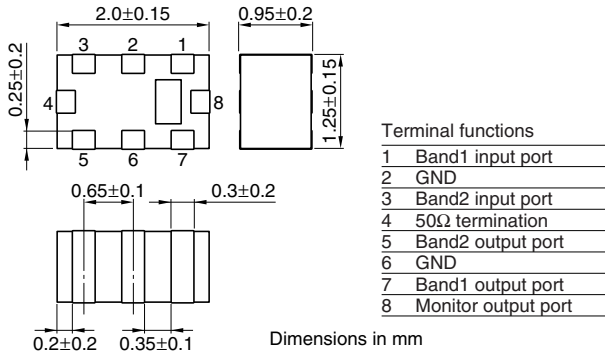


Multilayer Chip Dual-Band Directional Couplers For AGSM/DCS/PCS-Tx

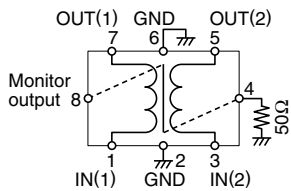
Conformity to RoHS Directive

HHM Series HHM2319B2

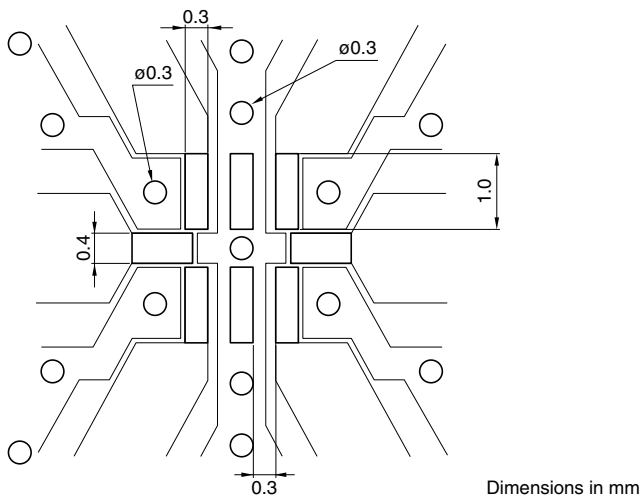
SHAPES AND DIMENSIONS



CIRCUIT DIAGRAM



RECOMMENDED PC BOARD PATTERNS



This width is 50Ω.
CPW for 0.6mm thick Teflon substrate.

- 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.

- All specifications are subject to change without notice.

ELECTRICAL CHARACTERISTICS

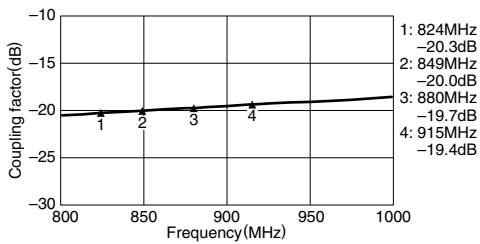
| Band | | 1 | 2 | | | |
|-------------------------|-----------|------------|------------------|------------------|------------------|------------------|
| System | | AMPS | GSM | DCS | PCS | |
| Frequency range | (MHz) | 824 to 849 | 880 to 915 | 1710 to 1785 | 1850 to 1910 | |
| Coupling factor | (dB) | 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)min. | 35typ. 32min. | 35typ. 32min. | 35typ. 32min. | 35typ. 32min. |
| VSWR | max. | 1.3 | 1.3 | 1.3 | 1.3 | |
| Temperature range | Operating | (°C) | -40 to +85 | -40 to +85 | -40 to +85 | -40 to +85 |
| | Storage | (°C) | -40 to +85 | -40 to +85 | -40 to +85 | -40 to +85 |

* 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 frequency.

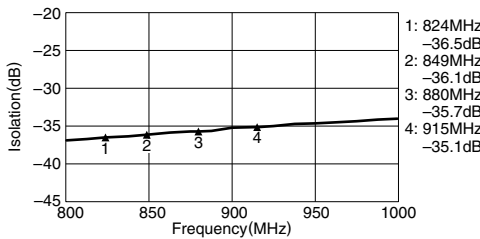
FREQUENCY CHARACTERISTICS

AMPS850/GSM900

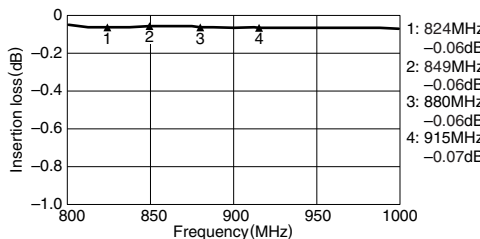
COUPLING



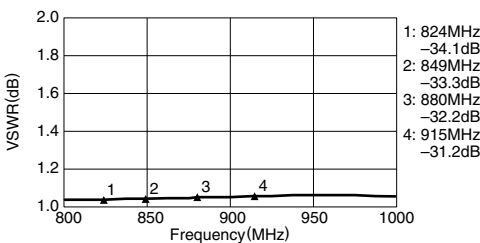
ISOLATION



INSERTION LOSS

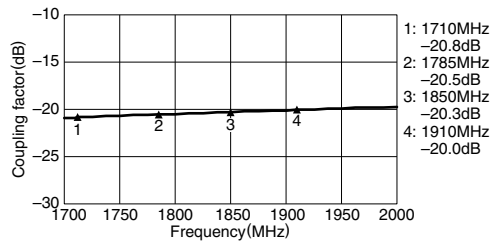


VSWR

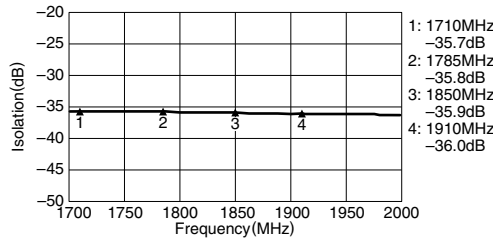


DCS1800/PCS1900

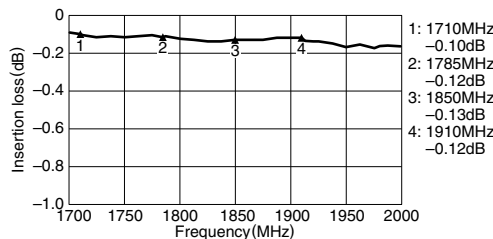
COUPLING



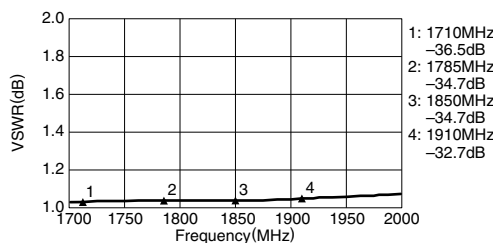
ISOLATION



INSERTION LOSS



VSWR



• All specifications are subject to change without notice.