
- Low insertion loss
- Eliminate noise over a wide frequency range. Idea for high frequency and space limited designs.

Applications

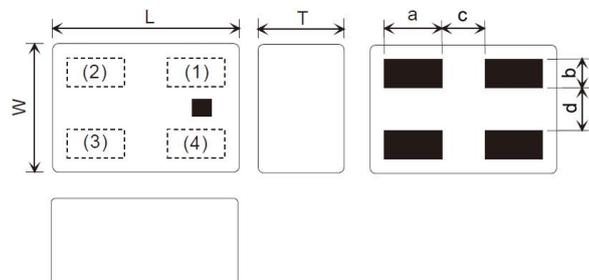
- WLAN ,Home RF, Bluetooth Module, etc.
- GSM/WCDMA/LTE mobile communication systems

Product Identification

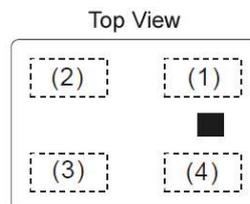


Shapes and Dimensions

BTLU000605xGxxxA10

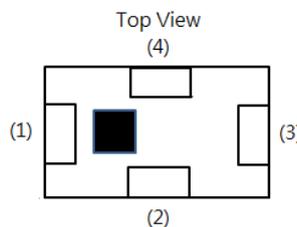
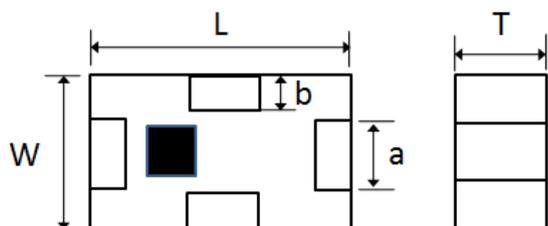


Terminal Configuration



- ① GND ② Unbalance Port ③ ④ Balance Port

BTLU0010050G7H6D10/BTLU0010052G0S1A10



- ① ③ Balance Port ② Unbalance Port ④ GND or DC Feed +RF GND

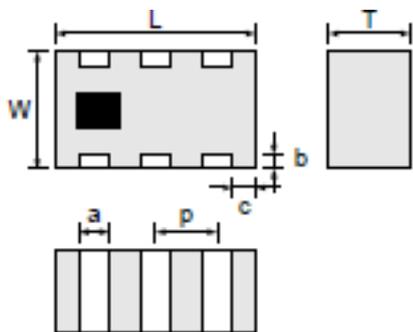
Dimension in mm

| TYPE | L | W | T | a | b | c | d |
|--------------------|----------|----------|-----------|----------|----------|----------|-----------|
| BTLU000605xGxxxA10 | 0.65±0.1 | 0.5±0.1 | 0.4±0.1 | 0.2±0.05 | 0.1±0.05 | 0.2±0.05 | 0.25±0.05 |
| BTLU0010050G7H6D10 | 1.0±0.05 | 0.5±0.05 | 0.5 Max. | 0.3±0.1 | 0.15±0.1 | - | - |
| BTLU0010052G0S1A10 | 1.0±0.05 | 0.5±0.05 | 0.45±0.05 | 0.3±0.1 | 0.15±0.1 | - | - |

Low Temperature Cofired Ceramic - BTLU Series

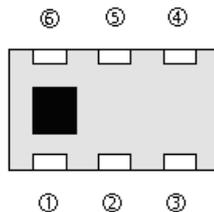
Shapes and Dimensions

BTLU001608xGxS1xx0



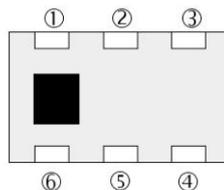
Terminal Configuration

BTLU0016082G4S1A10/BTLU0016083G8S1A20/BTLU0016084G0S1A10



- ① Unbalance Port
- ② GND or DC Feed + RF GND
- ③ Balance Port 1
- ④ Balance Port 2
- ⑤ GND
- ⑥ N.C

BTLU001608xGxS1xx0



- ① N.C
- ② GND
- ③ Balance Port 1
- ④ Balance Port 2
- ⑤ GND or DC
- ⑥ Unbalance Port

Dimension in mm

| TYPE | L | W | T | a | b | c | p |
|--------------------|----------|---------|---------|---------|-------------------------------------|----------|----------|
| BTLU0016082G4S1A10 | 1.6±0.10 | 0.8±0.1 | 0.6±0.1 | 0.3±0.1 | 0.3 ^{+0.1} _{-0.2} | 0.1±0.1 | 0.55±0.1 |
| BTLU0016082G4S1A20 | 1.6±0.15 | 0.8±0.1 | 0.6±0.1 | 0.3±0.1 | 0.3 ^{+0.1} _{-0.2} | 0.1±0.1 | 0.55±0.1 |
| BTLU0016082G4S1C20 | 1.6±0.15 | 0.8±0.1 | 0.5±0.1 | 0.3±0.1 | 0.3 ^{+0.1} _{-0.2} | 0.1±0.1 | 0.55±0.1 |
| BTLU0016083G5S1A20 | 1.6±0.15 | 0.8±0.1 | 0.6±0.1 | 0.3±0.1 | 0.3 ^{+0.1} _{-0.2} | 0.1±0.1 | 0.55±0.1 |
| BTLU0016083G8S1A20 | 1.6±0.15 | 0.8±0.1 | 0.6±0.1 | 0.2±0.1 | 0.15±0.1 | 0.2±0.15 | 0.5±0.05 |
| BTLU0016084G0S1A10 | 1.6±0.15 | 0.8±0.1 | 0.6±0.1 | 0.2±0.1 | 0.15±0.1 | 0.2±0.15 | 0.5±0.05 |
| BTLU0016085G5S1E10 | 1.6±0.15 | 0.8±0.1 | 0.6±0.1 | 0.3±0.1 | 0.3 ^{+0.1} _{-0.2} | 0.1±0.1 | 0.55±0.1 |

Low Temperature Cofired Ceramic - BTLU Series

Electrical Characteristics

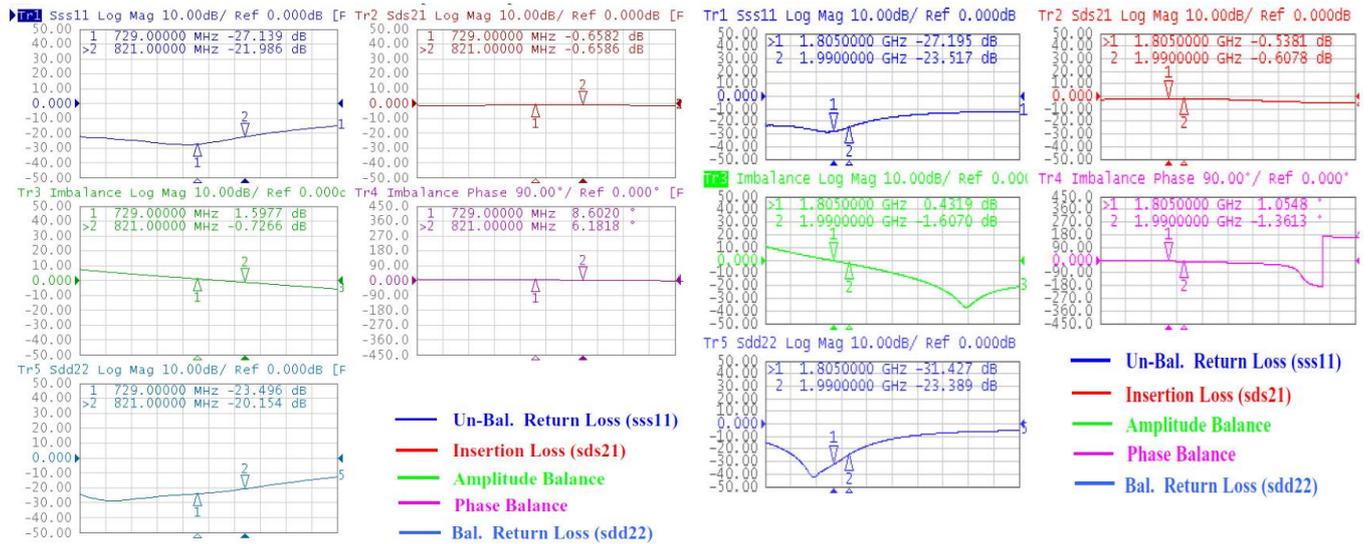
| Part Number | Pass Band (MHz) | Impedance(Ω) | | Return Loss (dB)Min | Insertion Loss (dB)Max | Balance Port | | Application |
|--------------------|-----------------|-----------------------|---------|---------------------|------------------------|---------------------|-----------------------|-------------|
| | | Unbalance | Balance | | | Amplitude Imbalance | Phase Difference | |
| BTLU0006050G7H6A10 | 729~821 | 50 | 100 | 10 | 0.7 | 2.0 dB Max | 180 \pm 10 $^\circ$ | LTE |
| BTLU0006051G8S5A10 | 1805~1990 | 50 | 100 | 10 | 0.7 | 2.0 dB Max | 180 \pm 10 $^\circ$ | LTE |
| BTLU0006052G5S5A10 | 2300~2700 | 50 | 100 | 10 | 0.7 | 2.5 dB Max | 180 \pm 10 $^\circ$ | WIMAX |

- Operating temperature range -40 $^\circ$ C ~ 85 $^\circ$ C

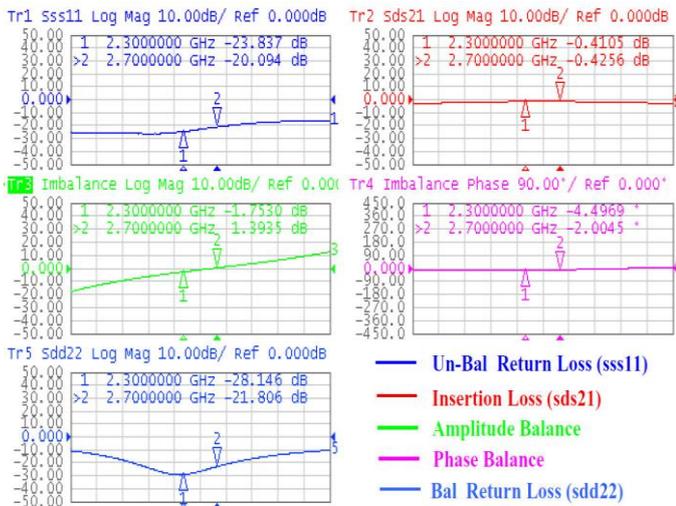
Test Instruments : Agilent E5071C Network Analyzer

BTLU0006050G7H6A10

BTLU0006051G8S5A10



BTLU0006052G5S5A10



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Low Temperature Cofired Ceramic - BTLU Series

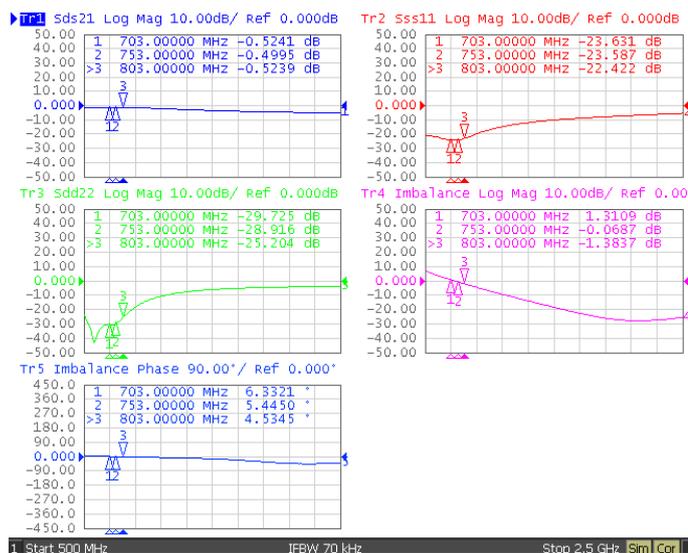
Electrical Characteristics

| Part Number | Pass Band (MHz) | Impedance(Ω) | | Return Loss (dB)Min | Insertion Loss (dB)Max | Balance Port | | Application |
|--------------------|-----------------|-----------------------|---------|---------------------|------------------------|---------------------|------------------|---------------|
| | | Unbalance | Balance | | | Amplitude Imbalance | Phase Difference | |
| BTLU0010050G7H6D10 | 703~803 | 50 | 100 | 10 | 0.8 at 25°C 1.0 | 2.0 dB Max | 180±12° | GSM/WCDMA/LTE |
| BTLU0010052G0S1A10 | 1805~2170 | 50 | 100 | 10 | 1.2 | 1.2 dB Max | 180±15° | LTE |

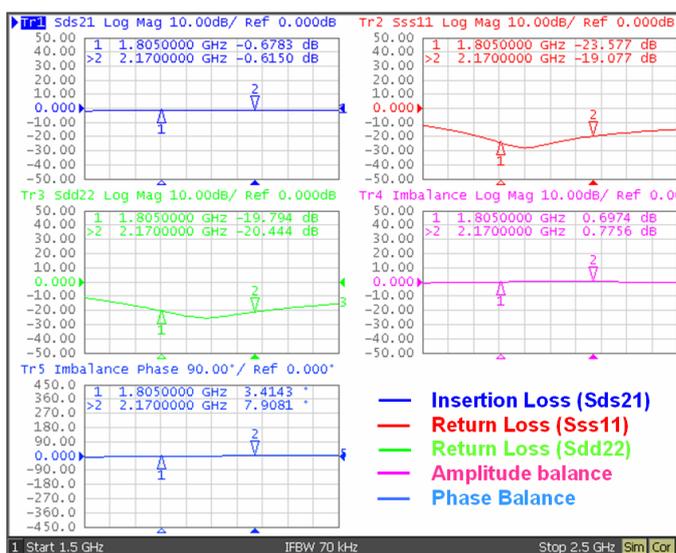
- Operating temperature range -40°C ~ 85°C

Test Instruments : Agilent E5071C Network Analyzer

BTLU0010050G7H6D10



BTLU0010052G0S1A10



- Insertion Loss (Sds21)
- Return Loss (Sss11)
- Return Loss (Sdd22)
- Amplitude balance
- Phase Balance

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Low Temperature Cofired Ceramic - BTLU Series

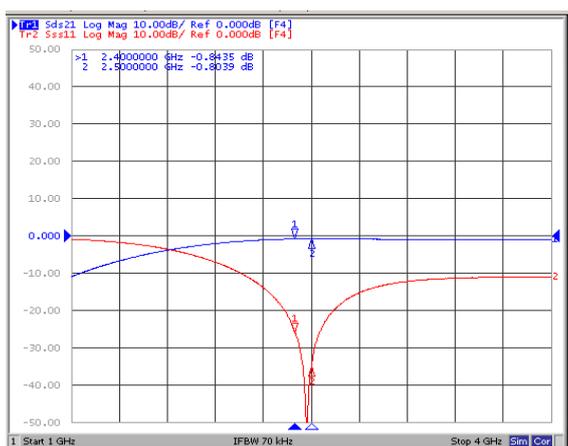
Electrical Characteristics

| Part Number | Pass Band (MHz) | Impedance(Ω) | | Return Loss (dB)Min | Insertion Loss (dB)Max | | Balance Port | | Application |
|--------------------|-----------------|-----------------------|---------|---------------------|------------------------|------------------|--------------|-----------------------|-------------|
| | | Unbalance | Balance | | Amplitude Imbalance | Phase Difference | | | |
| BTLU0016082G4S1A10 | 2400~2500 | 50 | 100 | 10 | 1.2 | | 2 dB Max | 180 \pm 10 $^\circ$ | WLAN/BT |
| BTLU0016082G4S1A20 | 2400~2500 | 50 | 50 | 10 | 1.2 | | 2 dB Max | 180 \pm 10 $^\circ$ | WLAN/BT |
| BTLU0016082G4S1C20 | 2400~2500 | 50 | 50 | 10 | 1.0 | | 2 dB Max | 180 \pm 10 $^\circ$ | WLAN/BT |
| BTLU0016083G5S1A20 | 3300~3800 | 50 | 50 | 10 | 1.2 | | 2 dB Max | 180 \pm 15 $^\circ$ | WIMAX |
| BTLU0016083G8S1A20 | 3300~4200 | 50 | 50 | 10 | 1.2 | | 1.5 dB Max | 180 \pm 15 $^\circ$ | LTE/5G |
| BTLU0016084G0S1A10 | 3100~5000 | 50 | 100 | 10 | 25 $^\circ$ C | 1.1 | 1.2 dB Max | 180 \pm 10 $^\circ$ | LTE/5G |
| | | | | | -40~85 $^\circ$ C | 1.3 | 1.4 dB Max | 180 \pm 12 $^\circ$ | |
| BTLU0016085G5S1E10 | 4900~5900 | 50 | 100 | 10 | 1.2 | | 2 dB Max | 180 \pm 10 $^\circ$ | WLAN |

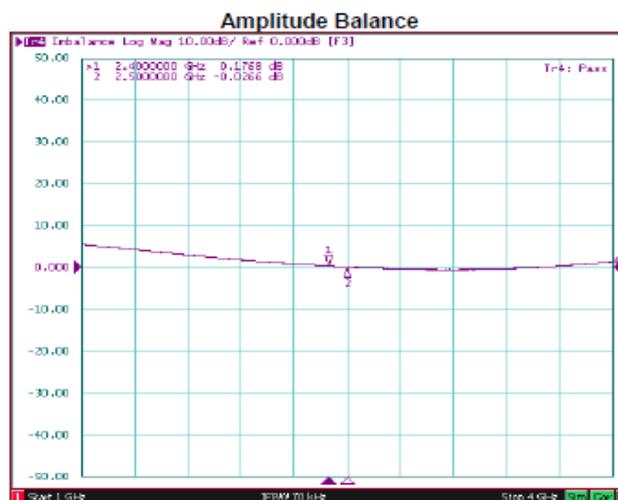
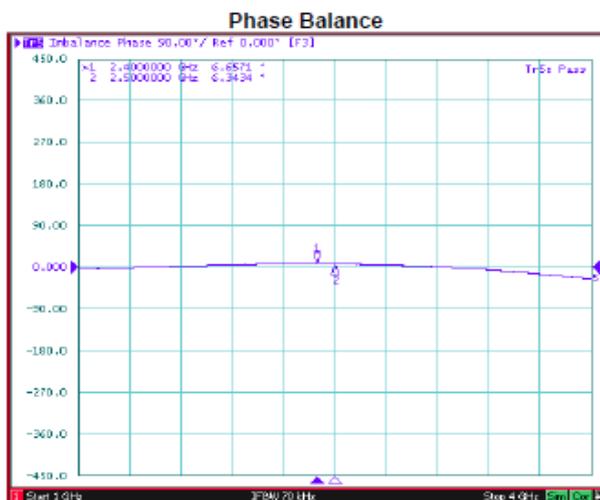
- Operating temperature range -40 $^\circ$ C ~85 $^\circ$ C

Test Instruments : Agilent E5071C Network Analyzer

BTLU0016082G4S1A10



BTLU0016082G4S1A10



BTLU0016082G4S1A20

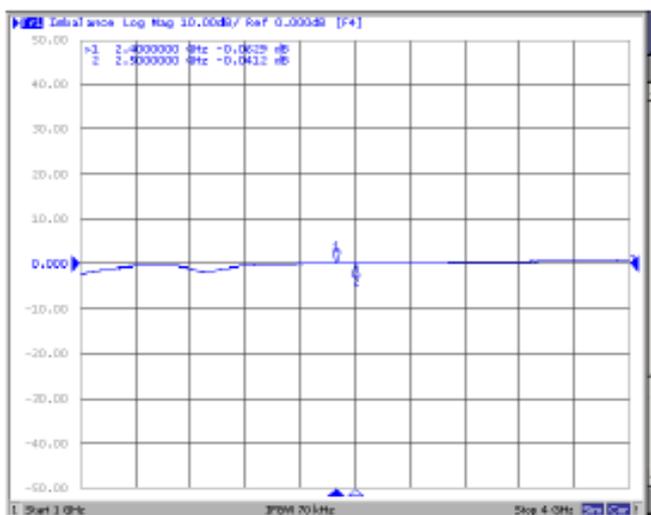


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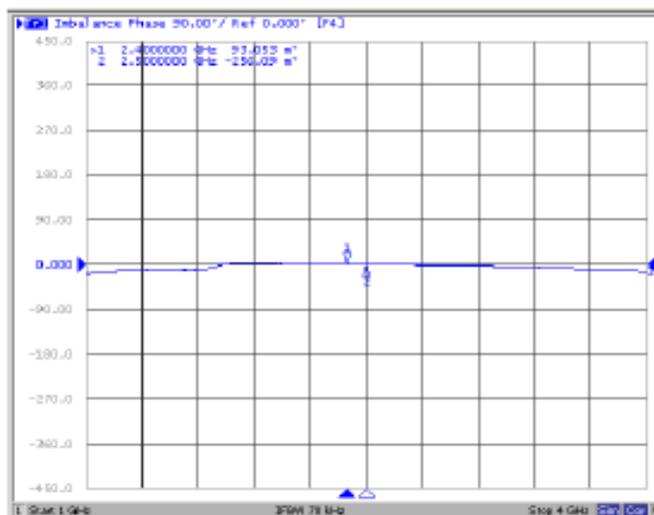
Low Temperature Cofired Ceramic - BTLU Series

BTLU0016082G4S1A20

Amplitude Balance

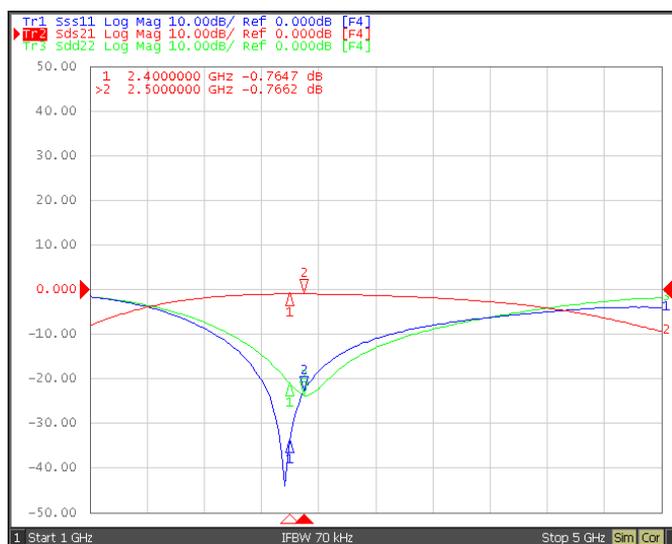


Phase Balance

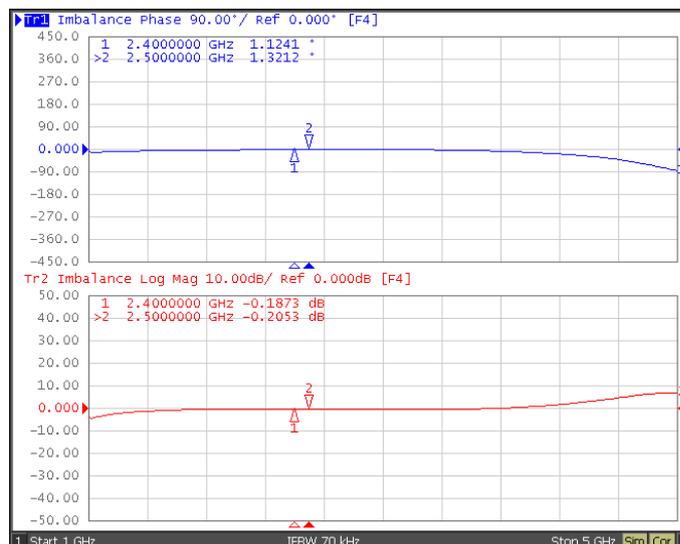


BTLU0016082G4S1C20

Insertion Loss / Return Loss

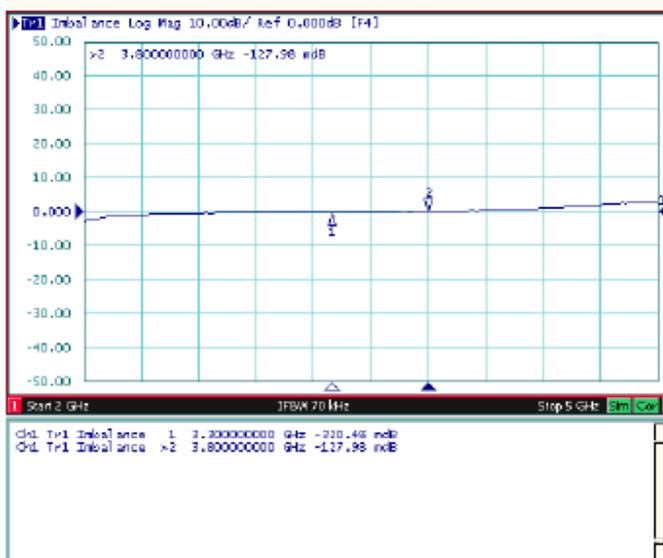
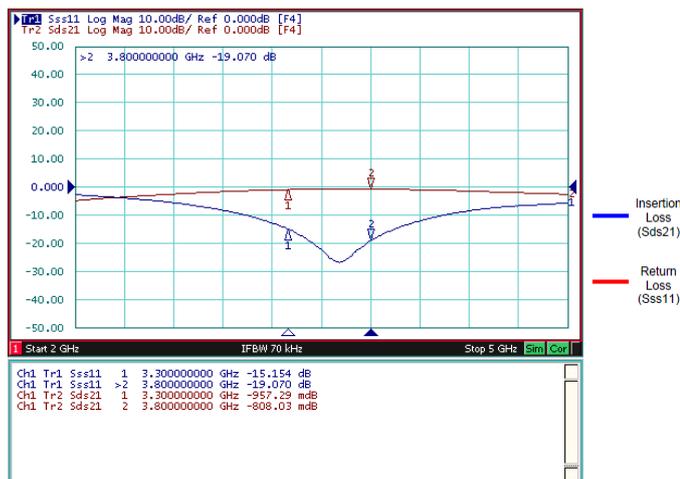


Phase / Amplitude



BTLU0016083G5S1A20

Amplitude Balance

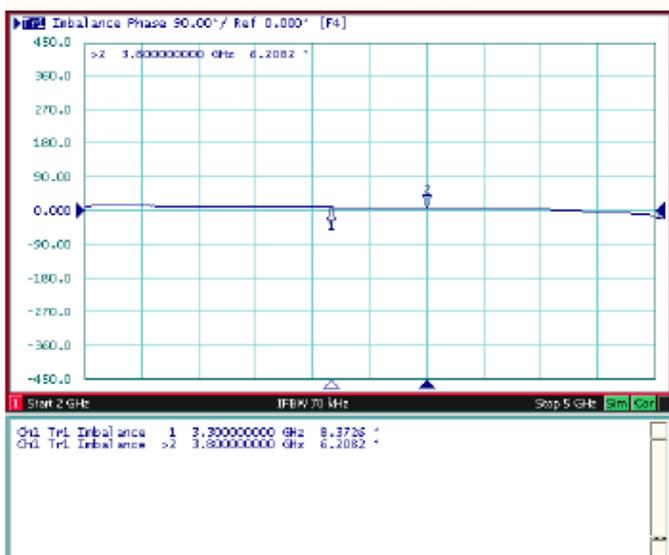


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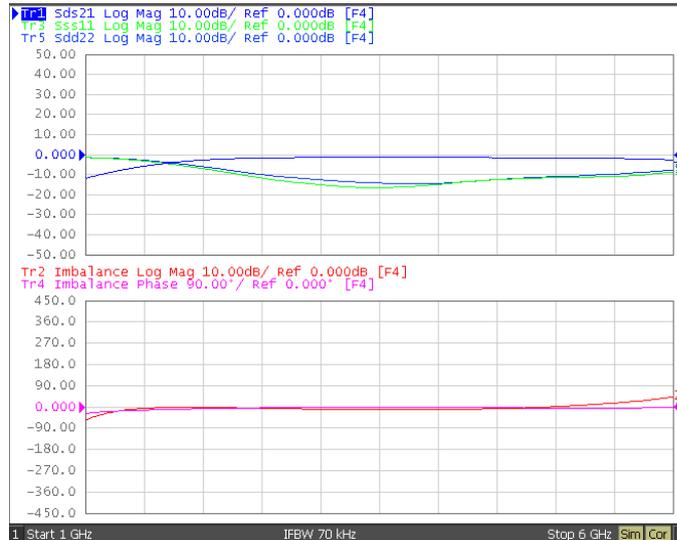
Low Temperature Cofired Ceramic - BTLU Series

BTLU0016083G5S1A20

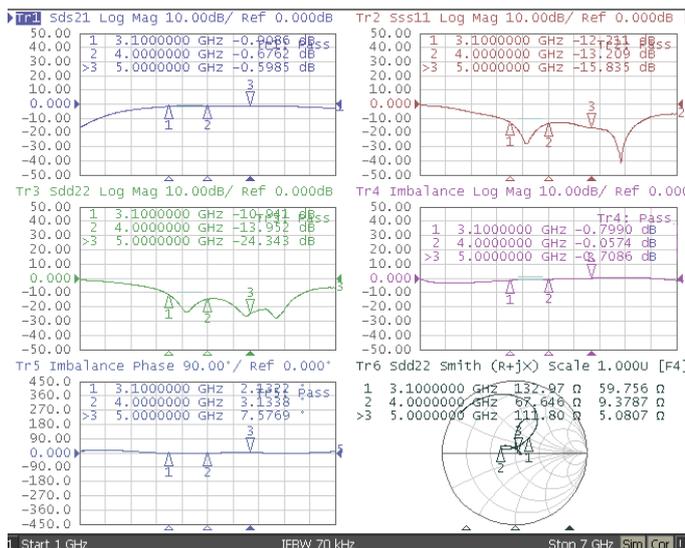
Phase Balance



BTLU0016083G8S1A20



BTLU0016084G0S1A10

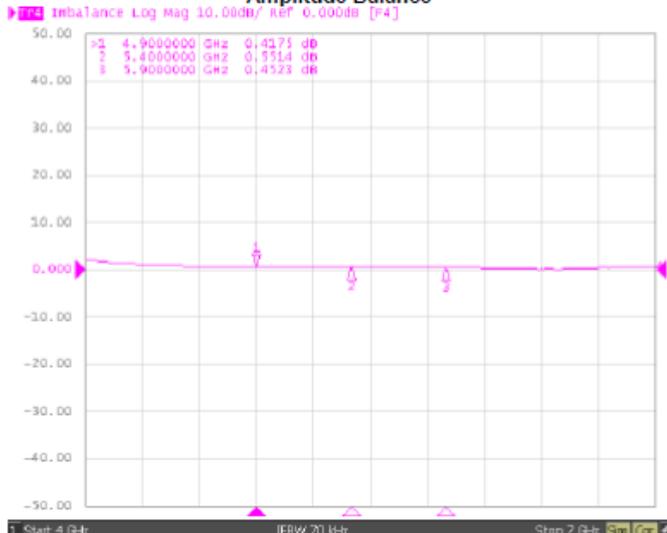


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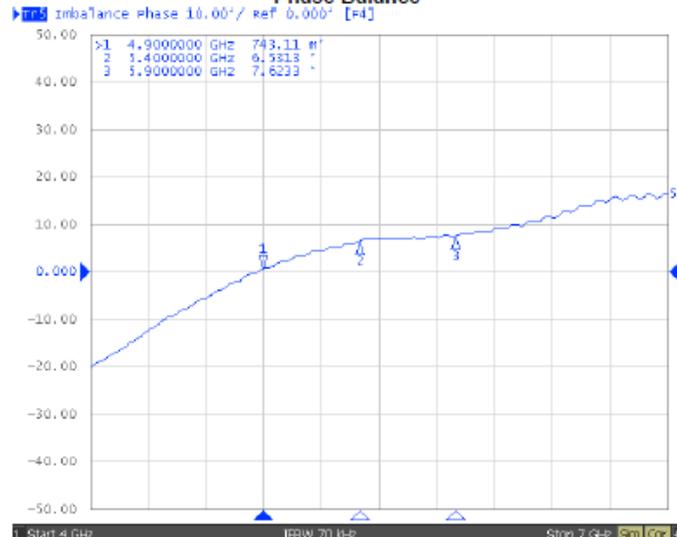


BTLU0016085G5S1E10

Amplitude Balance



Phase Balance



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Low Temperature Cofired Ceramic - BTLU Series

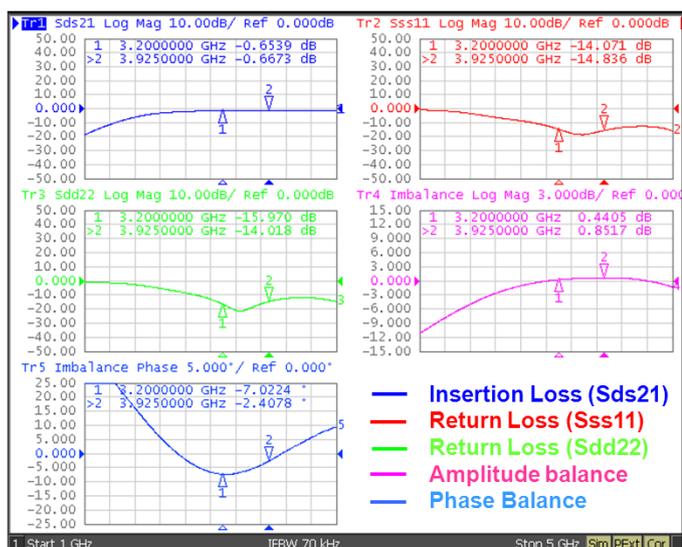
Electrical Characteristics

| Part Number | Pass Band (MHz) | Impedance(Ω) | | Return Loss (dB)Min | Insertion Loss (dB)Max | Balance Port | | Application |
|--------------------|-----------------|-----------------------|---------|---------------------|------------------------|---------------------|-----------------------|-------------|
| | | Unbalance | Balance | | | Amplitude Imbalance | Phase Difference | |
| BTLU0020123G6S1A30 | 3200~3925 | 50 | 200 | 10 | 1.2 | 1 dB Max | 180 \pm 10 $^\circ$ | WiMAX |

- Operating temperature range $-40^\circ\text{C} \sim 85^\circ\text{C}$

Test Instruments : Agilent E5071C Network Analyzer

BTLU0020123G6S1A30

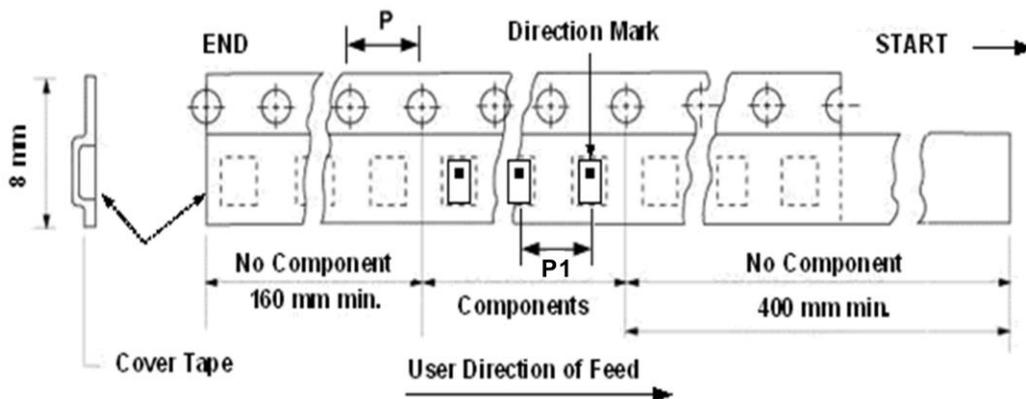


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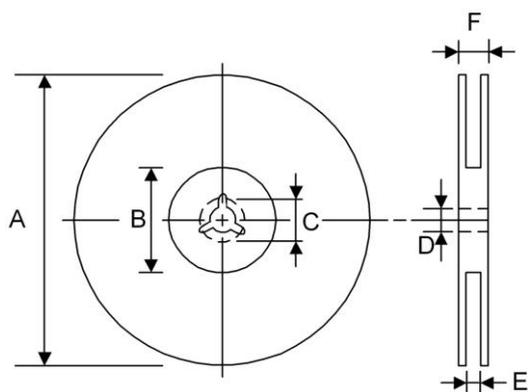
Low Temperature Cofired Ceramic - BTLU Series

Packaging Specifications

Tape Dimensions



Reel Dimensions



Dimensions in mm

| TYPE | Tape Dimensions | | Reel Dimensions | | | | | | Quantity PCS / REEL |
|------------|-----------------|----|-----------------|----|---|----|---|----|------------------------|
| | P | P1 | A | B | C | D | E | F | |
| BTLU000605 | 4 | 2 | 178 | 60 | - | 13 | 9 | 12 | 10000 |
| BTLU001005 | 4 | 2 | 178 | 60 | - | 13 | 9 | 12 | 10000 |
| BTLU001608 | 4 | 4 | 178 | 60 | - | 13 | 9 | 12 | 4000 |
| BTLU002012 | 4 | 4 | 178 | 60 | - | 13 | 9 | 12 | 4000 |