

RF Components

Balun Transformers For Cellular Phone

HHM-10 Series

This small SMD type chip balun transformer is formed using a multi-layer process. This miniaturized product has roughly 1/2 the volume of previous product with equivalent characteristics.

FEATURES

- Miniaturized SMD type(L3.2×W1.6×T1.2mm typ.).
- Low insertion loss(0.8dB max.).

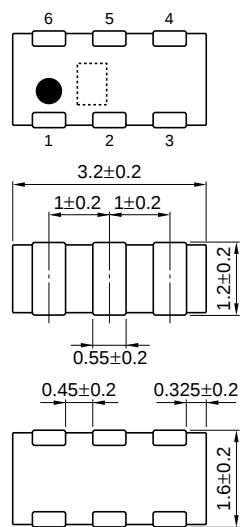
APPLICATIONS

Impedance matching, balanced to unbalanced conversion for mobile communication equipment

TEMPERATURE RANGES

Condition	Type	
	LC	Transformer
Operating	-25 to +70°C	-25 to +85°C
Storage	-25 to +85°C	-40 to +85°C

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN REFLOW

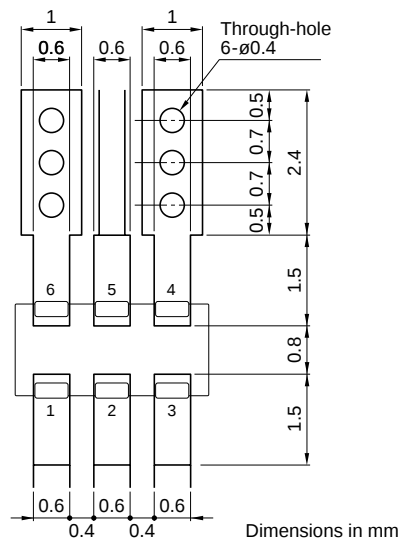


TERMINAL CONNECTIONS

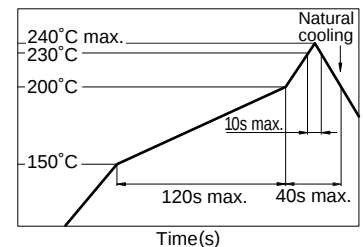
No.1	GND
No.2	Unbalanced port
No.3	GND
No.4	Balanced port
No.5	GND(N.C.)
No.6	Balanced port

Weight: 25mg typ.

Dimensions in mm



RECOMMENDED REFLOW SOLDERING CONDITIONS



APPLICATIONS/ELECTRICAL CHARACTERISTICS(Typical)

Ta=25°C

Part No.	Type	Application	Frequency (MHz)	Impedance (Ω)		Return loss (dB)min.	Phase imbalance at balanced port (degree)	Amplitude imbalance at balanced port (dB)max.	Insertion loss (dB)
				Unbalanced	Balanced				
HHM1101	LC	EGSM/TX	880 to 915	50	100	10	180±5	2	0.8
HHM1102		EGSM/RX	925 to 960	50	150	10	180±5	2	0.8
HHM1104		EGSM/RX	925 to 960	50	50	10	180±5	1	0.8
HHM1110		EGSM/TX	880 to 915	50	200	10	180±5	2	0.8
HHM1111		EGSM/RX	925 to 960	50	200	10	180±5	2	0.8
HHM1009	Transformer	DCS-PCS	1600 to 1800	50	50	10	180±10	2	0.8
HHM1010		DCS-PCS	1700 to 1900	50	50	10	180±10	2	0.8
HHM1011		DCS-PCS	1800 to 2000	50	50	10	180±10	2	0.8
HHM1012		DCS/RX	1805 to 1880	50	50	10	180±5	1	0.5
HHM1015		EGSM-DCS/LO	1200 to 1600	50	50	10	180±10	2	1
HHM1016		EGSM/TX-RX	880 to 960	50	200	10	180±5	1	0.8
HHM1017		DCS-PCS/TX-RX	1710 to 1990	50	200	10	180±5	1	0.8
HHM1018		EGSM/LO	1126 to 1206	50	200	10	180±10	2	0.8

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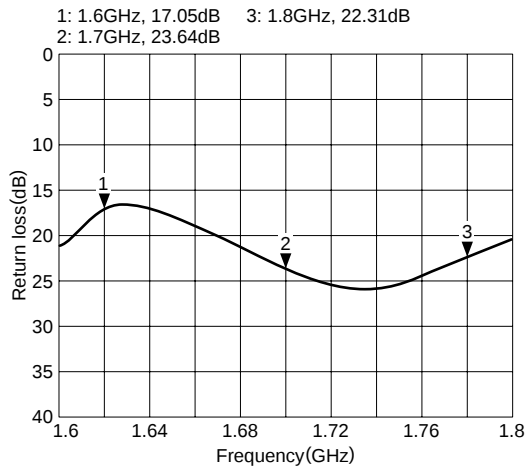
HHM-10 Series

TYPICAL ELECTRICAL CHARACTERISTICS

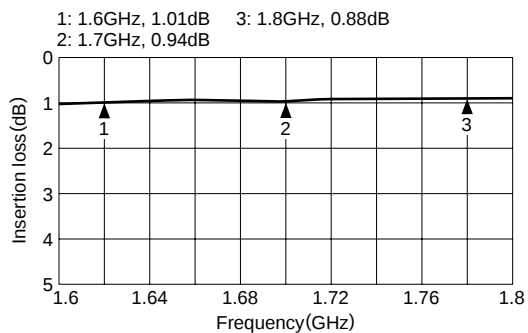
FREQUENCY CHARACTERISTICS

HHM1009

RETURN LOSS

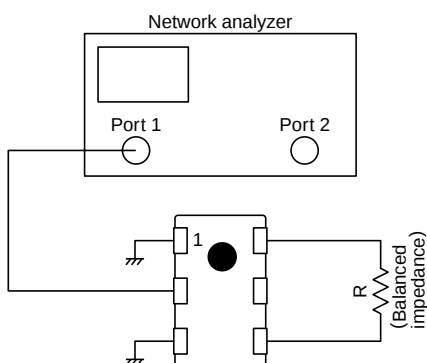


INSERTION LOSS(BACK TO BACK MEASUREMENT)



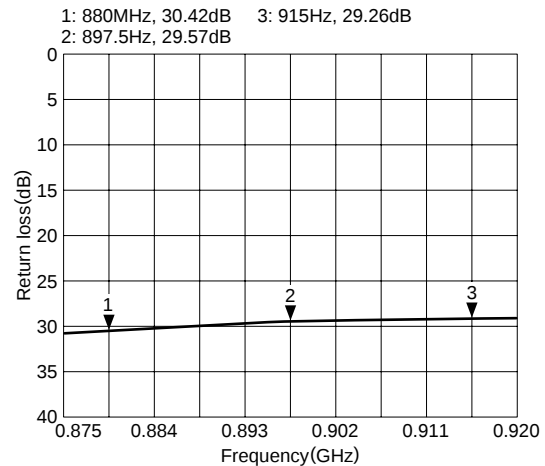
TEST CIRCUITS

RETURN LOSS

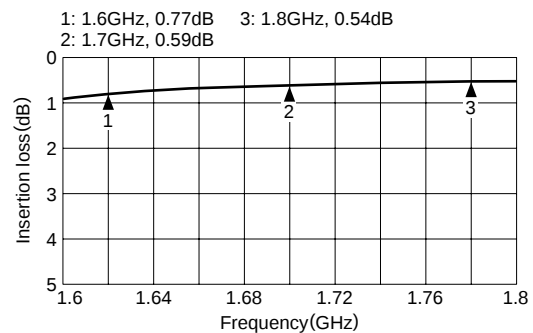


HHM1101

RETURN LOSS



INSERTION LOSS(BACK TO BACK MEASUREMENT)



INSERTION LOSS

