

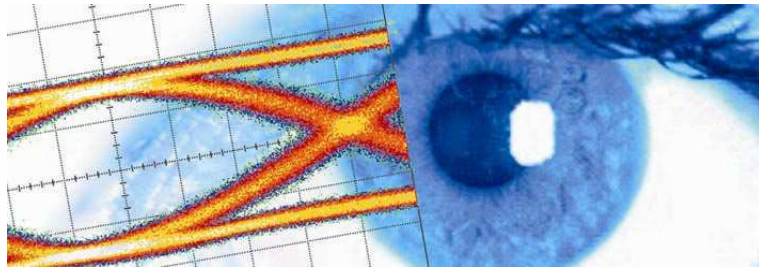


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Datasheet

SHF DX65

Diplexer





Description

A diplexer is a passive device that implements frequency domain multiplexing. For example: two ports P1 & P2 are multiplexed onto a third port P3. The signals on ports P1 and P2 occupy disjoint frequency bands. Consequently, the signals on P1 and P2 can coexist on port P3 without interfering with each other. A diplexer could just as well be considered a bias tee with a higher bandwidth on its DC-port.

Features

- Bandwidth beyond 65GHz
- Low insertion loss

Applications

- Antenna testing
- Research and Development
- Data Transmission

Options

A/B/C/D – This suffix specifies the combination of RF-connectors (female/male) the unit will be delivered with. Connectors are V (1.85mm). Please see outline diagram on the last page of this datasheet for details and possible combinations.

HV100 – A DX65 with this option can be operated with a maximum voltage of 100V. Current handling is the same as for the standard DX65.

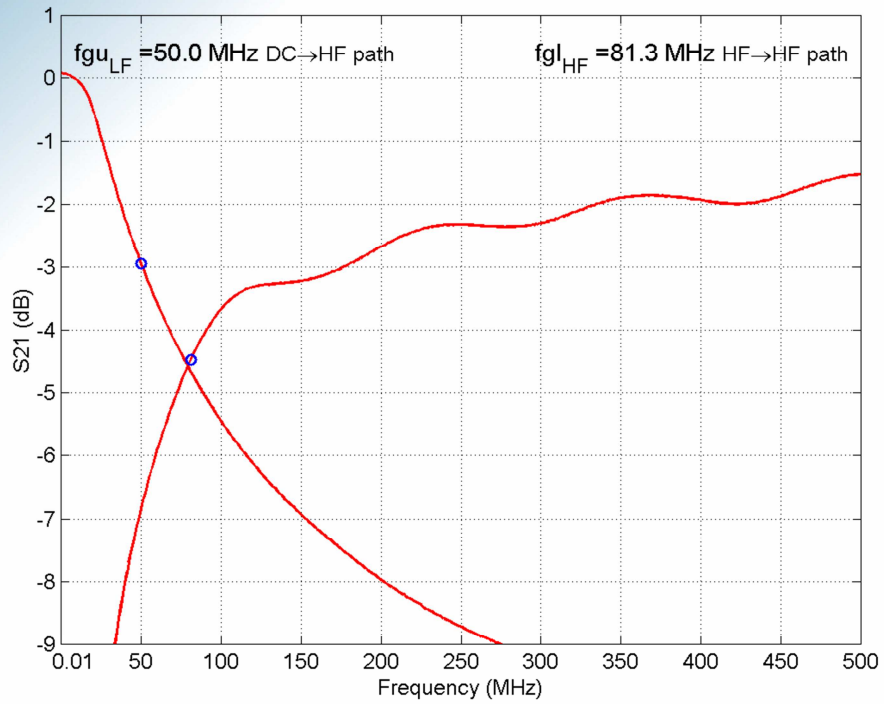


Specifications – SHF DX65

| Parameter | Symbol | Unit | Min | Typ | Max | Conditions |
|---|--------------------------------|----------|------|-----|------------|-------------------------------------|
| Low Frequency Range -3dB LF in → HF out | | MHz | DC | | 25 | |
| High Frequency Range -3dB HF in → HF out | | GHz | 0.09 | | 65 | |
| Impedance | Z | Ω | | 50 | | |
| Input Return Loss | S ₁₁ | dB | | | -15 -10 | >500 MHz <40 GHz >40 GHz <65 GHz |
| Insertion Loss | S ₂₁ | dB | | 0.8 | 1.5 | >500 MHz <65 GHz |
| Maximum Input Power | P _{max} | dBm | | | 30 | |
| Rise Time/Fall Time | t _r /t _f | ps | | | 3.3 | 20...80% |
| Input Voltage | | V | | | 16 100 | Option HV100 |
| Current LF Input | | mA | | | 400 | |
| HF in Connector | | | | | | V (1.85 mm) |
| HF out Connector | | | | | | V (1.85 mm) |
| LF in Connector | | | | | | SMA female |
| Dimensions | | | | | | 40x13x12.6 |



Low frequency response

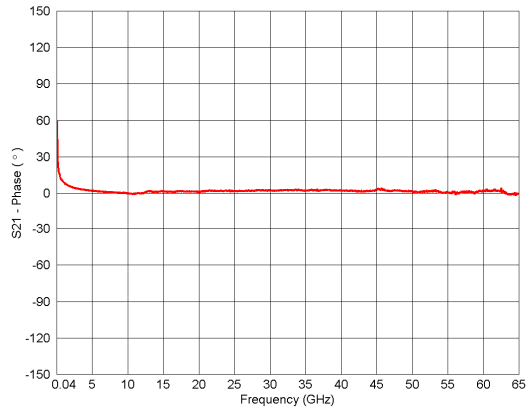
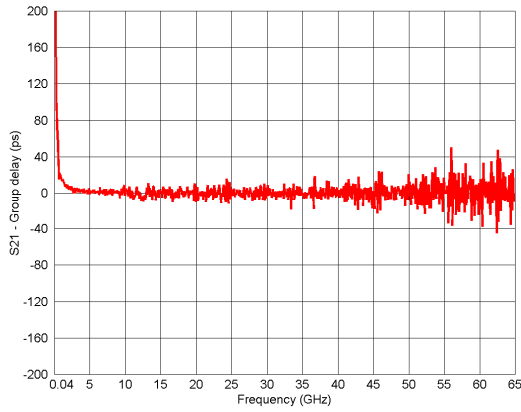
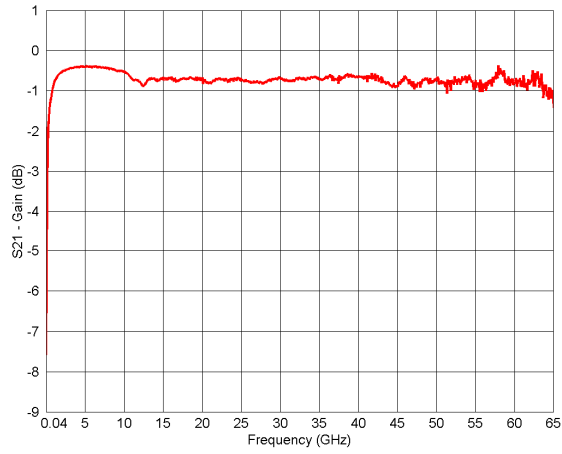
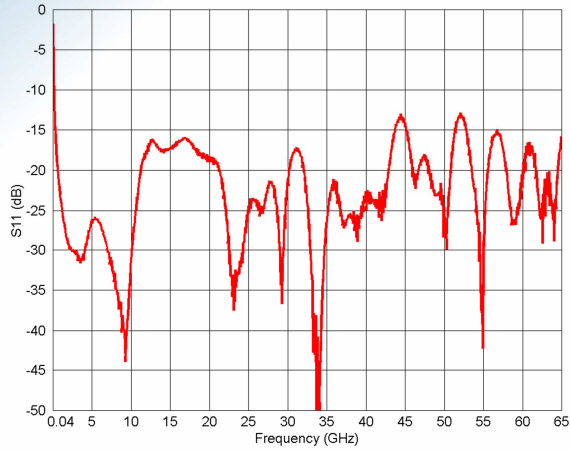


Response of DC to HF path (starts at 0dB and falls)

Response of HF to HF path (rises to >-1.5dB)



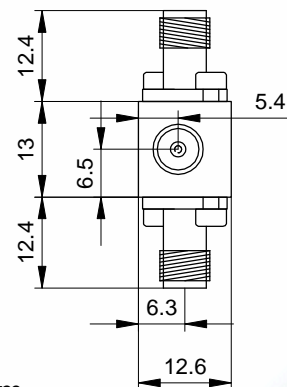
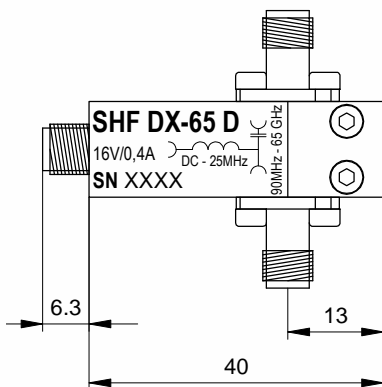
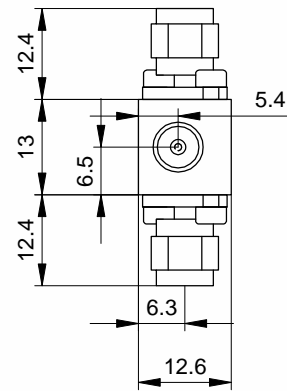
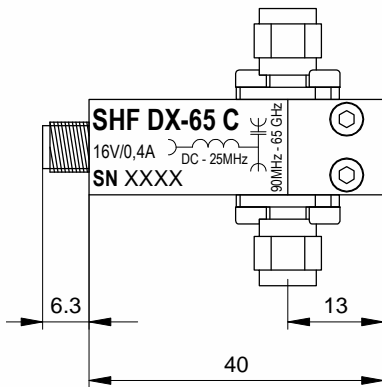
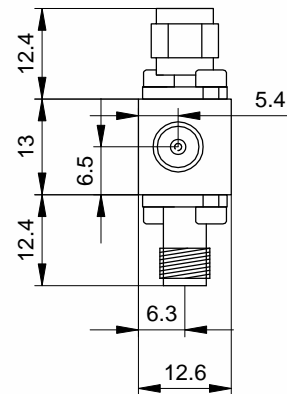
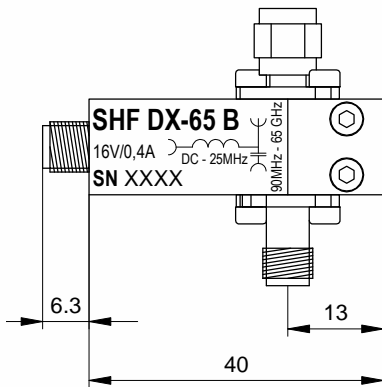
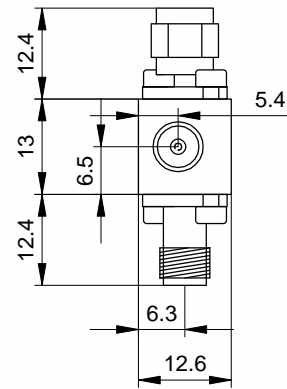
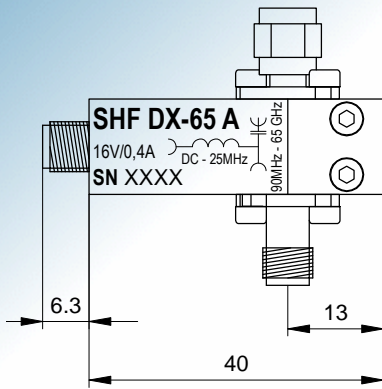
S-parameters, group delay and phase response



Aperture of group delay measurement: 100MHz



Outline diagram



All dimensions in mm