

## SPDT Electromechanical Relay Latching Switch, +COM, DC to 18 GHz, 90W, 12VDC, SMA

The FMSW6561 is a Single Pole Double Throw (SPDT) electromechanical relay switch that operates across a broadband frequency range from DC to 18 GHz and can handle 90W of average power in a break before make condition. The 50 Ohm design supports a positive common (+COM) biasing configuration and features a Latching Actuator with a 5 million lifecycle rating. The Latching Actuator magnetically latches in place after the control voltage is removed. For power sensitive applications, this is the best actuator option. Impressive typical performance includes 0.25 dB insertion loss and isolation greater than 85 dB. This switch requires 12 Vdc bias voltage and operates over a temperature range of -25°C to +65°C. The rugged and compact package assembly supports SMA female connectors and solder terminal pins for DC control. And for highly reliable operation, the model is guaranteed to meet MIL-STD-202 environmental test conditions for shock and random vibration.

### Electrical Specifications (TA = +25°C, DC Voltage = 12 Vdc)

Switch Type SPDT  
 Actuator Type Latching

Description	Min	Typ	Max	Units
Frequency Range	DC		18	GHz
Operating Voltage	11	12	13	Volts
Actuating Current @ 12 Volts		140		mA
VSWR		1.2:1	1.4:1	
Insertion Loss		0.25	0.4	dB
Isolation	65	90		dB
Switching Time		20		ms

### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 6	6 - 12	12 - 18			GHz
VSWR, Max	1.2:1	1.3:1	1.4:1			
Insertion Loss, Max	0.15	0.25	0.4			dB
Isolation, Min	85	70	65			dB

### Mechanical Specifications

**Size**  
 Length 1.95 in [49.53 mm]  
 Width/Diameter 2.75 in [69.85 mm]  
 Height 0.92 in [23.37 mm]  
 Weight 0.052 lbs [23.59 g]

### Connectors

RF Connector Type SMA Female  
 Control Connector Solder Terminals



### Features:

- Single Pole Double Throw (SPDT) Electromechanical Relay Switch
- DC to 18 GHz Frequency Range
- Latching Actuator
- Positive Common (+COM) Configuration
- 5M Lifecycle Rating
- Insertion Loss 0.25 dB typ
- Isolation > 85 dB typ
- VSWR as low as 1.2:1 max
- Solder Terminal Pins for DC Control
- 12 Volt DC Bias
- SMA Female Connectors
- -25°C to +65°C Operating Temperature
- 90 Watt Average Power Handling
- 50 Ohm Design
- Hot Switching Capability - Consult Factory
- S-Parameter Data available upon request
- Rugged Design meets Mil-STD-202 Test Conditions

### Applications:

- Aerospace & Defense
- Test & Measurement
- Microwave Radio Systems
- Military & Commercial Communication Systems
- Research & Development
- SATCOM
- Wireless Communications
- Enterprise
- IoT

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**Environmental Specifications**

**Temperature**

Operating Range -25 to +65 deg C  
Storage Range -55 to +100 deg C

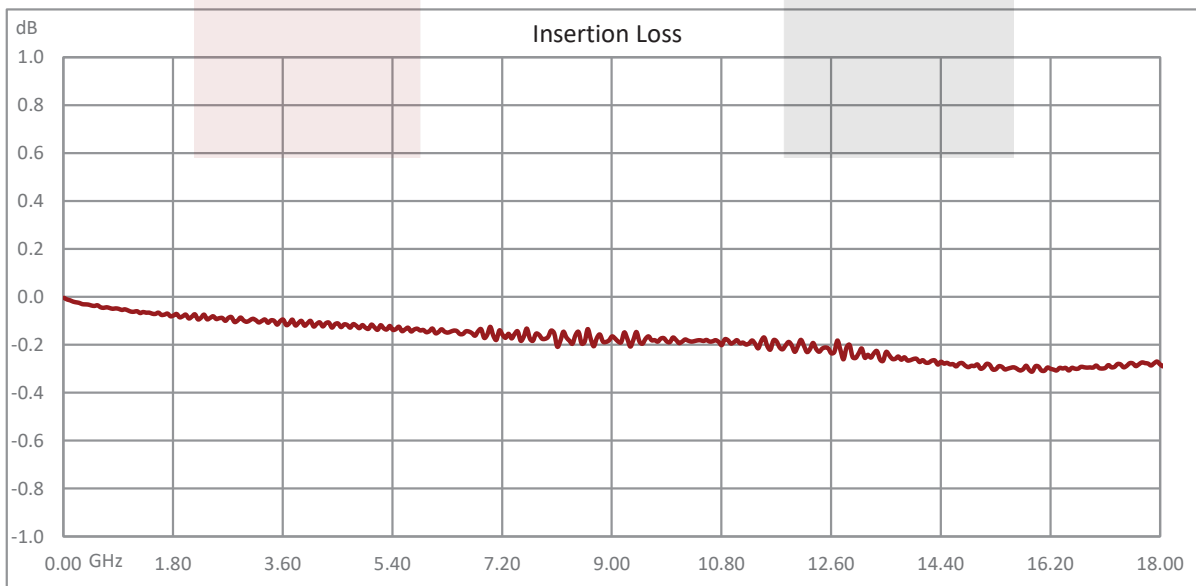
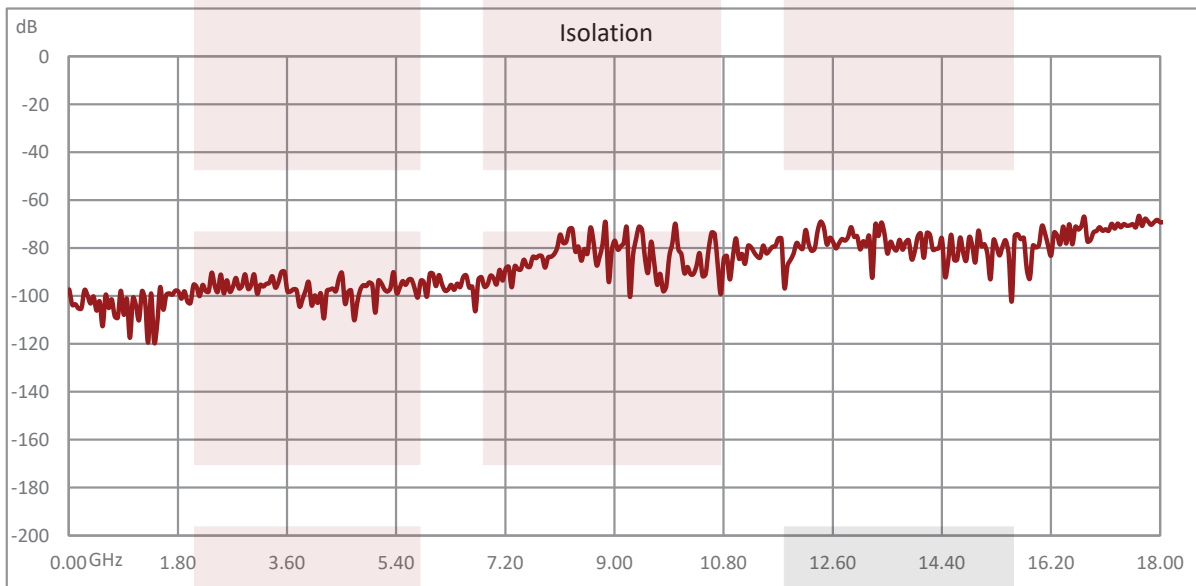
Shock MIL-STD-202 Method 213, Condition D, 500G (non oper)  
Vibration MIL-STD-202 Method 204, Condition D, 10G RMS (non oper)

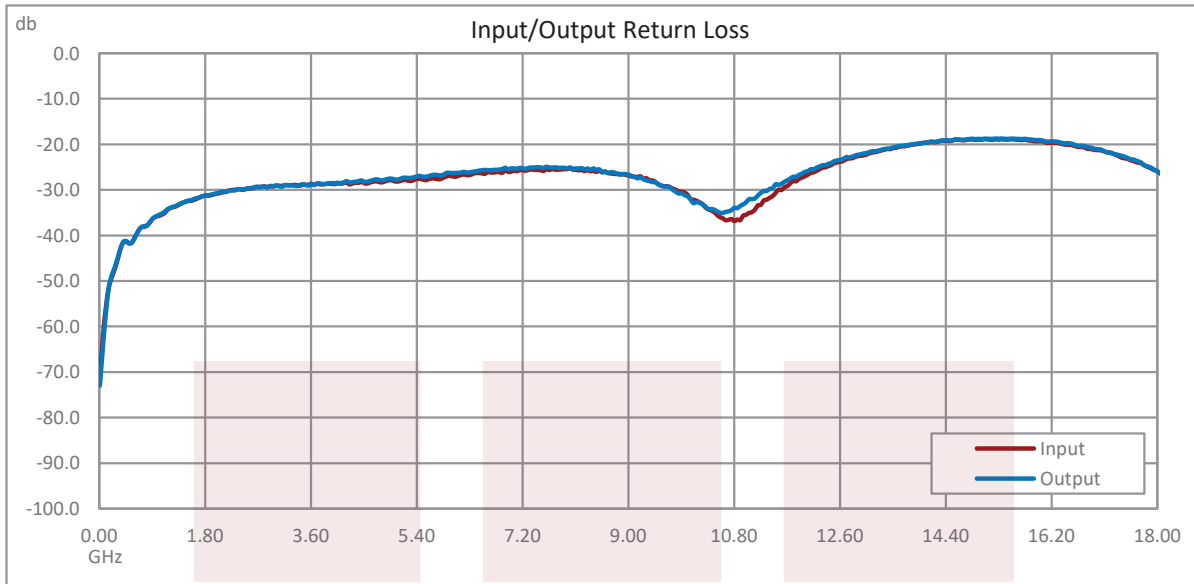
**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

Notes:

**Typical Performance Data**





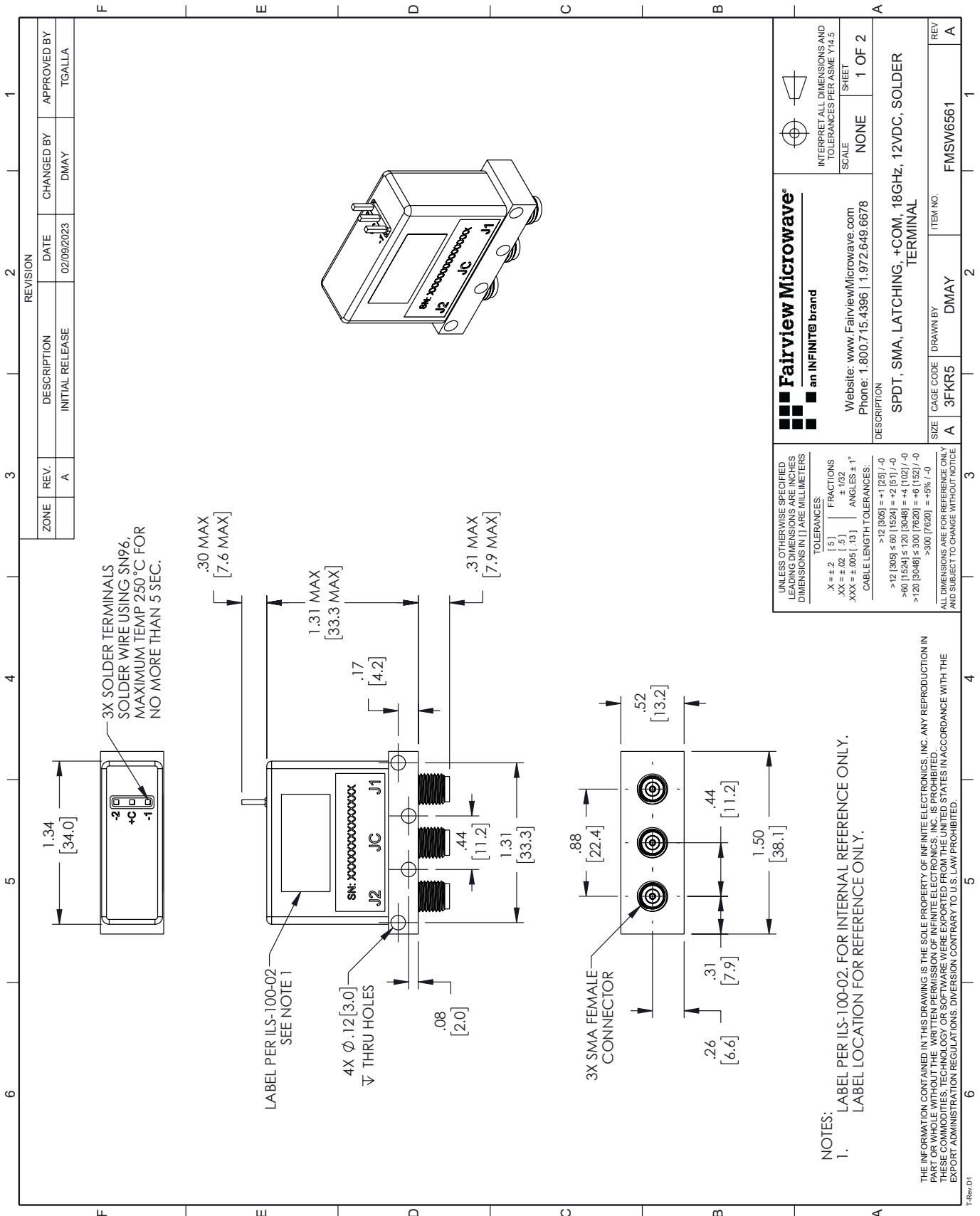
**Power Handling vs. Frequency**

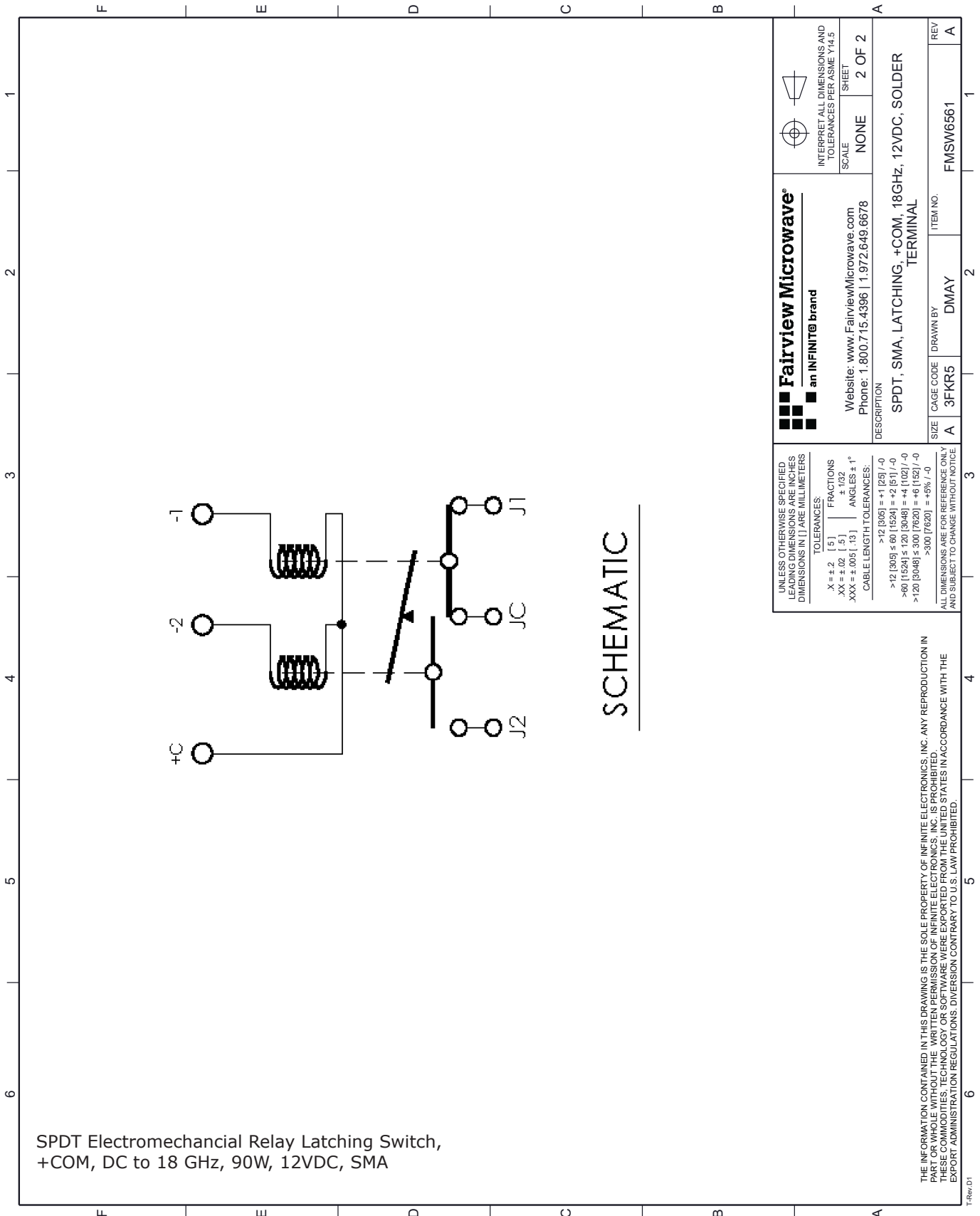
SPDT Electromechanical Relay Latching Switch, +COM, DC to 18 GHz, 90W, 12VDC, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SPDT Electromechanical Relay Latching Switch, +COM, DC to 18 GHz, 90W, 12VDC, SMA FMSW6561](https://www.fairviewmicrowave.com/spdt-latching-18-ghz-electro-mechanical-relay-switch-12v-sma-fmsw6561-p.aspx)

URL: <https://www.fairviewmicrowave.com/spdt-latching-18-ghz-electro-mechanical-relay-switch-12v-sma-fmsw6561-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.





SPDT Electromechanical Relay Latching Switch,  
+COM, DC to 18 GHz, 90W, 12VDC, SMA

<p><b>Fairview Microwave®</b> an INFINITE® brand</p> <p>Website: <a href="http://www.FairviewMicrowave.com">www.FairviewMicrowave.com</a> Phone: 1.800.715.4396   1.972.649.6678</p>		<p>INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5</p> <p>SCALE: NONE</p> <p>SHEET: 2 OF 2</p>	
<p>UNLESS OTHERWISE SPECIFIED, LEADING DIMENSIONS ARE INCHES AND DIMENSIONS IN [ ] ARE MILLIMETERS.</p> <p>TOLERANCES:</p> <p>.X = ±.2 [ .5 ]     FRACTIONS ± 1/32</p> <p>.XX = ±.02 [ .5 ]     ANGLES ± 1°</p> <p>.XXX = ±.005 [ .13 ]</p> <p>CABLE LENGTH TOLERANCES:</p> <p>&gt;12 [305] = +1 [25] / -0</p> <p>&gt;60 [1524] ≤ 120 [3048] = +2 [51] / -0</p> <p>&gt;60 [1524] ≤ 120 [3048] = +4 [102] / -0</p> <p>&gt;120 [3048] ≤ 300 [7620] = +6 [152] / -0</p> <p>&gt;300 [7620] = +5% / -0</p>		<p>DESCRIPTION: SPDT, SMA, LATCHING, +COM, 18GHz, 12VDC, SOLDER TERMINAL</p>	
SIZE: A	CAGE CODE: 3FKR5	DRAWN BY: DMAY	ITEM NO.: FMSW6561
REV: A			REV: A

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