



Multilayer Balun

For 470-710MHz

HHM1591A1

2.0×1.25mm [EIA 0805]*

* Dimensions Code JIS[EIA]

Caution

**The products in this catalog will be or have been
stopped production**

| | |
|--------------------------|---------------|
| Discontinue Issue Date | Jul. 6, 2018 |
| Last Purchase Order Date | Dec. 17, 2018 |
| Last Shipment Date | Mar. 29, 2019 |

Please refer to our Web site about replacement information.

Multilayer Balun

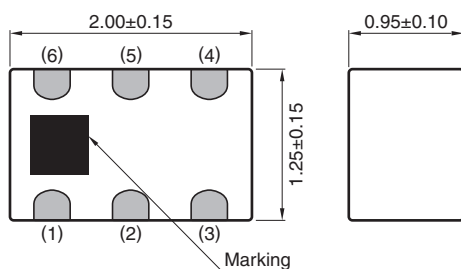
For 470-710MHz

Conformity to RoHS Directive

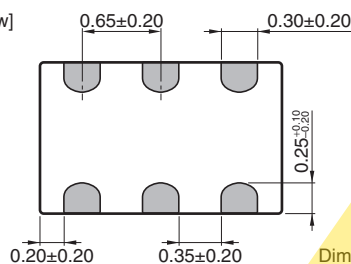
HHM1591A1

SHAPES AND DIMENSIONS

[Top view]



[Bottom view]

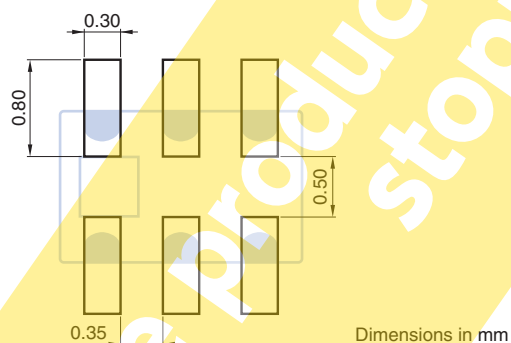


Terminal functions

| | |
|---|------------------------|
| 1 | Unbalanced port |
| 2 | GND or DC feed+ RF GND |
| 3 | Balanced port |
| 4 | Balanced port |
| 5 | GND |
| 6 | N.C. |

Dimensions in mm

RECOMMENDED LAND PATTERN



Dimensions in mm

RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. <http://product.tdk.com/en/environment/rohs/>

- All specifications are subject to change without notice.
- Before using these products, be sure to request the delivery specifications.

HHM1591A1

ELECTRICAL CHARACTERISTICS

| Item | Frequency Range (MHz) | Min. | Typ. | Max. |
|---|-----------------------|------|---------------|------|
| Unbalanced Port Characteristic Impedance (Ω) | | | 50 (Nominal) | |
| Balanced Port Characteristic Impedance (Ω) | | | 100 (Nominal) | |
| Return Loss at Unbalanced Port (dB) | 470 to 710 | 9 | — | — |
| Phase Balance (deg.) | 470 to 710 | 170 | — | 190 |
| Amplitude Balance (dB) | 470 to 710 | -1.5 | — | 1.5 |
| Insertion Loss (dB) | 470 to 710 | — | — | 1.4 |

TEMPERATURE RANGE

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

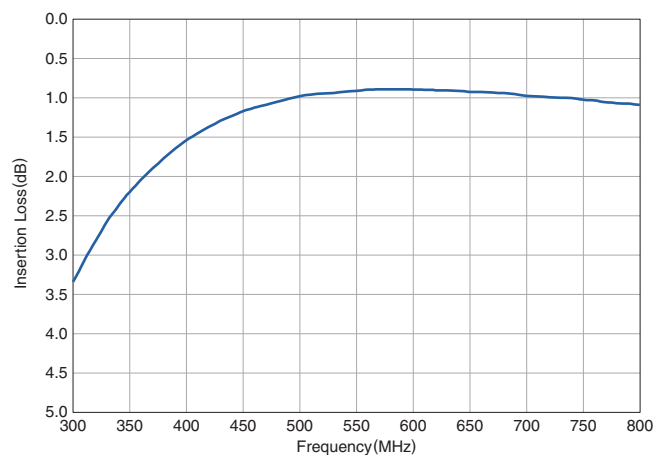
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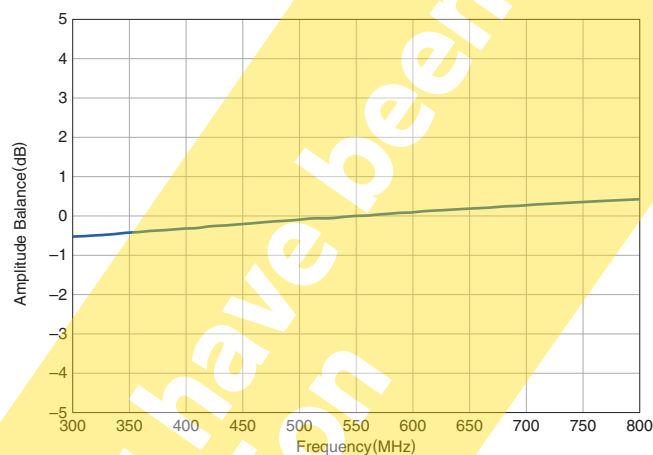
HHM1591A1

FREQUENCY CHARACTERISTICS

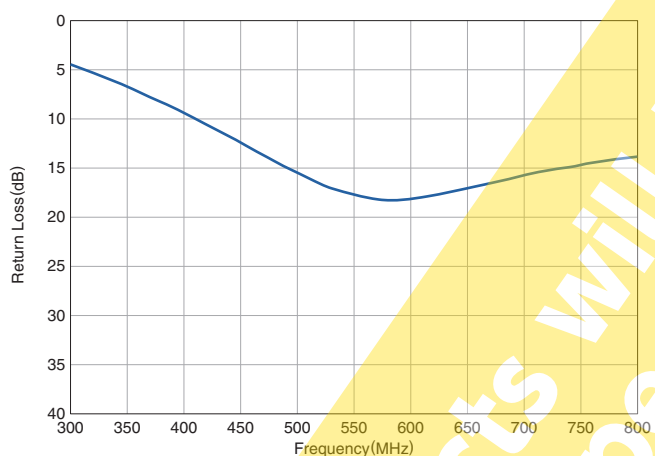
INSERTION LOSS



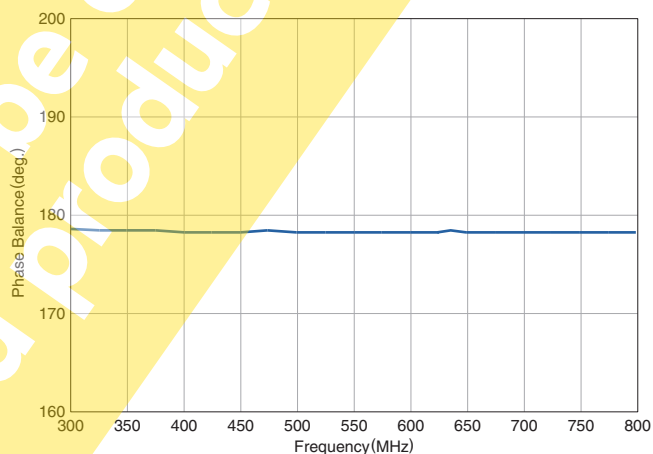
AMPLITUDE BALANCE



RETURN LOSS



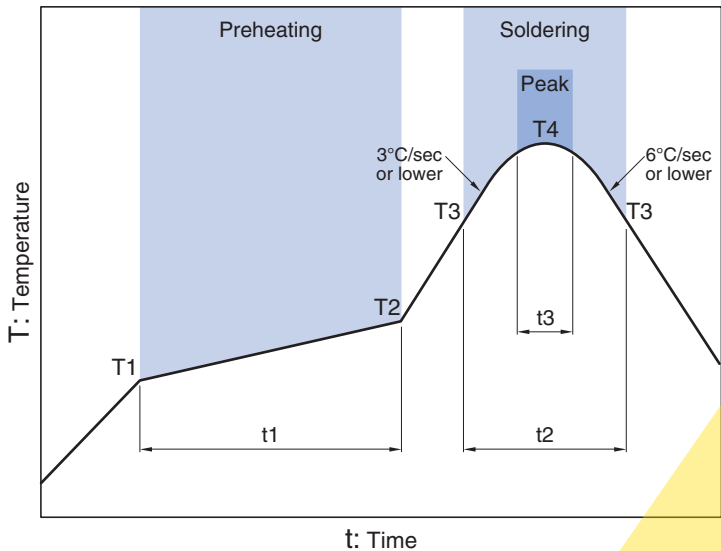
PHASE BALANCE



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HHM1591A1

RECOMMENDED REFLOW PROFILE



| Preheating | | | Soldering | | | |
|------------|-------|--------------|--------------------------|--------------|--------------|------------|
| | | | Critical zone (T3 to T4) | | Peak | |
| Temp. | | Time | Temp. | Time | Temp. | Time |
| T1 | T2 | t1 | T3 | t2 | T4 | t3* |
| 150°C | 200°C | 60 to 120sec | 217°C | 60 to 120sec | 240 to 260°C | 30sec max. |

* t3 : Time within 5°C of actual peak temperature
The maximum number of reflow is 3.

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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.

REMINDERS

The products listed on this catalog 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 catalog.

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

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.

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