

Multilayer Balun Transformers

For 2.4GHz W-LAN/Bluetooth

HHM Series

Type: **HHM1904C1 (1.0×0.5×0.4mm max.)**
 HHM1902A1 (1.0×0.5×0.5mm max.)
 HHM1902B1 (1.0×0.5×0.5mm max.)
 HHM1903A1 (1.0×0.5×0.5mm max.)
 HHM1904A1 (1.0×0.5×0.5mm max.)
 HHM1907B1 (1.0×0.5×0.5mm max.)
 HHM1908A1 (1.0×0.5×0.5mm max.)

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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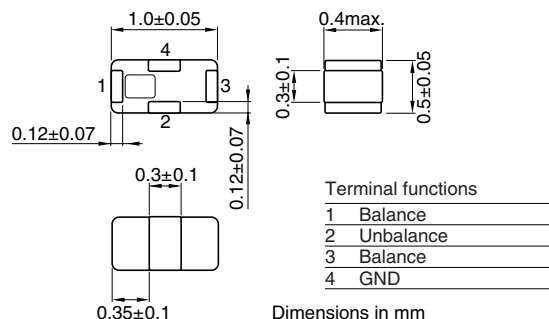
Multilayer Chip Baluns

For Bluetooth & 2.4GHz W-LAN

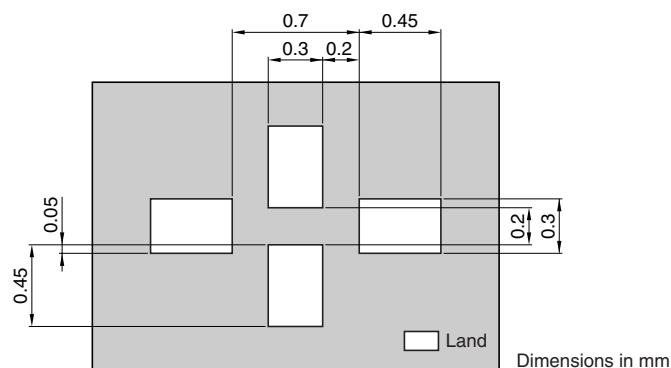
Conformity to RoHS Directive

HHM Series HHM1904C1

SHAPES AND DIMENSIONS



RECOMMENDED PC BOARD PATTERNS



ELECTRICAL CHARACTERISTICS

Unbalanced impedance		50Ω
Balanced impedance		75Ω
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		1.0dB max.
Temperature range	Operating	-40 to +85°C
	Storage	-40 to +85°C

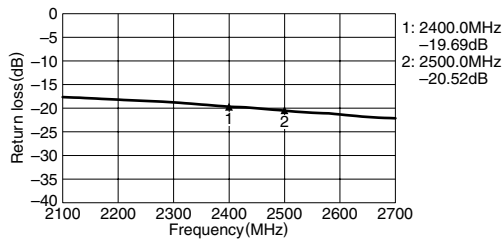
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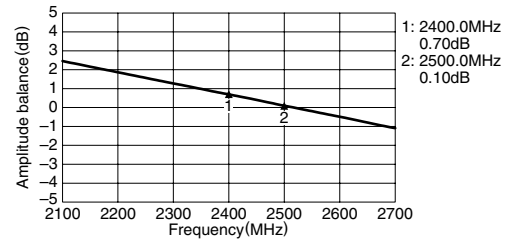
FREQUENCY CHARACTERISTICS

Unbalance 50Ω/Balance 75Ω

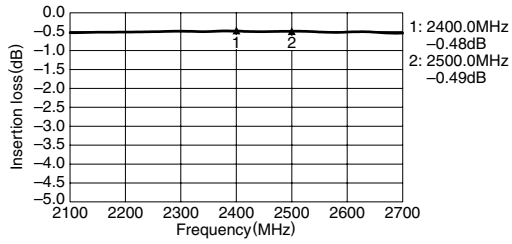
RETURN LOSS



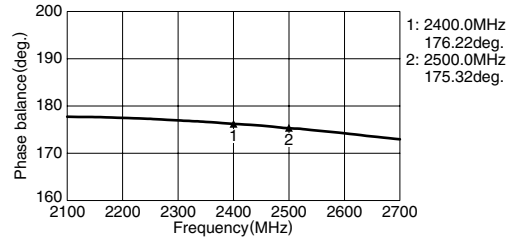
AMPLITUDE BALANCE



INSERTION LOSS

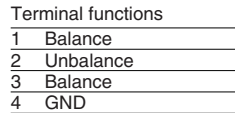


PHASE BALANCE



Conformity to RoHS Directive

SHAPES AND DIMENSIONS



Dimensions in mm

Figure 1: Dimensions of the test specimen. The diagram shows a rectangular specimen with a central vertical slot and two side slots. Dimensions are given in mm. The total width is 0.7 mm, the total height is 0.45 mm. The central slot has a width of 0.3 mm and a height of 0.2 mm. The side slots have a width of 0.45 mm and a height of 0.3 mm. The thickness of the specimen is 0.05 mm. A legend indicates that the white areas represent 'Land'.

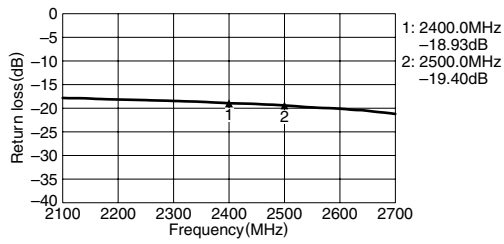
Unbalanced impedance	50Ω	
Balanced impedance	50Ω	
Frequency range	2400 to 2500MHz	
Unbalanced port return loss	10dB min.	
Phase imbalance at balanced port	180±10deg.	
Amplitude imbalance at balanced port	0±2.0dB	
Insertion loss	1.0dB max.	
Temperature range	Operating	−40 to +85°C
	Storage	−40 to +85°C

- 001-01 / 20101202 / e751 multibalun hhm10

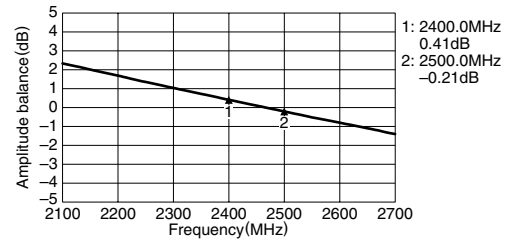
FREQUENCY CHARACTERISTICS

Unbalance 50Ω/Balance 50Ω

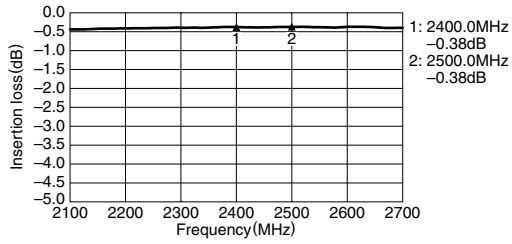
RETURN LOSS



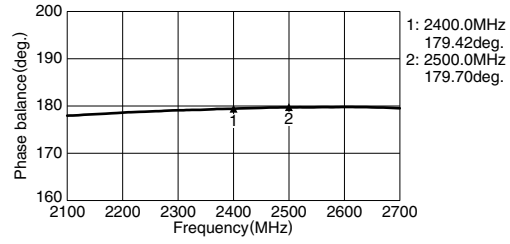
AMPLITUDE BALANCE



INSERTION LOSS



PHASE BALANCE



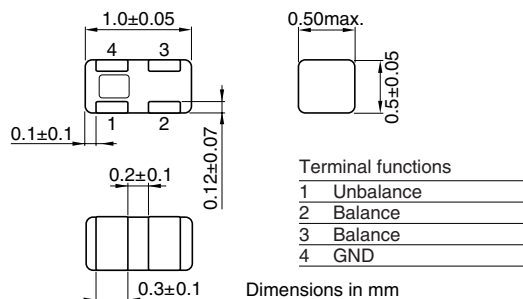
Multilayer Chip Baluns

For Bluetooth & 2.4GHz W-LAN

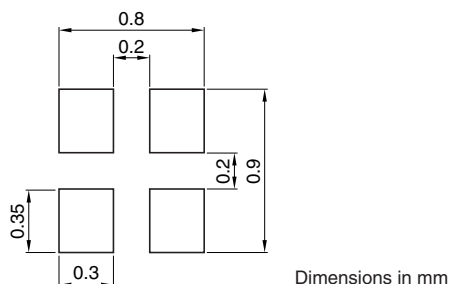
Conformity to RoHS Directive

HHM Series HHM1902B1

SHAPES AND DIMENSIONS



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	0.8dB max.	
Temperature range	Operating	-40 to +85°C
	Storage	-40 to +85°C

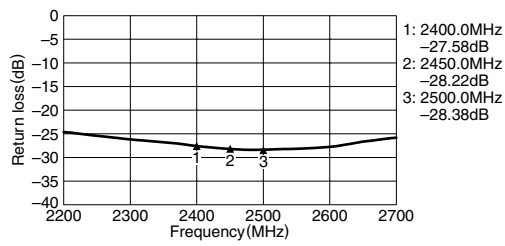
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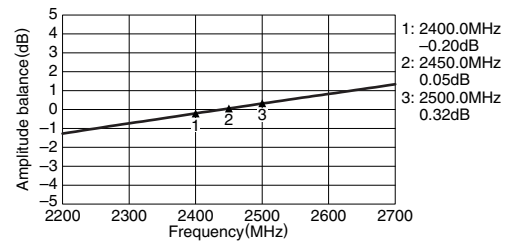
FREQUENCY CHARACTERISTICS

Unbalance 50Ω/Balance 50Ω

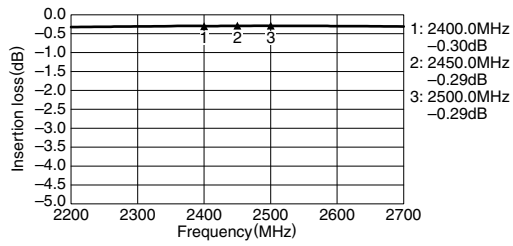
RETURN LOSS



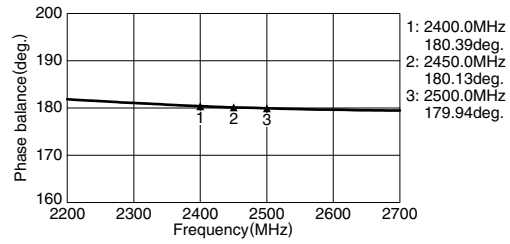
AMPLITUDE BALANCE



INSERTION LOSS



PHASE BALANCE



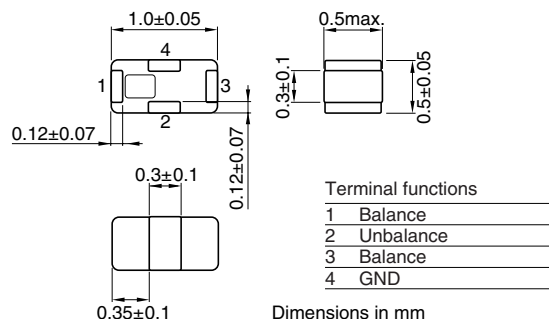
Multilayer Chip Baluns

For Bluetooth & 2.4GHz W-LAN

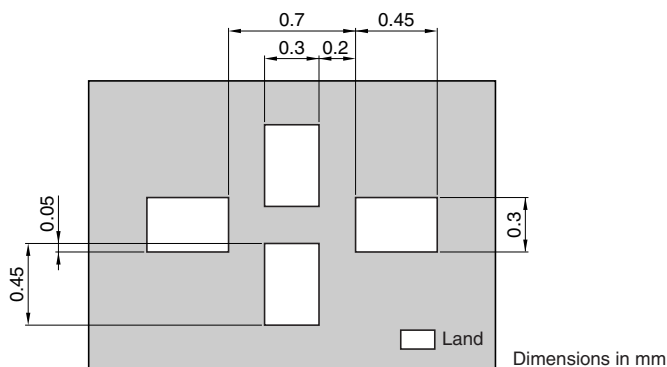
Conformity to RoHS Directive

HHM Series HHM1903A1

SHAPES AND DIMENSIONS



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	1.0dB max.
Temperature range	Operating
	Storage
	−40 to +85°C
	−40 to +85°C

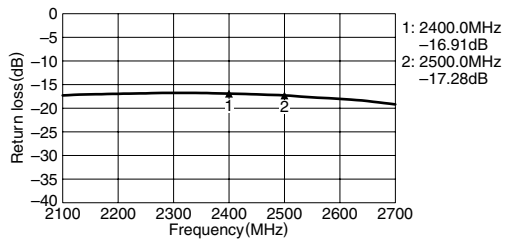
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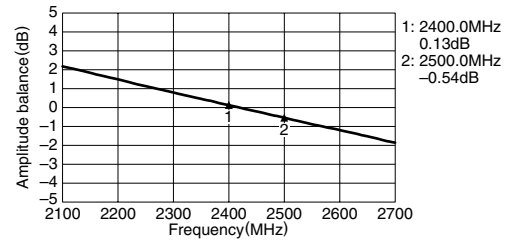
FREQUENCY CHARACTERISTICS

Unbalance 50Ω/Balance 100Ω

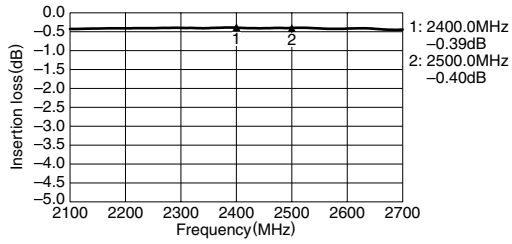
RETURN LOSS



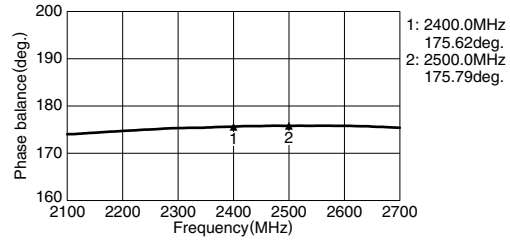
AMPLITUDE BALANCE



INSERTION LOSS



PHASE BALANCE



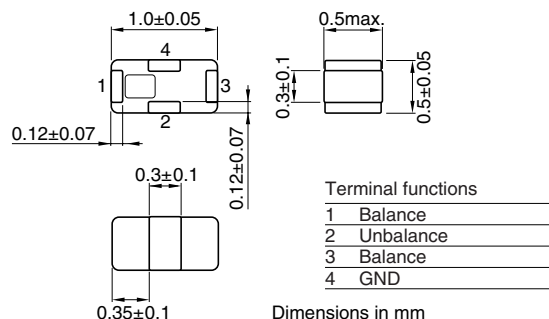
Multilayer Chip Baluns

For Bluetooth & 2.4GHz W-LAN

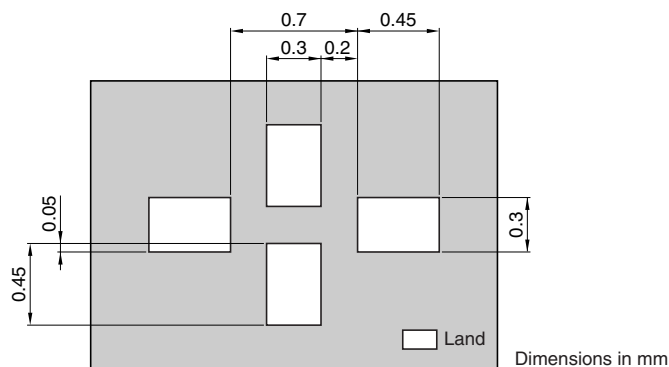
Conformity to RoHS Directive

HHM Series HHM1904A1

SHAPES AND DIMENSIONS



RECOMMENDED PC BOARD PATTERNS



ELECTRICAL CHARACTERISTICS

Unbalanced impedance	50Ω	
Balanced impedance	75Ω	
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	0.8dB max.	
Temperature range	Operating	-40 to +85°C
	Storage	-40 to +85°C

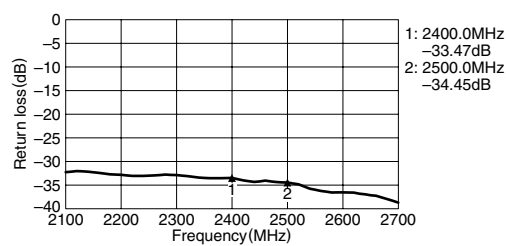
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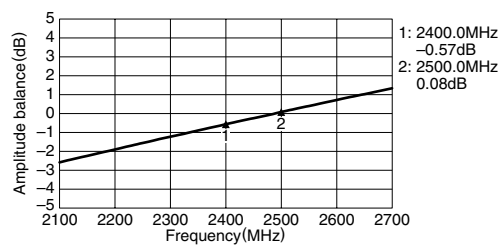
FREQUENCY CHARACTERISTICS

Unbalance 50Ω/Balance 75Ω

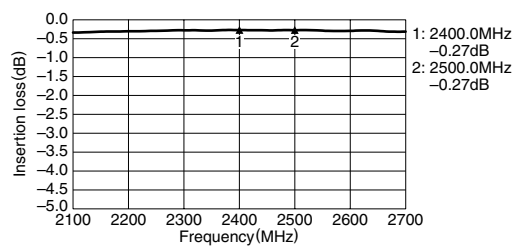
RETURN LOSS



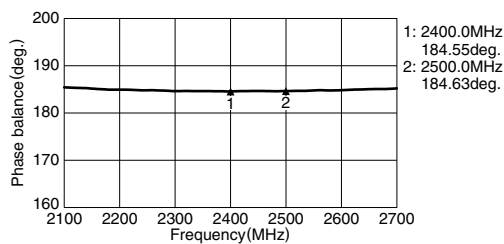
AMPLITUDE BALANCE



INSERTION LOSS



PHASE BALANCE



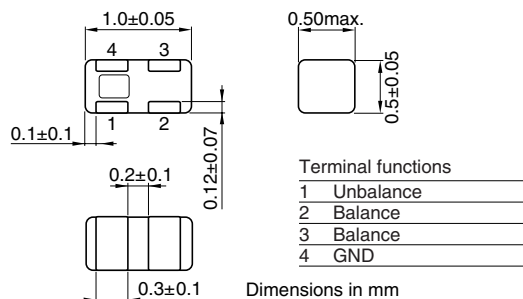
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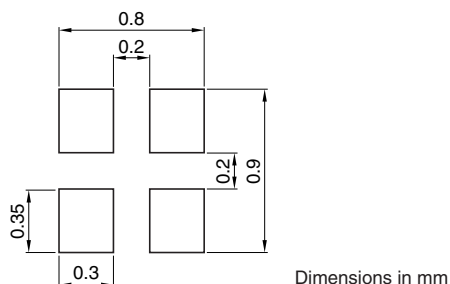
Conformity to RoHS Directive

HHM Series HHM1907B1

SHAPES AND DIMENSIONS



RECOMMENDED PC BOARD PATTERNS



ELECTRICAL CHARACTERISTICS

Unbalanced impedance		50Ω
Balanced impedance		50Ω
Frequency range		4900 to 5950MHz
Unbalanced port return loss		10dB min.
Phase imbalance at balanced port		180±10deg.
Amplitude imbalance at balanced port		0±2.5dB
Insertion loss		0.8dB max.
Temperature range	Operating	-40 to +85°C
	Storage	-40 to +85°C

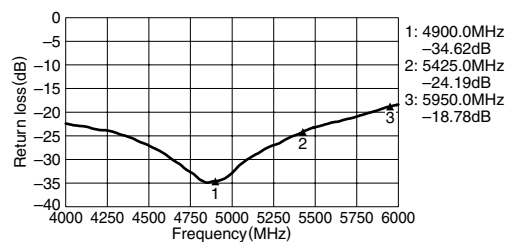
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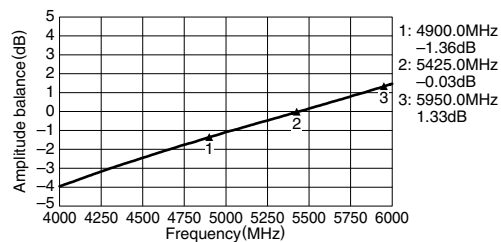
FREQUENCY CHARACTERISTICS

Unbalance 50Ω/Balance 50Ω

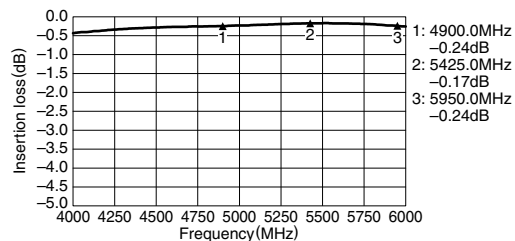
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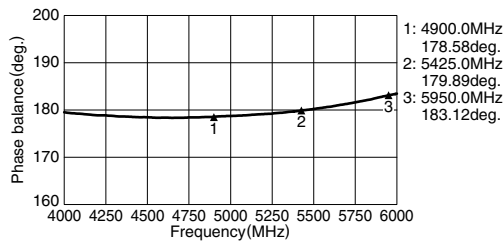
AMPLITUDE BALANCE



INSERTION LOSS



PHASE BALANCE



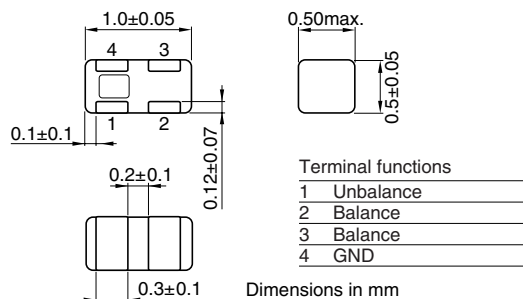
Multilayer Chip Baluns

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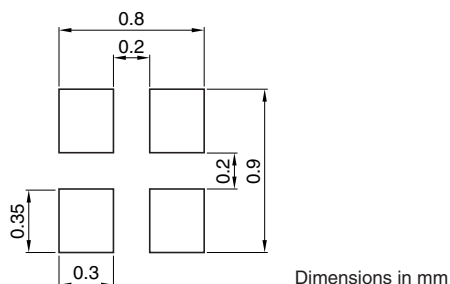
Conformity to RoHS Directive

HHM Series HHM1908A1

SHAPES AND DIMENSIONS



RECOMMENDED PC BOARD PATTERNS



ELECTRICAL CHARACTERISTICS

Unbalanced impedance		50Ω
Balanced impedance		100Ω
Frequency range		4900 to 5950MHz
Unbalanced port return loss		10dB min.
Phase imbalance at balanced port		180±10deg.
Amplitude imbalance at balanced port		0±2.5dB
Insertion loss		0.8dB max.
Temperature range	Operating	-40 to +85°C
	Storage	-40 to +85°C

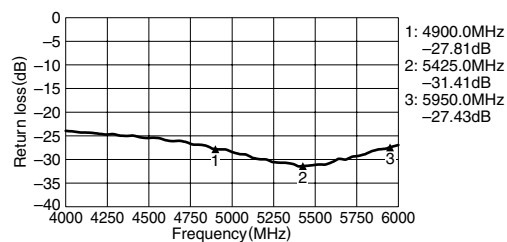
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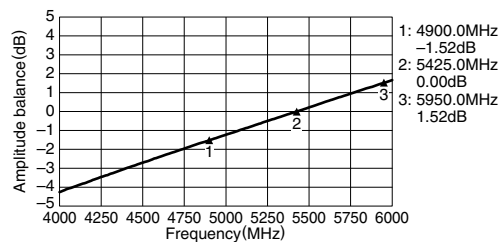
FREQUENCY CHARACTERISTICS

Unbalance 50Ω/Balance 100Ω

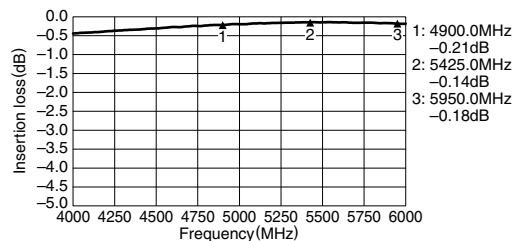
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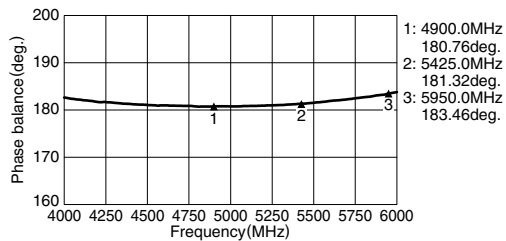
AMPLITUDE BALANCE



INSERTION LOSS



PHASE BALANCE



Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

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