⚠The products in this catalog are not recommended for new design

RF Components

June 2015

Multilayer Balun

For 2300-2700MHz

HHM1603A1

0.65x0.5mm [EIA 0202]*

* Dimensions Code JIS[EIA]

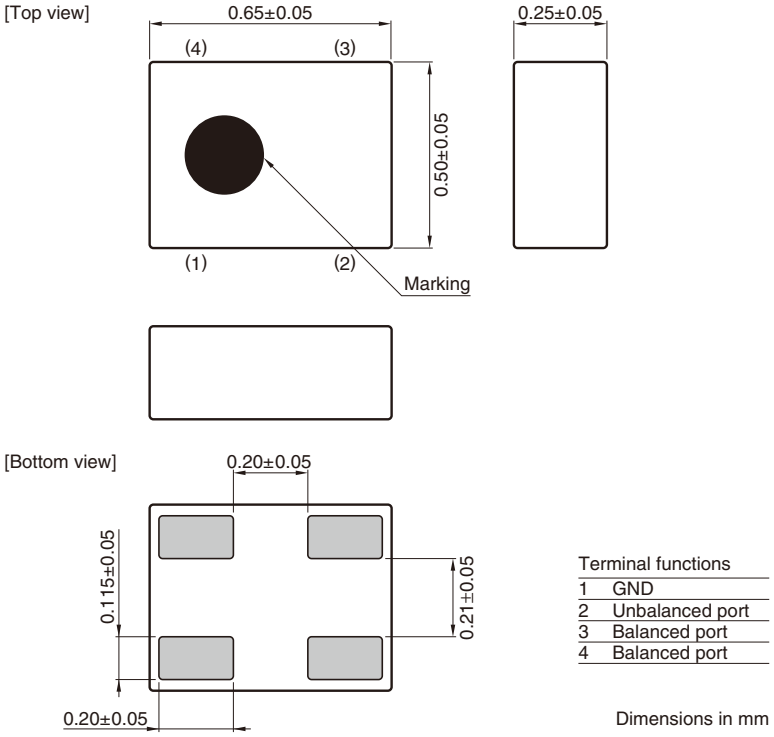
Multilayer Balun

For 2300-2700MHz

Conformity to RoHS Directive

HHM1603A1

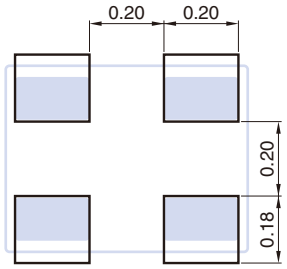
SHAPES AND DIMENSIONS



Terminal functions	
1	GND
2	Unbalanced port
3	Balanced port
4	Balanced port

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.

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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)	2300 to 2700	10	24	—
Phase Balance (deg.)	2300 to 2700	170	177.4	190
Amplitude Balance (dB)	2300 to 2700	–2.0	1.17	2.0
Insertion Loss (dB)	2300 to 2700	—	0.27	0.5

TEMPERATURE RANGE

Operating temperature (°C)	Storage temperature (°C)
–40 to +85	–40 to +85

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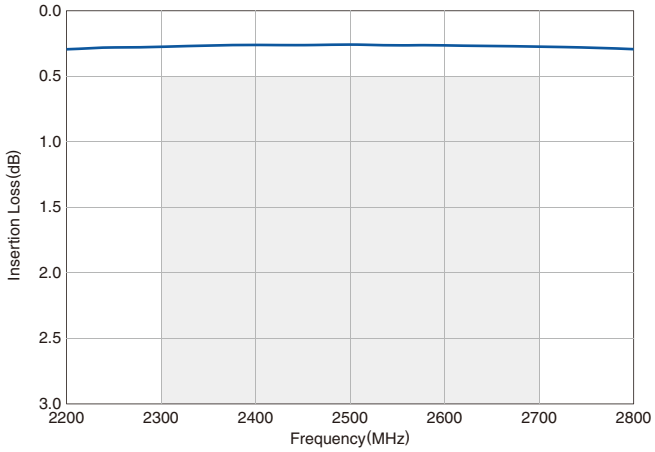
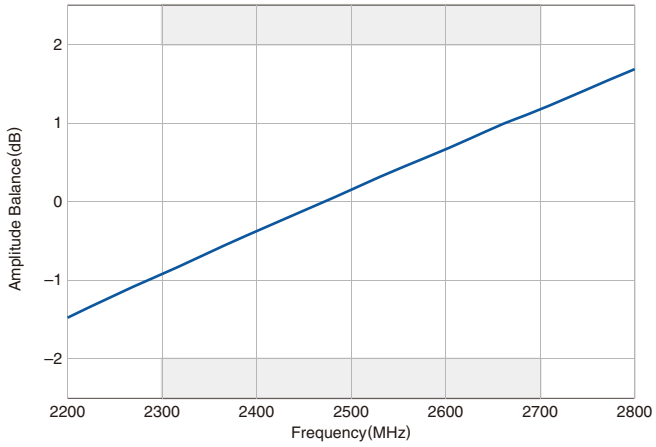
FREQUENCY CHARACTERISTICS

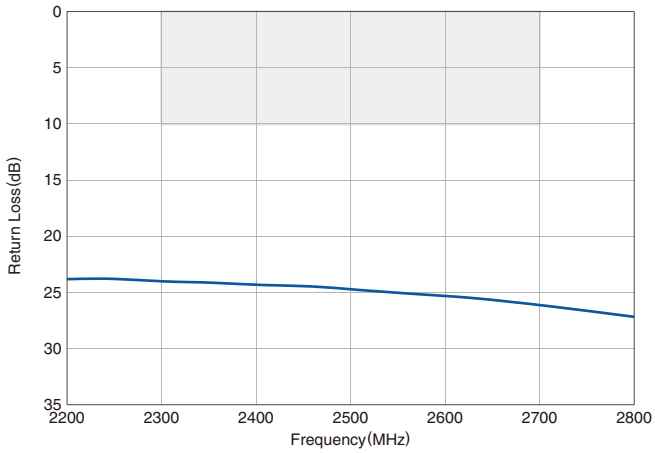
INSERTION LOSS



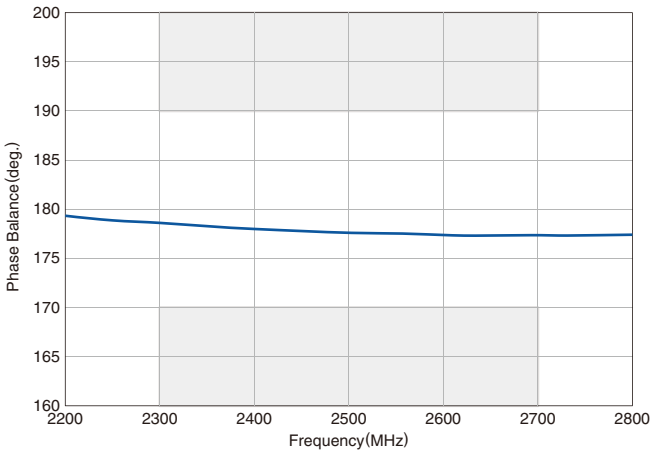
AMPLITUDE BALANCE



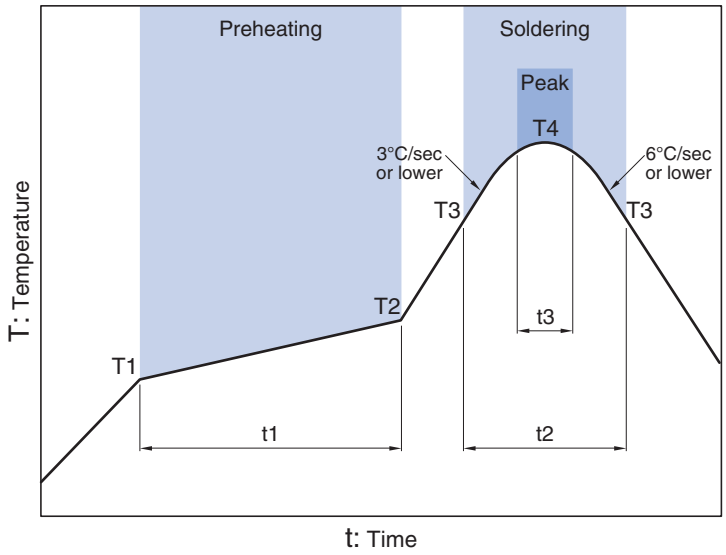
RETURN LOSS



PHASE BALANCE



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.

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
(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.