

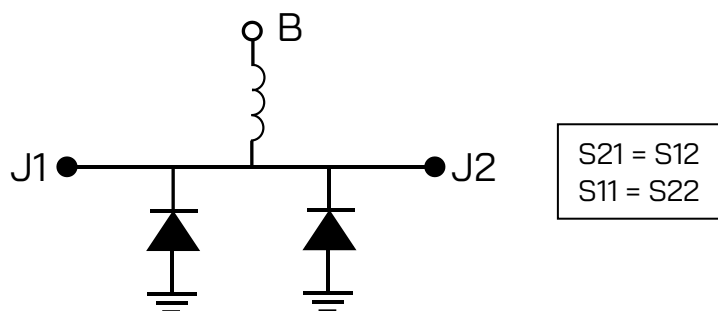
Full-Band Low-Loss SPST Switches

550x Series is a family of voltage controlled Single Pole Single Throw Switches with waveguide-based package.

Covers range of frequency bands **from 50 to 330 GHz**. All switch designs within this series are based on Schottky Diode technology. The bias control port of the switch is a K-type coaxial connector. These switches provide an insertion loss lower than 1.3 dB in ON-mode and insulation higher than 20 dB in OFF-mode with very fast ON/OFF switching modulation speed up to 40 GHz. For switching factor larger than 30 dB, please ask ACST for availability of these versions. The Mechanical design comes in a Gold-plated brass block featuring the high precision waveguide flange UG 387/U-M.



Technical Diagram



Application Areas

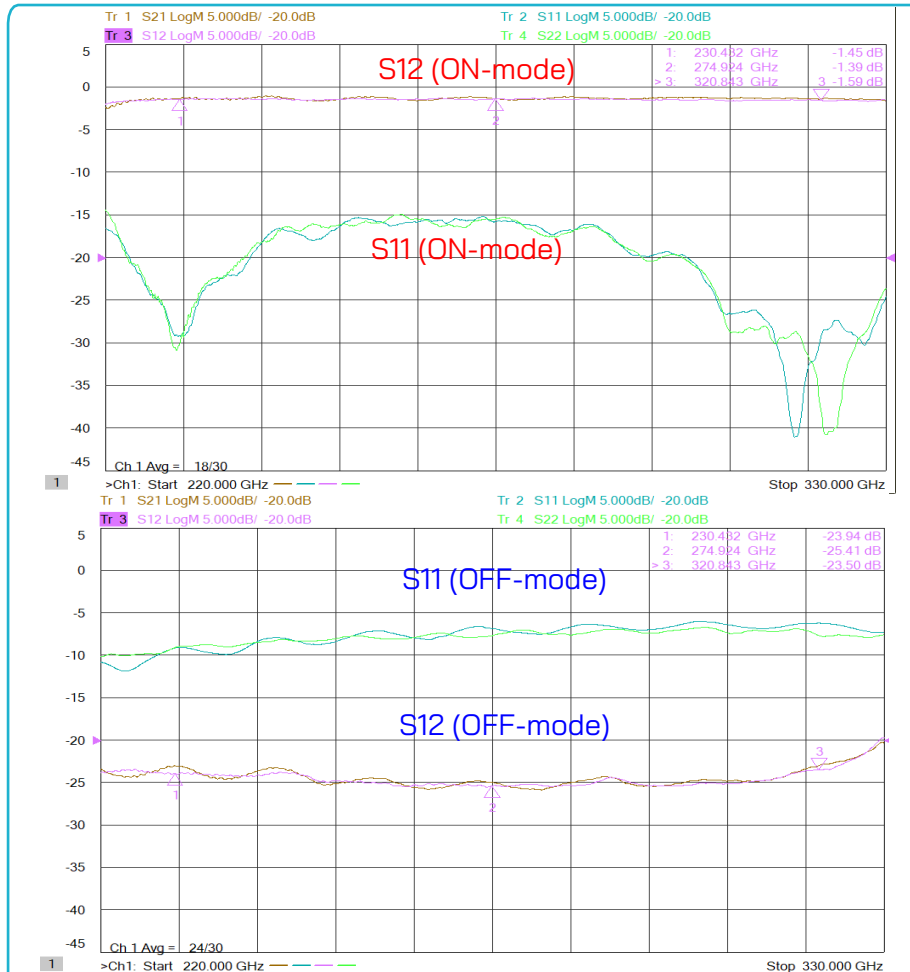
- > Laboratory instrumentation
- > mm-wave ON/OFF modulation
- > 5G Telecommunications
- > RF Power Limiting
- > Electronically controlled attenuator

Technical Specifications

PRODUCT	550R	550S	550A	550B	550C	550D	550E	550F
Frequency Band [UG-387]	WR-15	WR-12	WR-10	WR-8	WR-6.5	WR-5.1	WR-4.3	WR-3.4
Frequency Min [GHz]	50	60	75	90	110	140	170	220
Frequency Max [GHz]	75	90	110	140	170	220	260	330
On-mode Insertion loss (S21) [dB]	0.6	0.6	0.6	0.7	0.7	0.9	1.2	1.3
Max. On-mode Return Loss (S11) [dB]	20			18			15	
Off-mode Insertion Loss (S21) [dB]	25			24			23	
Max. Off-mode Return Loss (S11) [dB]	6							
On-Mode Bias B Port [V]	4			6		7		8
Off-Mode Bias B Port [V]	-1.8							
Off-Mode Max. Current [mA]	10							
Bias Port Frequency [GHz]	DC-40							
Maximum Power Handling [dBm]	+16							

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Typical Performance (550F example)



Notes

- > All plotted data represent typical values. The actual data may vary from unit to unit.
- > All tests are carried out at a room temperature of 24 °C.

Caution

- > Absolute maximum ratings should not be used under normal operating conditions. Exceeding maximum ratings may lead to permanent failure.
- > Any foreign body inserted into the waveguide will cause a loss of performance and may damage the device.

Absolute Maximum Ratings

	Maximum
RF Input Power (dBm)	+16
Switching OFF-Mode Current (mA)	10
Operational Temperature and Humidity (at the case)	5 °C to 45 °C // 0% to 80%
Storage Temperature and Humidity	5 °C to 65 °C // 0% to 80%



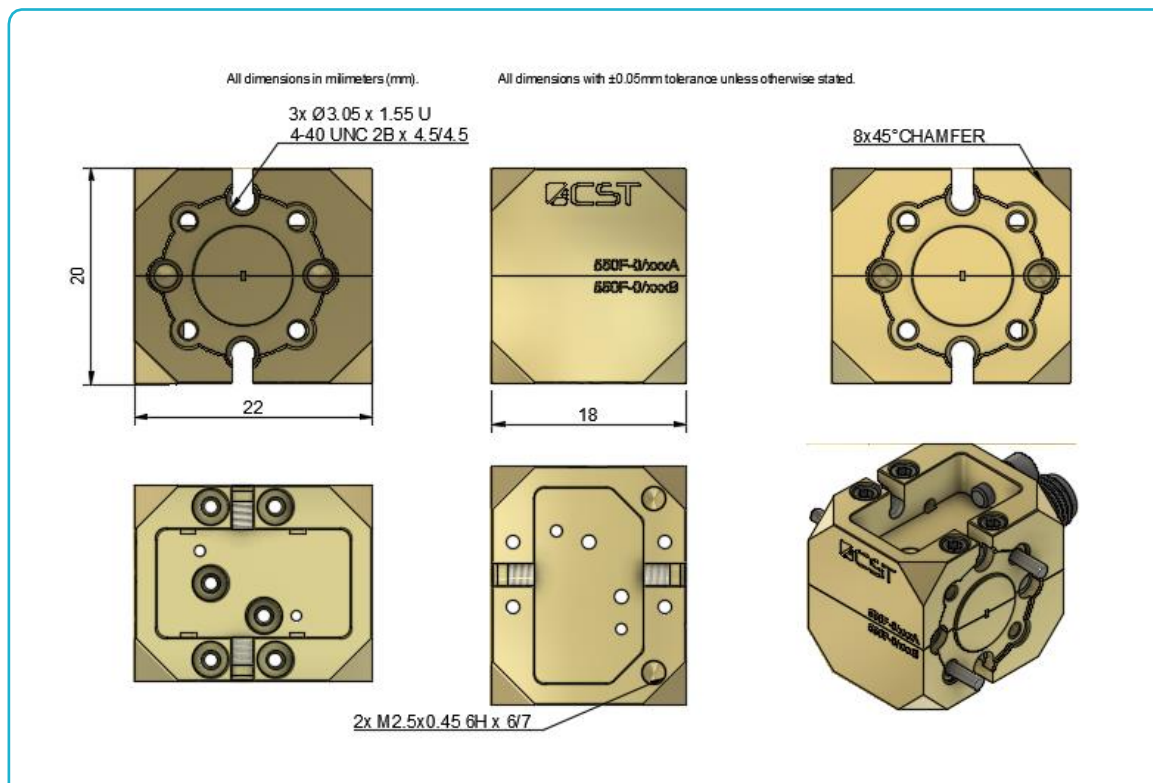
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Full-Band Low-Loss SPST Switches

Order information

- Please indicate product name and type.
- Please indicate expected input power requirements

Outlines Dimensions



Mechanical Description

	Maximum
Size (without dowel pin)	18 mm x 22 mm x 20 mm
Output Waveguide Orientation	E-Plane