

Package: S-20

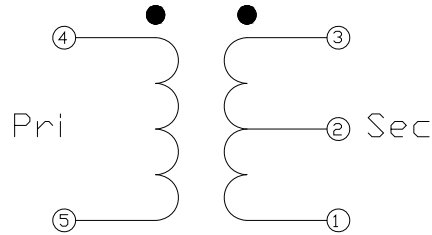


Features

- Frequency Range .4MHz to 500MHz
- Low Cost and RoHS Compliant
- Industry Standard SMT package
- Available in Tape-and-Reel
- 50Ω Characteristic Impedance
- Flux Coupled

Applications

- Broadband/CATV
- Wireless



Schematic

Product Description

The RFXF3513 Transformer is designed for applications that require small, low cost, and highly reliable surface mount components. Applications may be found in broadband, wireless, and other communications systems. These units are built Lead-Free and RoHS compliant. S-Parameters are available on request.

Optimum Technology Matching® Applied

- | | | | |
|--------------------------------------|--------------------------------------|-------------------------------------|------------------------------------|
| <input type="checkbox"/> GaAs HBT | <input type="checkbox"/> SiGe BiCMOS | <input type="checkbox"/> GaAs pHEMT | <input type="checkbox"/> GaN HEMT |
| <input type="checkbox"/> GaAs MESFET | <input type="checkbox"/> Si BiCMOS | <input type="checkbox"/> Si CMOS | <input type="checkbox"/> BiFET HBT |
| <input type="checkbox"/> InGaP HBT | <input type="checkbox"/> SiGe HBT | <input type="checkbox"/> Si BJT | <input type="checkbox"/> LDMOS |

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Absolute Maximum Ratings

| Parameter | Rating | Unit |
|-----------------------|-------------|------|
| RF Power | 2 | W |
| Operating Temperature | -45 to +85 | °C |
| Storage Temperature | -55 to +100 | °C |



Caution! ESD sensitive device.

Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability. Specified typical performance or functional operation of the device under Absolute Maximum Rating conditions is not implied.

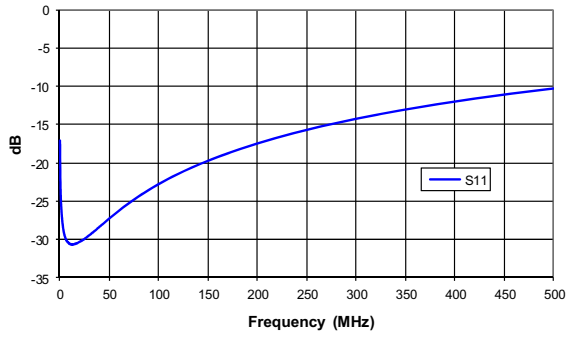
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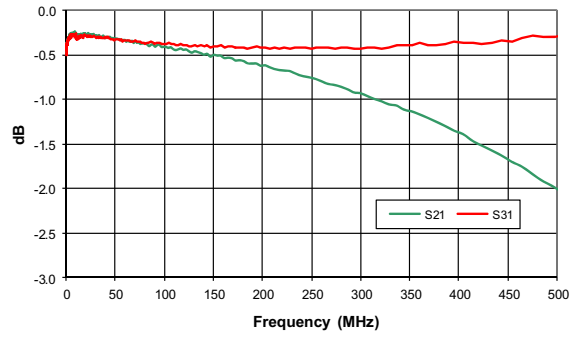
RoHS (Restriction of Hazardous Substances): Compliant per EU Directive 2002/95/EC.

| Parameter | Specification | | | Unit | Condition |
|-----------------------------------|-----------------------|------|------|------|--|
| | Min. | Typ. | Max. | | |
| Overall | | | | | Typical values represent Mid-Band performance at 25 °C |
| Frequency Range | .4 | | 500 | MHz | |
| Insertion Loss < 1dB | 1 | | 100 | MHz | |
| Insertion Loss < 2dB | .5 | | 300 | MHz | |
| Insertion Loss < 3dB | .4 | | 500 | MHz | |
| Amplitude Balance 1MHz to 100MHz | | 0.02 | 0.1 | dB | |
| Amplitude Balance .5MHz to 300MHz | | 0.2 | 0.6 | dB | |
| Amplitude Balance .4MHz to 500MHz | | 0.5 | 2.0 | dB | |
| Phase Balance 1MHz to 100MHz | | 1 | 2 | ° | Nominal Phase Difference is 180° |
| Phase Balance .4MHz to 500MHz | | 2 | 5 | ° | Nominal Phase Difference is 180° |
| Impedance Ratio, P:S | 1:1 | | | | |
| Type - Flux Coupled | Unbalance to Balanced | | | | |

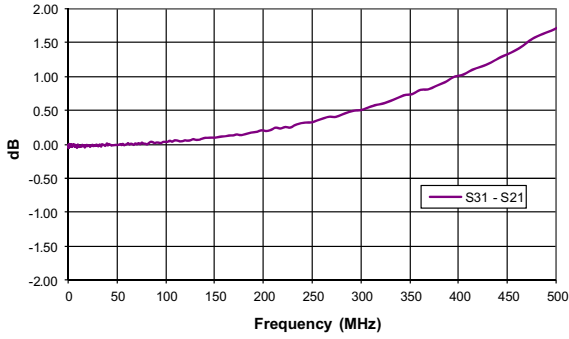
Input Return Loss



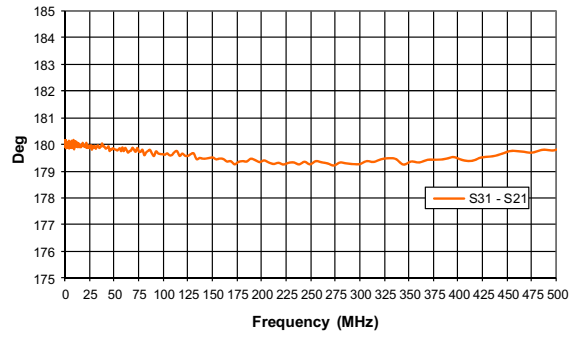
Insertion Loss



Amplitude Balance



Phase Balance

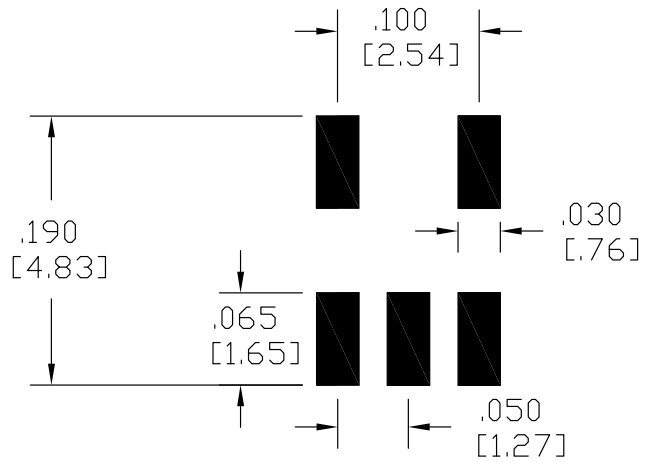
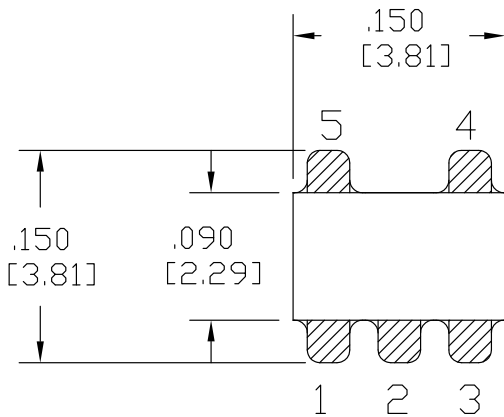


Pin Names and Description

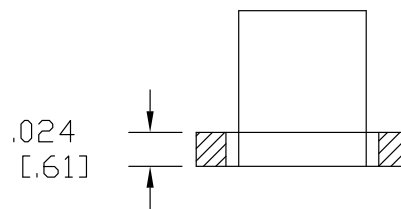
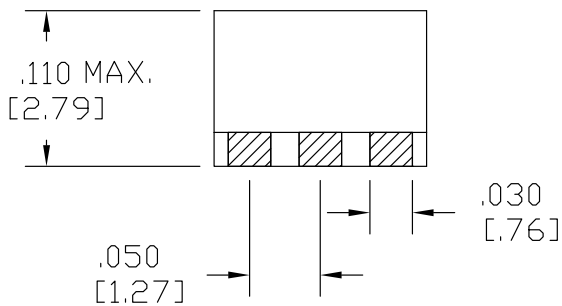
| Pin | Function | Description |
|-----|---------------|-------------|
| 1 | Secondary | Output 2. |
| 2 | Secondary CT | Ground. |
| 3 | Secondary Dot | Output 1. |
| 4 | Primary Dot | Input. |
| 5 | Primary | Ground. |

Package Drawing - S20

Dimensions in inches (millimeters)



PCB FOOTPRINT



Ordering Information

| Ordering Code | Description | Reel Size | Package |
|---------------|-------------------------------------|-----------|-----------------|
| RFXF3513SB | .4MHz to 500MHz 1:1 SMT Transformer | N/A | 5-Piece bag |
| RFXF3513SQ | .4MHz to 500MHz 1:1 SMT Transformer | N/A | 25-Piece bag |
| RFXF3513SR | .4MHz to 500MHz 1:1 SMT Transformer | 13" | 100-Piece reel |
| RFXF3513TR13 | .4MHz to 500MHz 1:1 SMT Transformer | 13" | 1000-Piece reel |