

# TX/RX Switch Unit

## Mechanical SPDT Switch

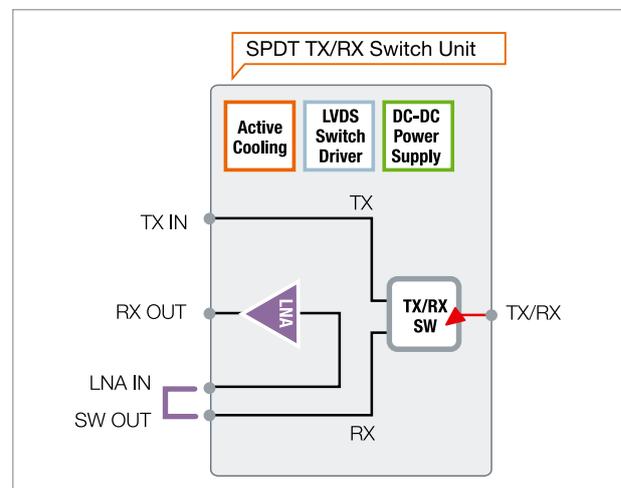


50-ohm coaxial switches are designed to toggle between TX and RX operational modes. These RF units are designed to handle power levels up to 80 W at a switching time of 10 ms (milliseconds). The RF signals can be amplified with an internal broadband LNA.

### Main features

- Frequency range: 0.1-50 GHz
- Low Loss, 1.2 dB max per switch
- Switching time of 10 ms maximum
- Power handling of 80 W (typical)
- Life cycle of 2 million toggles
- LVDS control logic

### Functional Block Diagram



## Specifications

EXAMPLE MODEL	OFR-SPDT20TXRX-1	OFR-SPDT40TXRX-1	OFR-SPDT50TXRX-1
Type	TX/RX mechanical SPDT switch, 0.5-20 GHz	TX/RX mechanical SPDT switch, 0.5-40 GHz	TX/RX mechanical SPDT switch, 0.5-50 GHz
Operation Frequencies	0.5-20 GHz	0.5-40 GHz	0.5-50 GHz
Switching Time	10 ms	10 ms	10 ms
Unit Insertions Loss	2 dB typical	3.5 dB typical	4 dB typical
Power Handling	80 W max	80 W max	80 W max
Switch Isolation	<ul style="list-style-type: none"> <li>• 70 dB min (DC-6 GHz)</li> <li>• 60 dB min (6-18 GHz)</li> <li>• 55 dB min (18-26.5 GHz)</li> </ul>	<ul style="list-style-type: none"> <li>• 70 dB min (DC-6 GHz)</li> <li>• 60 dB min (6-18 GHz)</li> <li>• 55 dB min (18-26.5 GHz)</li> <li>• 50 dB min (26.5-40 GHz)</li> </ul>	<ul style="list-style-type: none"> <li>• 70 dB min (DC-6 GHz)</li> <li>• 60 dB min (6-18 GHz)</li> <li>• 55 dB min (18-26.5 GHz)</li> <li>• 50 dB min (26.5-40 GHz)</li> <li>• 50 dB min (40-50 GHz)</li> </ul>
VSWR	<ul style="list-style-type: none"> <li>• 1.3:1 dB typical (DC-6 GHz)</li> <li>• 1.4:1 dB typical (6-18 GHz)</li> <li>• 1.7:1 dB typical (18-26.5 GHz)</li> </ul>	<ul style="list-style-type: none"> <li>• 1.3:1 dB typical (DC-6 GHz)</li> <li>• 1.4:1 dB typical (6-18 GHz)</li> <li>• 1.7:1 dB typical (18-26.5 GHz)</li> <li>• 1.9:1 dB typical (26.5-40 GHz)</li> </ul>	<ul style="list-style-type: none"> <li>• 1.3:1 dB typical (DC-6 GHz)</li> <li>• 1.4:1 dB typical (6-18 GHz)</li> <li>• 1.7:1 dB typical (18-26.5 GHz)</li> <li>• 1.9:1 dB typical (26.5-40 GHz)</li> <li>• 1.9:1 dB typical (26.5-50 GHz)</li> </ul>
Amplifier Gain	26 dB typical	30 dB typical	30 dB typical
Connectors	SMA (F)	2.92 mm (F)	2.4 mm (F)
Power Supply	24 V DC, 0.7 A max	24 V DC, 0.7 A max	24 V DC, 0.7 A max
Dimensions	124 x 56 x 133 [mm] (W x H x L)	155 x 56 x 133 [mm] (W x H x L)	257 x 86 x 183 [mm] (W x H x L)

## Model index for RF probe TX/RX switches

PART NUMBER	FREQUENCY BAND	DESCRIPTION
OFR-SPDT20TXRX-1	0.8-20 GHz	RF SPDT coaxial switch DC-20 GHz with 25 dB LNA
OFR-SPDT20TXRX-2	0.25-20 GHz	RF SPDT coaxial switch DC-20 GHz with 26 dB LNA
OFR-SPDT20TXRX-3	DC-20 GHz	RF SPDT coaxial switch DC-20 GHz without LNA
OFR-SPDT40TXRX-1	0.5-40 GHz	RF SPDT coaxial switch DC-40 GHz with 30 dB LNA
OFR-SPDT40TXRX-2	0.5-40 GHz	RF SPDT coaxial switch DC-40 GHz with 42 dB LNA
OFR-SPDT40TXRX-3	DC-40 GHz	RF SPDT coaxial switch DC-40 GHz without LNA
OFR-SPDT50TXRX-1	0.5-50 GHz	RF SPDT coaxial switch DC-50 GHz with 30 dB LNA
OFR-SPDT50TXRX-3	DC-50 GHz	RF SPDT coaxial switch DC-50 GHz without LNA



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