



# Multilayer Directional Coupler (2 in 1)

For 824-849MHz / 880-915MHz / 1710-1785MHz / 1850-1910MHz

# HHM2319B2

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**2.0x1.25mm [EIA 0805]\***

\* Dimensions Code JIS[EIA]

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# Multilayer Directional Coupler (2 in 1)

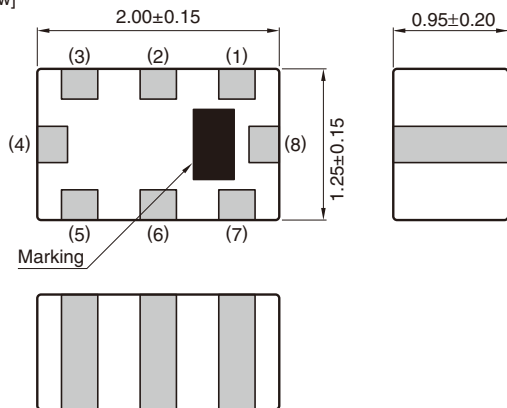
Conformity to RoHS Directive

For 824-849MHz / 880-915MHz / 1710-1785MHz / 1850-1910MHz

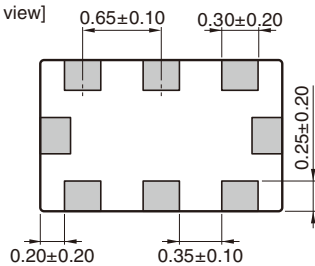
## HHM2319B2

### SHAPES AND DIMENSIONS

[Top view]



[Bottom view]



## Terminal functions

1	Band2 input port
2	GND
3	Band1 input port
4	50Ω termination
5	Band1 output port
6	GND
7	Band2 output port
8	Monitor output port

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.

# HHM2319B2

## ELECTRICAL CHARACTERISTICS

Band			1	2	
Frequency Range	(MHz)		824 to 849	880 to 915	1710 to 1785 1850 to 1910
Coupling Factor	(dB)		20.0±1.0	20.0±1.0	20.0±1.0 20.0±1.0
Insertion Loss	(dB)max.		0.20	0.20	0.30 0.30
Isolation*(Directivity)	IN1-OUT2	(dB)min.	32	32	32 32
	IN2-OUT1	(dB)min.	32	32	32 32
	IN1-IN2	(dB)min.	28	28	28 28
	IN-Load	(dB)	35typ. 32min.	35typ. 32min.	35typ. 32min. 35typ. 32min.
Return Loss (dB)	(dB)min.		17.69	17.69	17.69 17.69
Characteristic Impedance ( $\Omega$ )					50 (Nominal)

\* Isolation between opposite bands is specified over the frequency ranges of both bands.  
Isolation in-band is specified over the frequency of the band in question

## TEMPERATURE RANGE

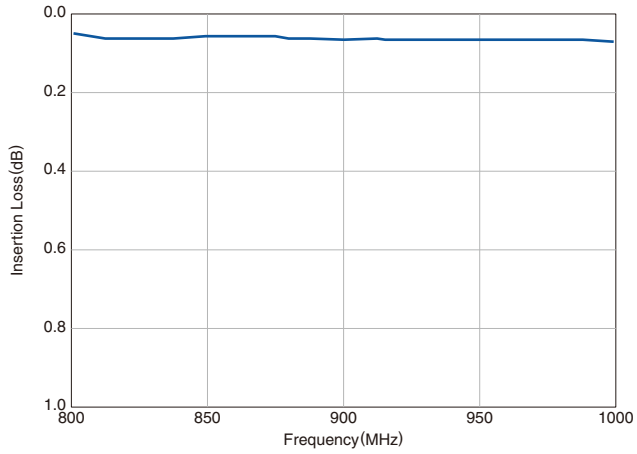
Operating temperature (°C)	Storage temperature (°C)
-40 to +85	-40 to +85

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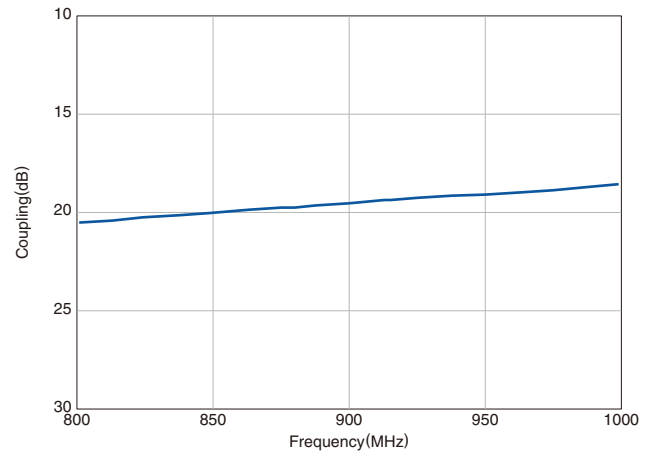
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## FREQUENCY CHARACTERISTICS (BAND1)

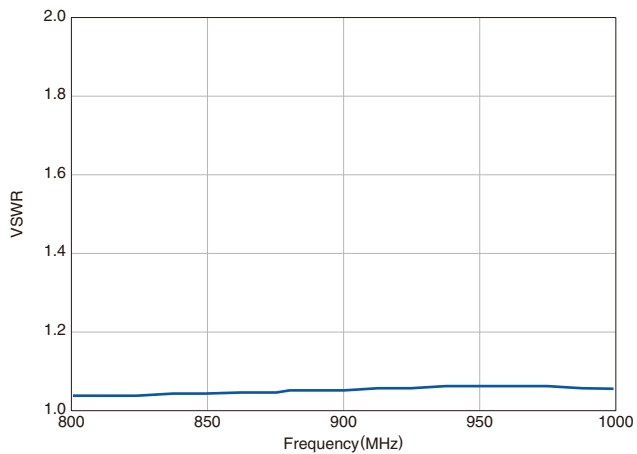
INSERTION LOSS



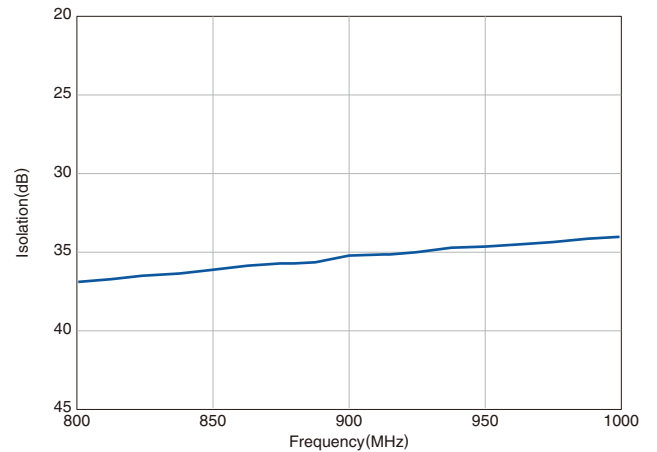
COUPLING



VSWR



ISOLATION(IN-Load)

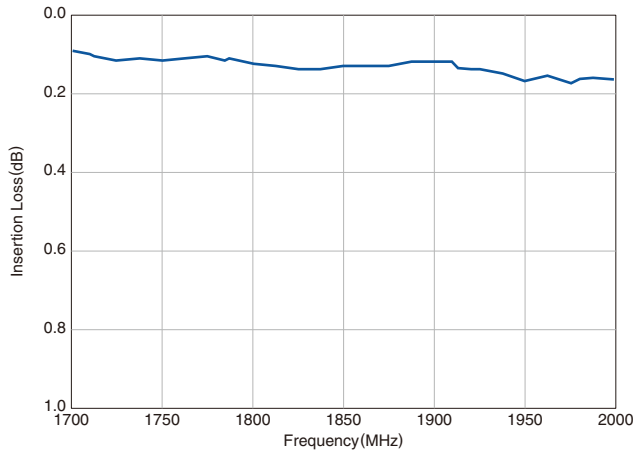


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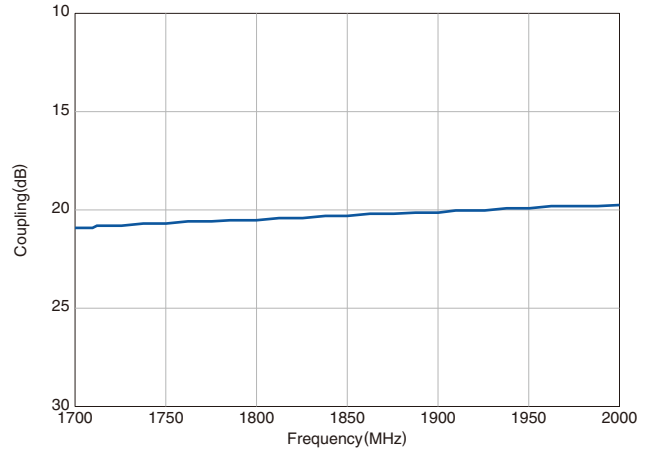
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## FREQUENCY CHARACTERISTICS (BAND2)

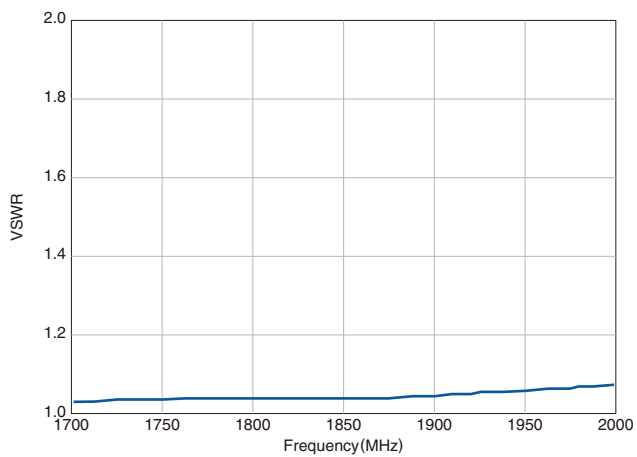
### INSERTION LOSS



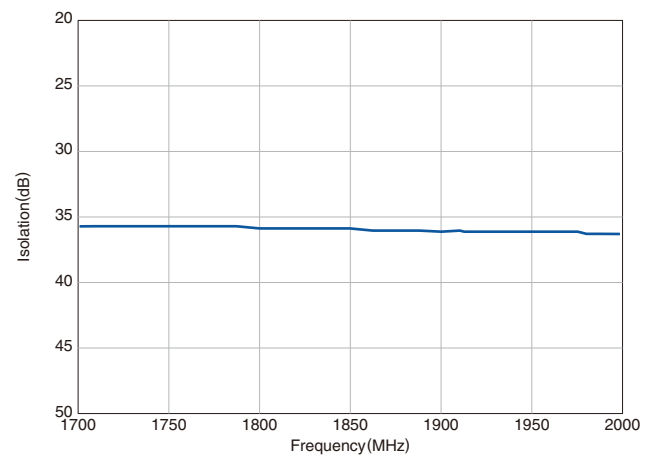
### COUPLING



### VSWR



### ISOLATION(IN-Load)



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## RECOMMENDED REFLOW PROFILE



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 120s	230°C	more than 30s	247 to 253°C	within 10s	260°C max.

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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.