



**THE DATASHEET OF  
DEA102500LT-9052A1**





Aug. 2016 Ver.1.1  
TDK Corporation

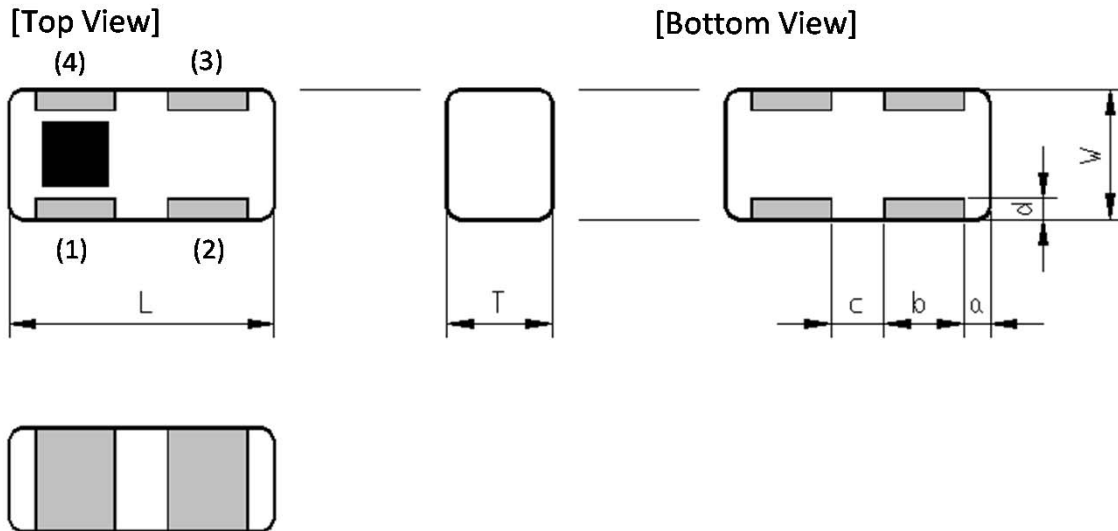
Multilayer LPF+Balun  
For Bluetooth Low Energy

HHM Series 1.0x0.5mm [EIA 0402] TYPE

P/N: **DEA102500LT-9052A1**

## DEA102500LT-9052A1

### ■ SHAPES AND DIMENSIONS



Dimensions (mm)

| L       | W       | T    | a       | b       | c       | d       |
|---------|---------|------|---------|---------|---------|---------|
| 1.00    | 0.50    | 0.40 | 0.10    | 0.30    | 0.20    | 0.12    |
| +/-0.05 | +/-0.05 | Max  | +/-0.10 | +/-0.10 | +/-0.10 | +/-0.10 |

Terminal functions

|     |                 |
|-----|-----------------|
| (1) | GND             |
| (2) | Unbalanced Port |
| (3) | Balanced Port   |
| (4) | Balanced Port   |

### ■ TEMPERATURE RANGE

| Operating temperature | Storage temperature |
|-----------------------|---------------------|
| -40 to +85 °C         | -40 to +85 °C       |

### ■ TERMINATION FINISH

| Material |
|----------|
| Sn plate |

## DEA102500LT-9052A1

### ■ ELECTRICAL CHARACTERISTICS

( Measurement )

In-band specifications

| Parameter                                | Frequency (MHz) | TDK Spec             |       |      |
|--|-----------------|----------------------|-------|------|
|  |                 | Min.                 | Typ.  | Max. |
| Unbalanced Port Characteristic Impedance | 2360 to 2500    | 50                   |       |      |
| Balanced Port Characteristic Impedance   | 2360 to 2500    | Match to NXP NxH2003 |       |      |
| Return Loss (dB)                         | 2360 to 2500    | 10                   | 15.1  | -    |
| Phase Balance (deg.)                     | 2360 to 2500    | 170                  | 178.0 | 190  |
| Amplitude Balance (dB)                   | 2360 to 2500    | -1.5                 | 0.57  | 1.5  |
| Insertion Loss (dB)                      | 2360 to 2500    | -                    | 0.62  | 0.90 |
| Power Handling (W)                       |                 | -                    |       | 0.08 |

 $T_a = +25 \pm 5^\circ\text{C}$ 

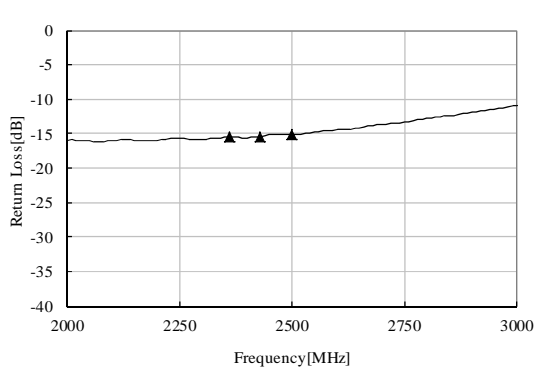
Out of band specifications

| Parameter                          | Frequency (MHz) | TDK Spec |      |      |
|------------------------------------|-----------------|----------|------|------|
|                                    |                 | Min.     | Typ. | Max. |
| Differential mode impedance (ohm)  |                 | 100      |      |      |
| Common mode impedance (ohm)        |                 | 25       |      |      |
| Differential mode attenuation (dB) | 4800 to 5000    | 5        | 8.4  | -    |
| Common mode attenuation (dB)       | 4800 to 5000    | 20       | 24.7 | -    |
| Differential mode attenuation (dB) | 7200 to 7500    | 15       | 25.9 | -    |
| Common mode attenuation (dB)       | 7200 to 7500    | 5        | 14.7 | -    |
| Differential mode attenuation (dB) | 9600 to 10000   | 5        | 26.7 | -    |
| Common mode attenuation (dB)       | 9600 to 10000   | 10       | 18.0 | -    |

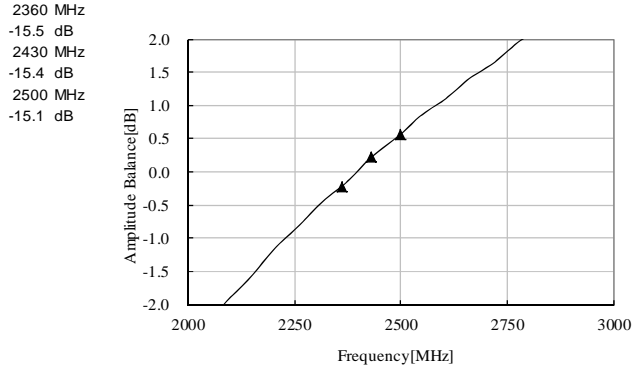
# DEA102500LT-9052A1

## FREQUENCY CHARACTERISTICS

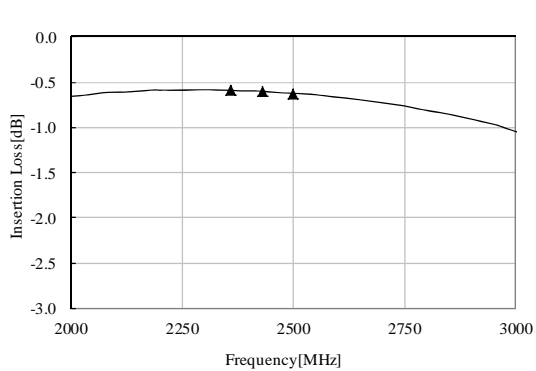
**Return Loss**



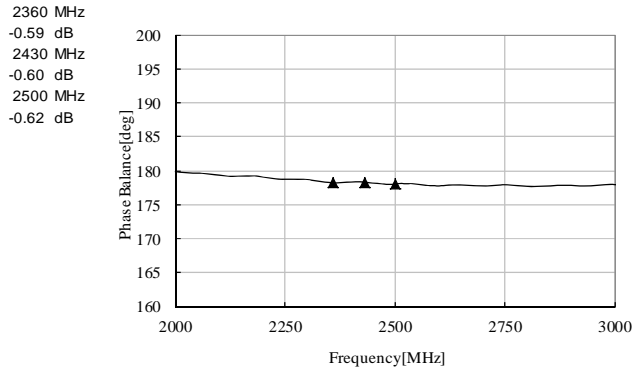
**Amplitude Balance**



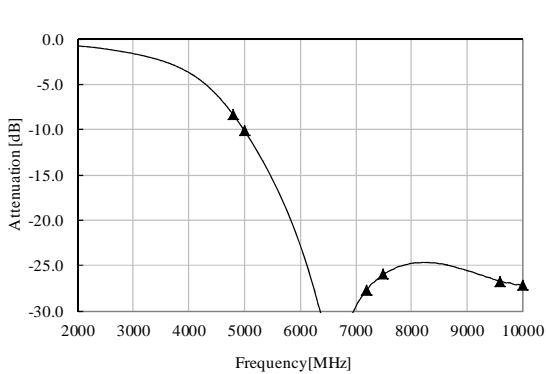
**Insertion Loss**



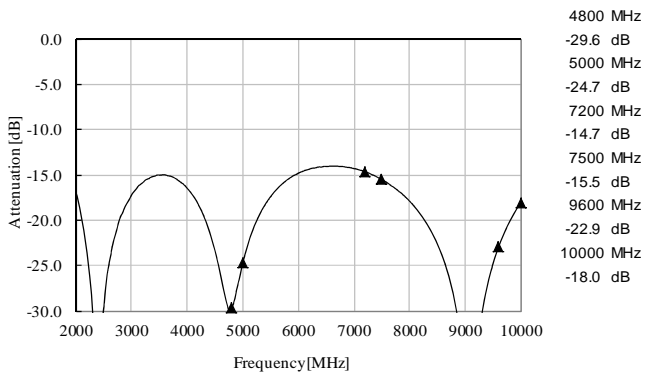
**Phase Balance**



**Differential Mode**

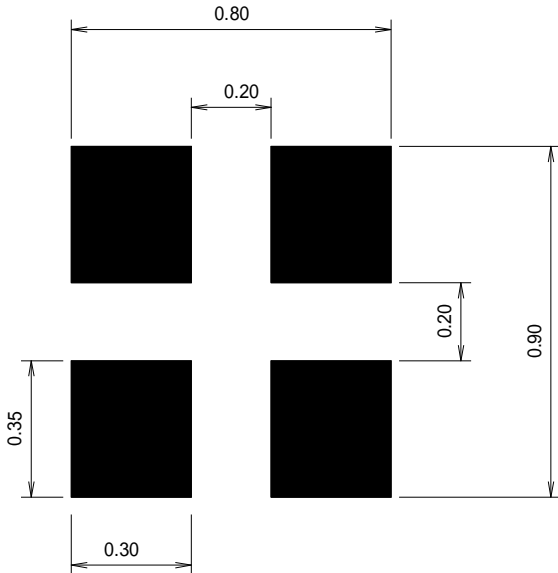


**Common Mode**

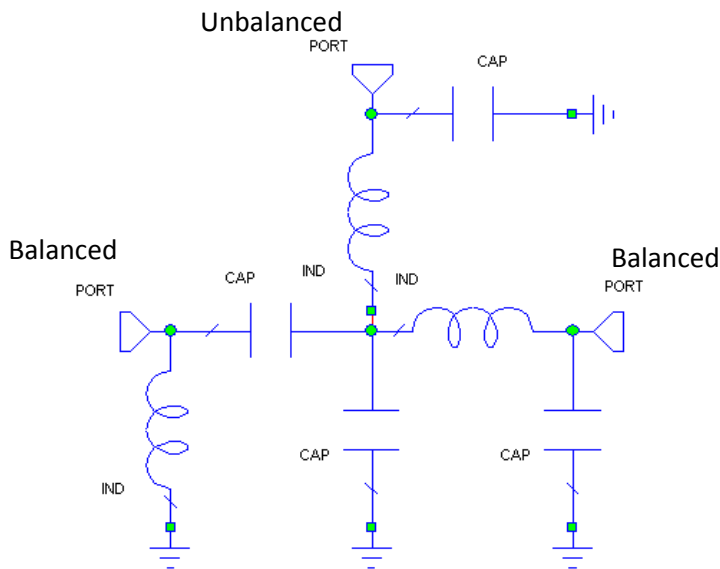


## DEA102500LT-9052A1

### RECOMMENDED LAND PATTERN



### EVALUATLENT CIRCUIT



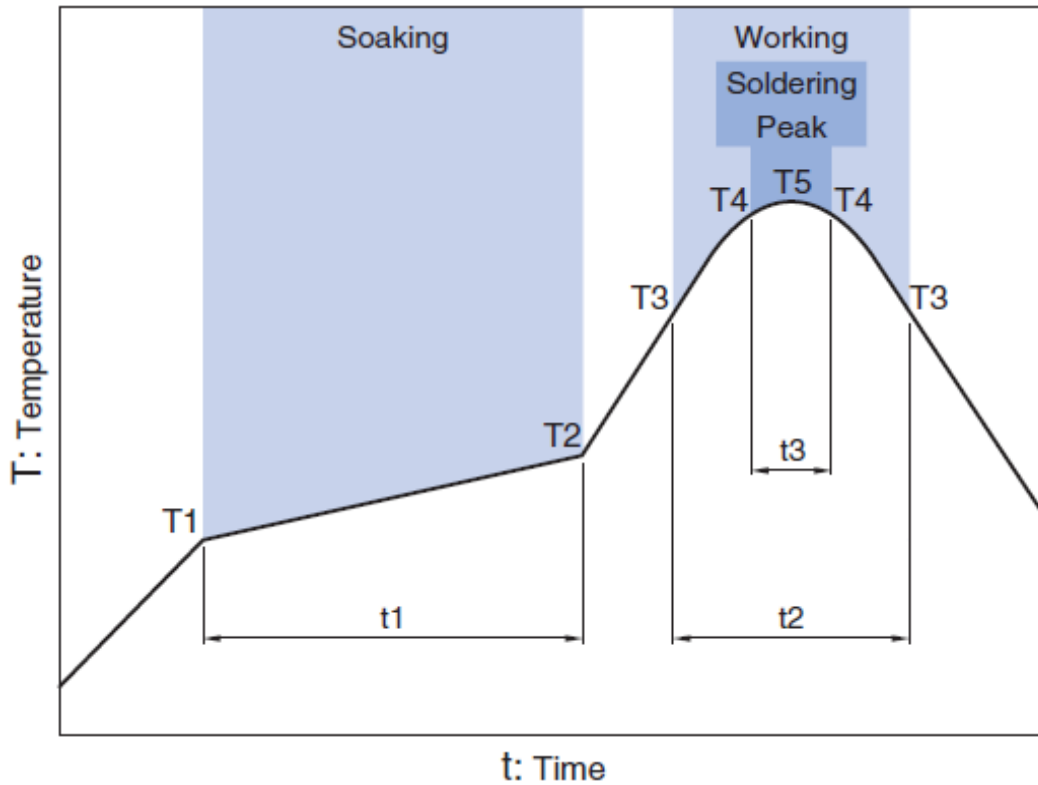
### ENVIRONMENT INFORMATION

RoHS Statement  
 RoHS Compliance

## DEA102500LT-9052A1

### ■ RECOMMENDED REFLOW PROFILE

Pb free solder

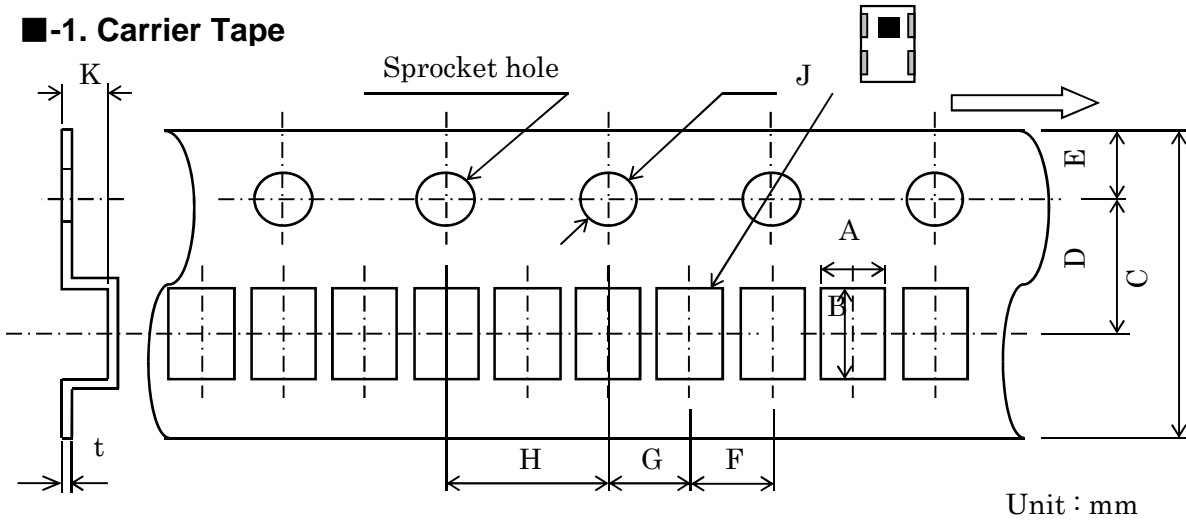


| Soaking |       |              | Working |                 | Soldering    |              | Peak       |
|---------|-------|--------------|---------|-----------------|--------------|--------------|------------|
| Temp.   | Temp. | Time         | Temp.   | Time            | Temp.        | Time         | Temp.      |
| T1      | T2    | t1           | T3      | t2              | T4           | t3           | T5         |
| 150°C   | 180°C | 60 to 120sec | 230°C   | more than 30sec | 247 to 253°C | within 10sec | 260°C Max. |

# DEA102500LT-9052A1

## PACKAGING

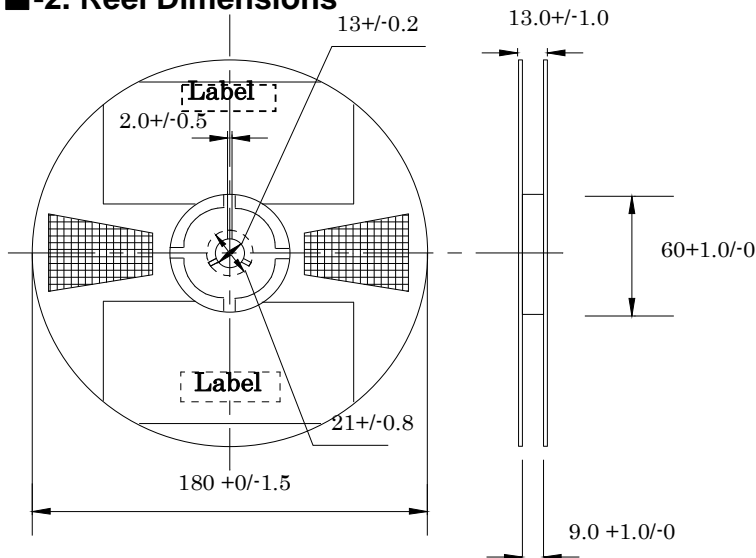
### -1. Carrier Tape



Unit : mm

| A       | B       | C      | D       | E      | F       | G       | H       | J       | K    | t       |
|---------|---------|--------|---------|--------|---------|---------|---------|---------|------|---------|
| 0.62    | 1.12    | 8.0    | 3.5     | 1.75   | 2.0     | 2.0     | 4.0     | 1.5     | 0.48 | 0.25    |
| +/-0.05 | +/-0.05 | +/-0.2 | +/-0.05 | +/-0.1 | +/-0.05 | +/-0.05 | +/-0.05 | +0.1/-0 | MAX  | +/-0.05 |

### -2. Reel Dimensions



Unit : mm

### -3. Standard Reel Packaging quantities

| STANDARD PACKAGE QUANTITY<br>( pieces/reel ) |
|--|
| 10,000                                       |

## REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

### SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

|  |
|--|
|  <b>REMINDERS</b> |
|--|

The products listed on this specification sheet are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.

The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property. Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this specification sheet.

1. Aerospace/Aviation equipment
2. Transportation equipment (cars, electric trains, ships, etc.)
3. Medical equipment
4. Power-generation control equipment
5. Atomic energy-related equipment
6. Seabed equipment
7. Transportation control equipment
8. Public information-processing equipment
9. Military equipment
10. Electric heating apparatus, burning equipment
11. Disaster prevention/crime prevention equipment
12. Safety equipment
13. Other applications that are not considered general-purpose applications

When using this product in general-purpose applications, you are kindly requested to take into consideration securing protection circuit/equipment or providing backup circuits, etc., to ensure higher safety.





## Looking for pricing, stock, or lifecycle information?

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-  Shortage Management
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