

## Balun Transformer(2-800MHz)

### Features

- Surface mount
- Impedance ratio: 1:4
- Available on tape and reel
- RoHS compliant and Pb free
- 260°C reflow compatible
- CT on Secondary

### Description

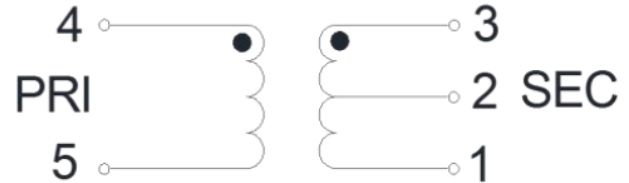
#### SCOPE

- MCBT4-1-041 is a 1:4 Balun transformer in a SMT package.

#### APPLICATIONS

- Ideally suited for high volume cellular and wireless applications.

### Functional Schematic



### Pin Configuration

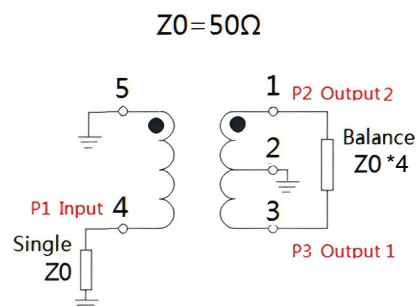
| Pin # | Function      | Pin # | Function    |
|-------|---------------|-------|-------------|
| 1     | Secondary Dot | 4     | Primary     |
| 2     | Secondary CT  | 5     | Primary Dot |
| 3     | Secondary     |       |             |

### ELECTRICAL SPECIFICATIONS@25°C

| Parameters (P#: ENA PORT)                     | frequency band | Min. | Typ.       | Max. | Unit |
|---|----------------|------|------------|------|------|
| Port Impedance, Z <sub>0</sub> (P1 / P2 / P3) |                |      | 50/100/100 |      | Ohm  |
| Insertion Loss                                | 10-100MHz      |      | 0.8        | 1.0  | dB   |
|   | 5-600MHz       |      | 1.2        | 2.0  | dB   |
|   | 2-800MHz       |      | 2.3        | 3.0  | dB   |
| Amplitude Balance                             | 10-100MHz      |      | 0.05       | 0.25 | dB   |
|   | 2-800MHz       |      | 0.6        | 1.0  | dB   |
| Phase Balance (Nominal 180°)                  | 10-500MHz      |      | 1.3        | 2    | Deg  |
|   | 2-800MHz       |      | 6.4        | 10   | Deg  |

External DC blocking capacitors are required on all RF ports (39 pF capacitors are recommended).

### Application & Test Circuit



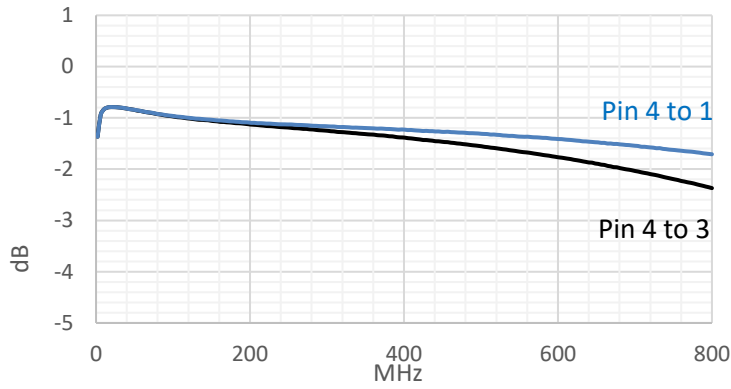
### Absolute Maximum Ratings

| Parameter                   | Value       |
|-----------------------------|-------------|
| Input Power                 | 250mW MAX   |
| DC Current                  | 30mA MAX    |
| Operating Temperature Range | -55 to 85°C |

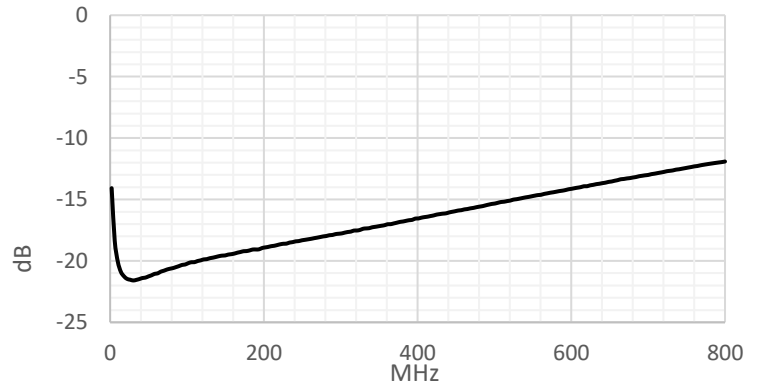
## Balun Transformer(2-800MHz)

### Test Curve

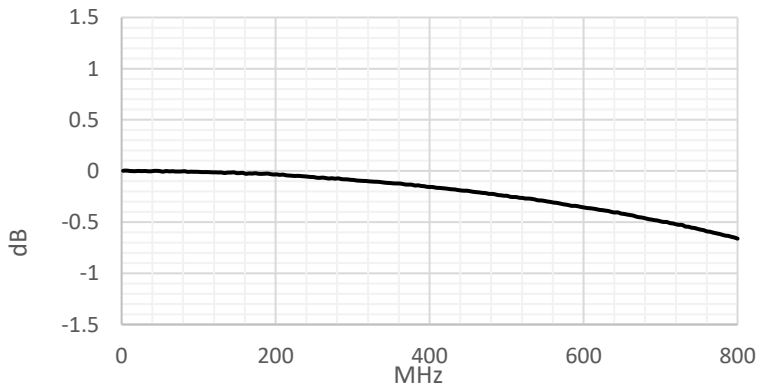
*Insertion Loss*



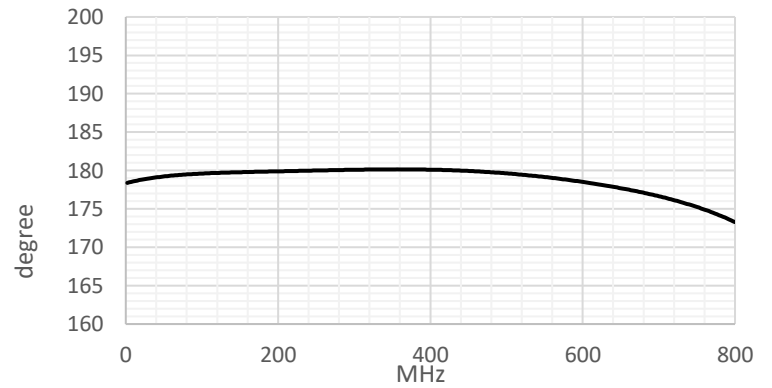
*Input Return Loss: Pin 4*



*Amplitude Balance*



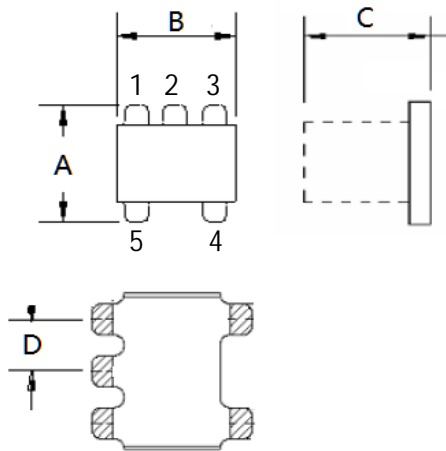
*Phase Balance*



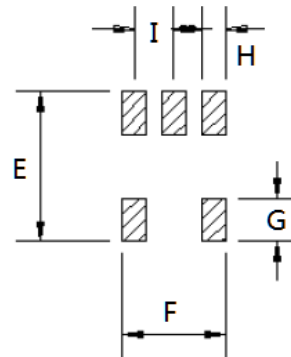
# MCBT4-1-041

## Balun Transformer(2-800MHz)

### Dimensions



### Land Pattern



| A    | B    | C       |
|------|------|---------|
| 3.81 | 3.81 | 2.90Max |
| D    |      |         |
| 1.27 |      |         |

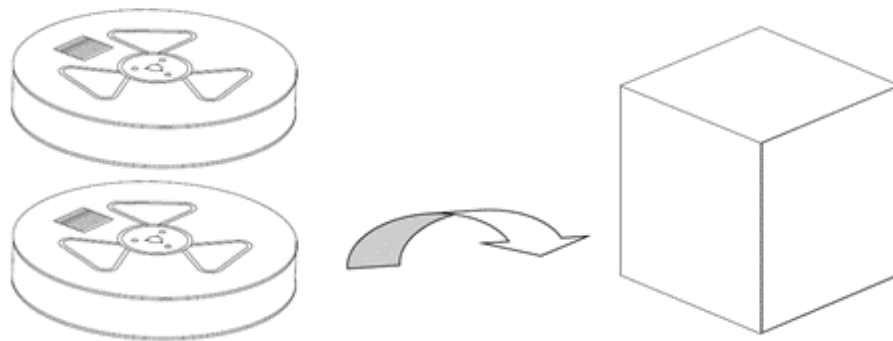
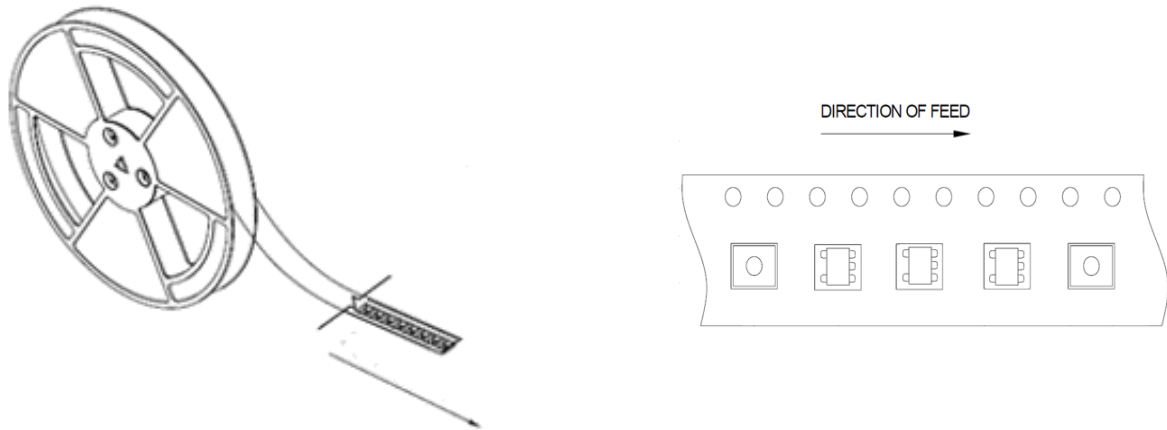
| E    | F    | G    |
|------|------|------|
| 4.83 | 3.30 | 1.40 |
| H    | J    |      |
| 0.76 | 1.27 |      |

Unless otherwise stated dimensions are in mm

Tolerance: .xx ± 0.25, .xxx ± 0.05

## Balun Transformer(2-800MHz)

### Packing



Ten Reel

Export Carton

Quantity per reel: 2000 pcs

Quantity per export carton: 20000 pcs