

Multilayer Balun Transformers

For 2.4GHz W-LAN/Bluetooth

HHM Series

Type: **HHM1710D1 (1.6×0.8×0.6mm)**
 HHM1711D1 (1.6×0.8×0.6mm)
 HHM1712D1 (1.6×0.8×0.6mm)
 HHM1713E2 (1.6×0.8×0.6mm)

Issue date: December 2010

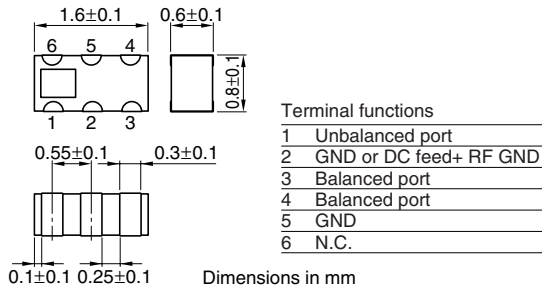
- All specifications are subject to change without notice.
 - Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
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Multilayer Chip Baluns For Bluetooth & 2.4GHz W-LAN

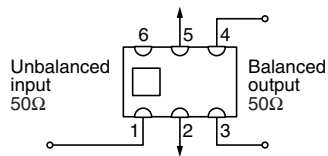
Conformity to RoHS Directive

HHM Series HHM1710D1

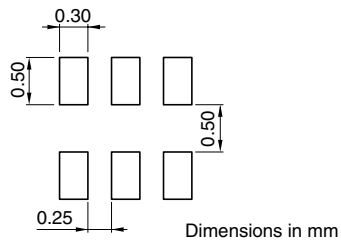
SHAPES AND DIMENSIONS



CIRCUIT DIAGRAM



RECOMMENDED PC BOARD PATTERNS



ELECTRICAL CHARACTERISTICS

Unbalanced impedance	50Ω	
Balanced impedance	50Ω	
Frequency range	2400 to 2500MHz	
Unbalanced port return loss	10dB min.	
Phase imbalance at balanced port	180±10deg.	
Amplitude imbalance at balanced port	0±2.0dB	
Insertion loss	1.2dB max.	
Temperature range	Operating	-40 to +85°C
	Storage	-40 to +85°C
Packaging style and quantities	4000pieces/reel	

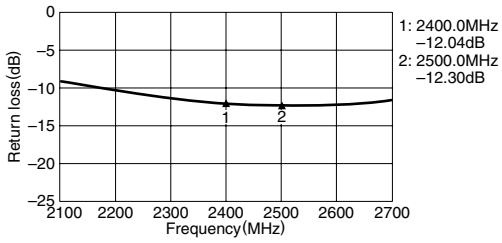
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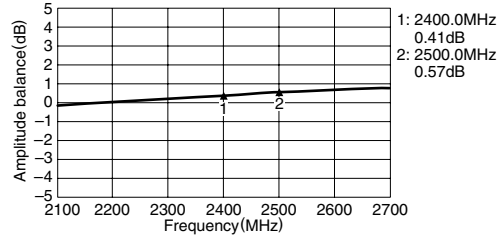
FREQUENCY CHARACTERISTICS

Unbalance 50Ω/Balance 50Ω

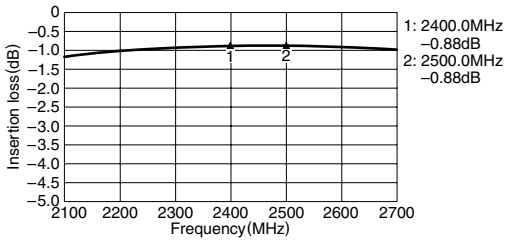
RETURN LOSS



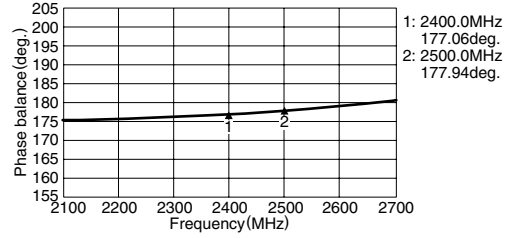
AMPLITUDE BALANCE



INSERTION LOSS



PHASE BALANCE

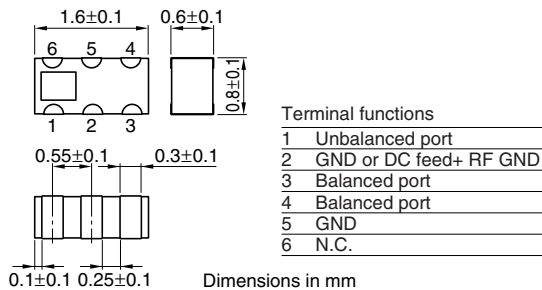


Multilayer Chip Baluns For Bluetooth & 2.4GHz W-LAN

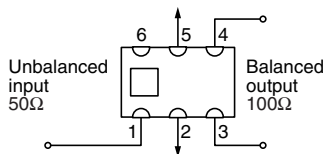
Conformity to RoHS Directive

HHM Series HHM1711D1

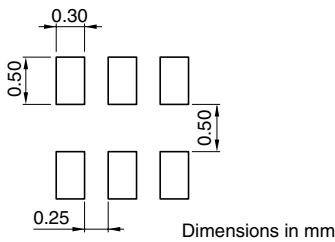
SHAPES AND DIMENSIONS



CIRCUIT DIAGRAM



RECOMMENDED PC BOARD PATTERNS



ELECTRICAL CHARACTERISTICS

Unbalanced impedance	50Ω	
Balanced impedance	100Ω	
Frequency range	2400 to 2500MHz	
Unbalanced port return loss	10dB min.	
Phase imbalance at balanced port	180±10deg.	
Amplitude imbalance at balanced port	0±2.0dB	
Insertion loss	1.2dB max.	
Temperature range	Operating	-40 to +85°C
	Storage	-40 to +85°C
Packaging style and quantities	4000pieces/reel	

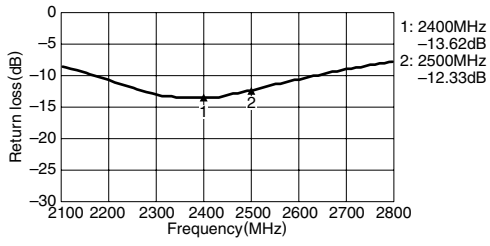
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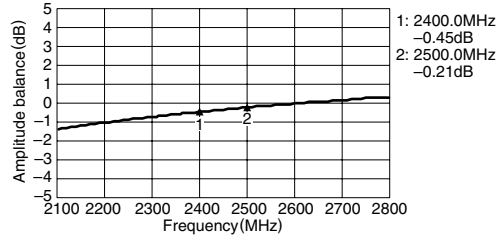
FREQUENCY CHARACTERISTICS

Unbalance 50Ω/Balance 100Ω

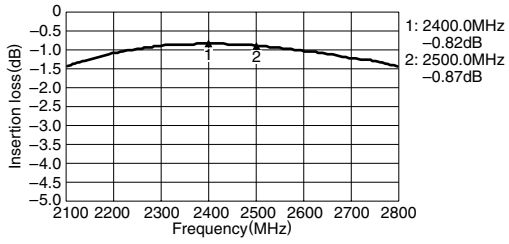
RETURN LOSS



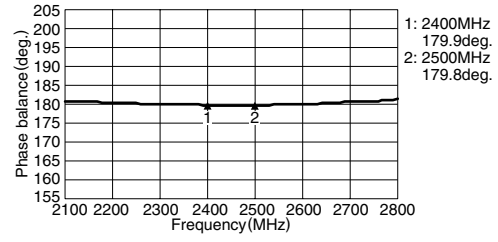
AMPLITUDE BALANCE



INSERTION LOSS



PHASE BALANCE

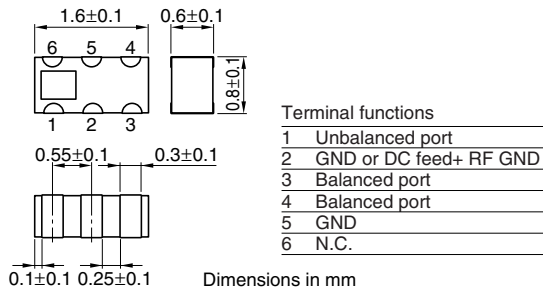


Multilayer Chip Baluns For Bluetooth & 2.4GHz W-LAN

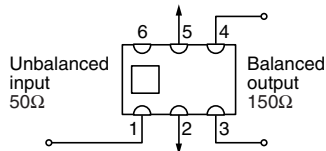
Conformity to RoHS Directive

HHM Series HHM1712D1

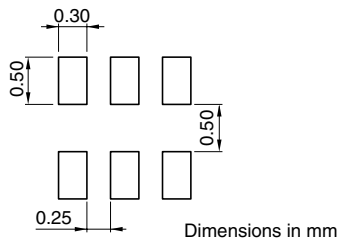
SHAPES AND DIMENSIONS



CIRCUIT DIAGRAM



RECOMMENDED PC BOARD PATTERNS



ELECTRICAL CHARACTERISTICS

Unbalanced impedance	50Ω	
Balanced impedance	150Ω	
Frequency range	2400 to 2500MHz	
Unbalanced port return loss	10dB min.	
Phase imbalance at balanced port	180±10deg.	
Amplitude imbalance at balanced port	0±2.0dB	
Insertion loss	1.2dB max.	
Temperature range	Operating	-40 to +85°C
	Storage	-40 to +85°C
Packaging style and quantities	4000pieces/reel	

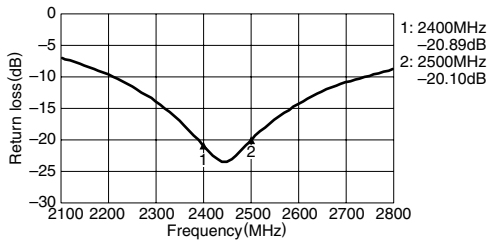
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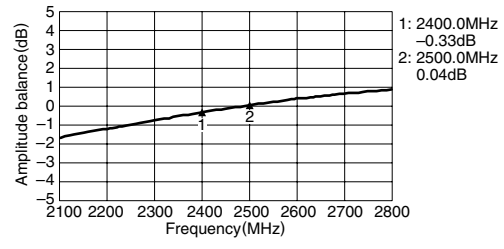
FREQUENCY CHARACTERISTICS

Unbalance 50Ω/Balance 150Ω

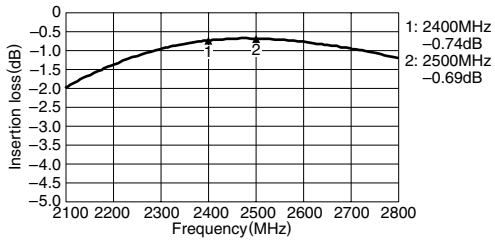
RETURN LOSS



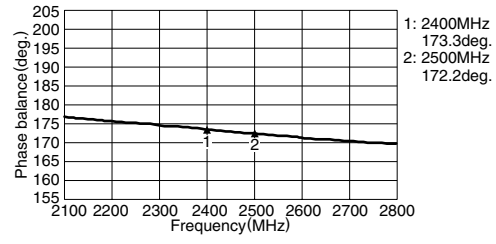
AMPLITUDE BALANCE



INSERTION LOSS



PHASE BALANCE



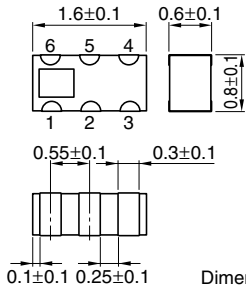
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Multilayer Chip Baluns For Bluetooth & 2.4GHz W-LAN

Conformity to RoHS Directive

HHM Series HHM1713E2

SHAPES AND DIMENSIONS

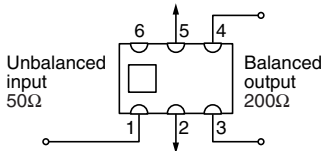


Terminal functions

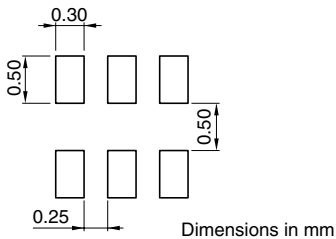
1	Unbalanced port
2	GND or DC feed+ RF GND
3	Balanced port
4	Balanced port
5	GND
6	N.C.

Dimensions in mm

CIRCUIT DIAGRAM



RECOMMENDED PC BOARD PATTERNS



Dimensions in mm

ELECTRICAL CHARACTERISTICS

Unbalanced impedance	50Ω	
Balanced impedance	200Ω	
Frequency range	2400 to 2500MHz	
Unbalanced port return loss	10dB min.	
Phase imbalance at balanced port	180±10deg.	
Amplitude imbalance at balanced port	0±1.7dB	
Insertion loss	1.2dB max.	
Temperature range	Operating	-40 to +85°C
	Storage	-40 to +85°C
Packaging style and quantities	4000pieces/reel	

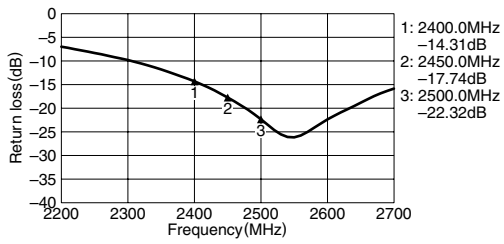
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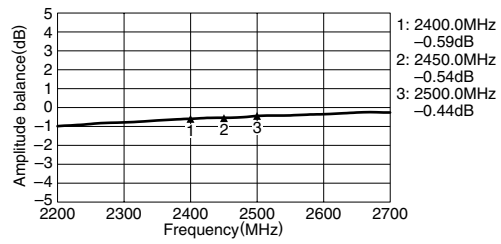
FREQUENCY CHARACTERISTICS

Unbalance 50Ω/Balance 200Ω

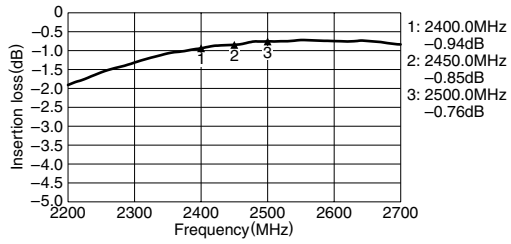
RETURN LOSS



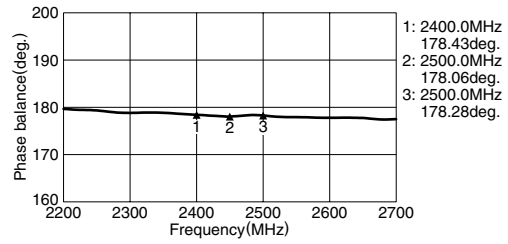
AMPLITUDE BALANCE



INSERTION LOSS



PHASE BALANCE



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Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.