

**SP6T Electromechanical Relay Latching Switch,
 +COM, DC to 43 GHz, 10W, 12VDC, 2.92mm**

The FMSW6571 is a Single Pole Six Throw (SP6T) electromechanical relay switch that operates across a wideband frequency range from DC to 43 GHz and can handle 10W 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 2 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 0.7 dB insertion loss and isolation greater than 80 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 2.92mm female connectors and a 15 Pin D-SUB Connector for DC control. And for highly reliable operation, the model is guaranteed to meet MIL-STD-202 environmental test conditions for sh[°]ck and random vibration.

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

Switch Type SP6T
 Actuator Type Latching

Description	Min	Typ	Max	Units
Frequency Range	DC		43	GHz
Operating Voltage	11	12	13	Volts
Actuating Current @ 12 Volts		280		mA
Actuating Reset Current		1.68		A
VSWR		1.7:1	2.1:1	
Insertion Loss		0.7	1.6	dB
Isolation	40	80		dB
Switching Time		20		ms

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 6	6 - 12	12 - 18	18 - 26.5	26.5 - 32	GHz
VSWR, Max	1.15:1	1.25:1	1.35:1	1.5:1	1.7:1	
Insertion Loss, Max	0.2	0.3	0.6	0.8	0.8	dB
Isolation, Min	80	75	70	70	60	dB

Performance by Frequency

Description	F6	F7	F8	F9	F10	Units
Frequency Range	32 - 40	40 - 43				GHz
VSWR, Max	1.8:12.1:1					
Insertion Loss, Max	1.1	1.6				dB
Isolation, Min	60	40				dB


Features:

- Single Pole Six Throw (SP6T) Electromechanical Relay Switch
- DC to 43 GHz Frequency Range
- Latching Actuator
- Positive Common (+COM) Configuration
- 2M Lifecycle Rating
- Insertion Loss 0.7 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.15:1 max
- 15 PIN D-SUB Connector for DC Control
- 12 Volt DC Bias
- 2.92mm Female Connectors
- -25°C to +65°C Operating Temperature
- 10 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
- Actuating Set / Reset Feature

Applications:

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

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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	0.186 lbs [84.37 g]

Connectors

RF Connector Type	2.92mm Female
Control Connector	D-Subminiature

Environmental Specifications

Temperature

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

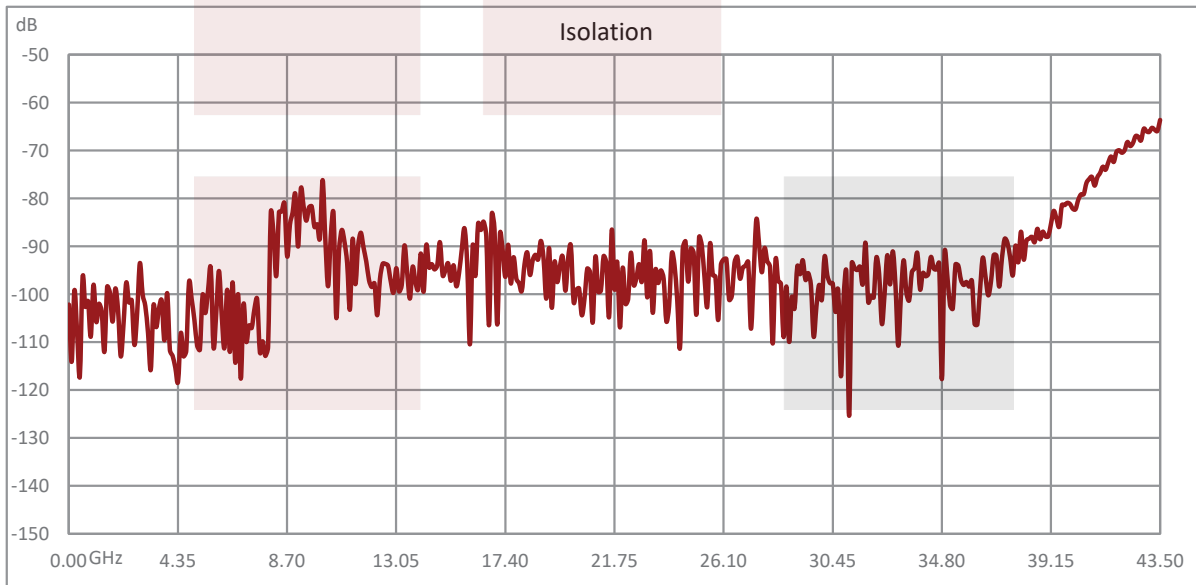
Shock	MIL-STD-202 Method 213, Condition D, 500G (non oper)
Vibration	MIL-STD-202 Method 204, Condition D, 10G RMS (non oper)

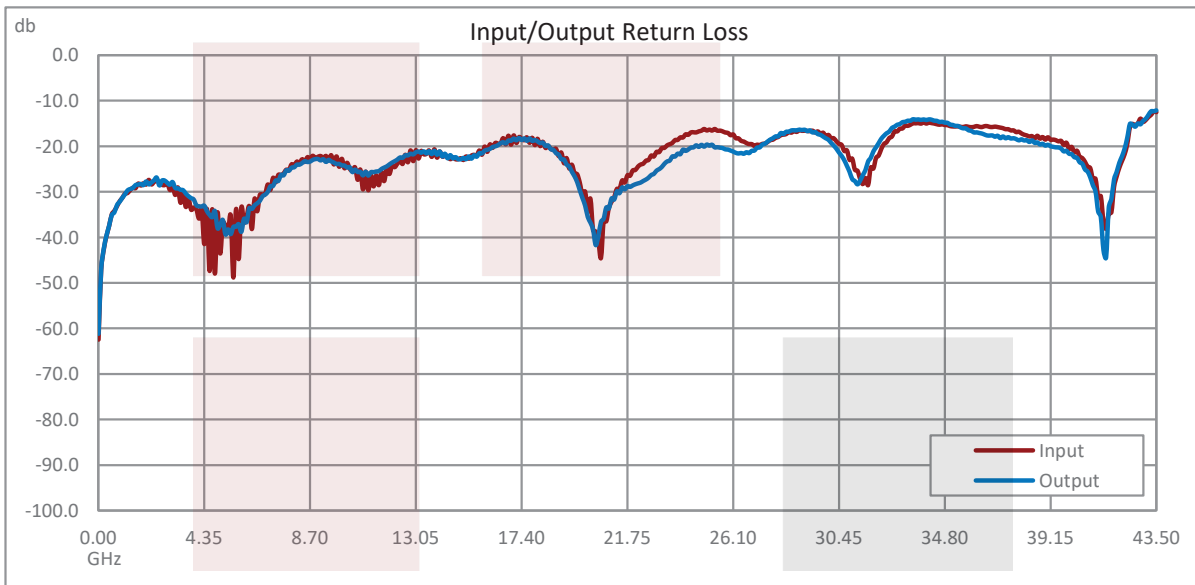
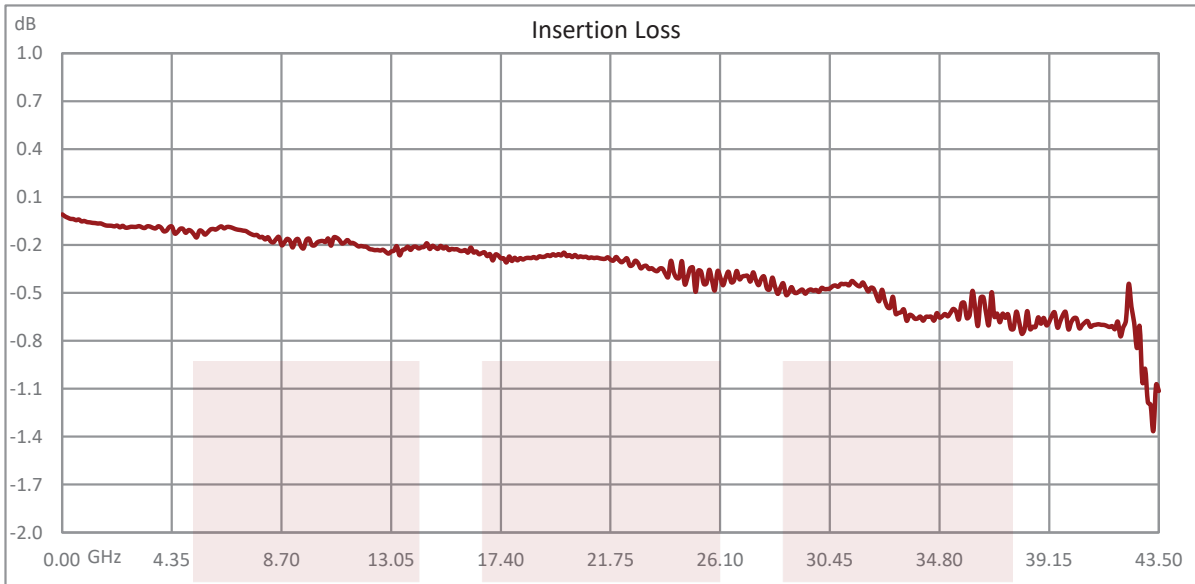
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

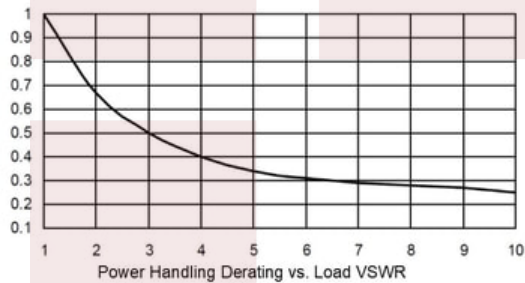
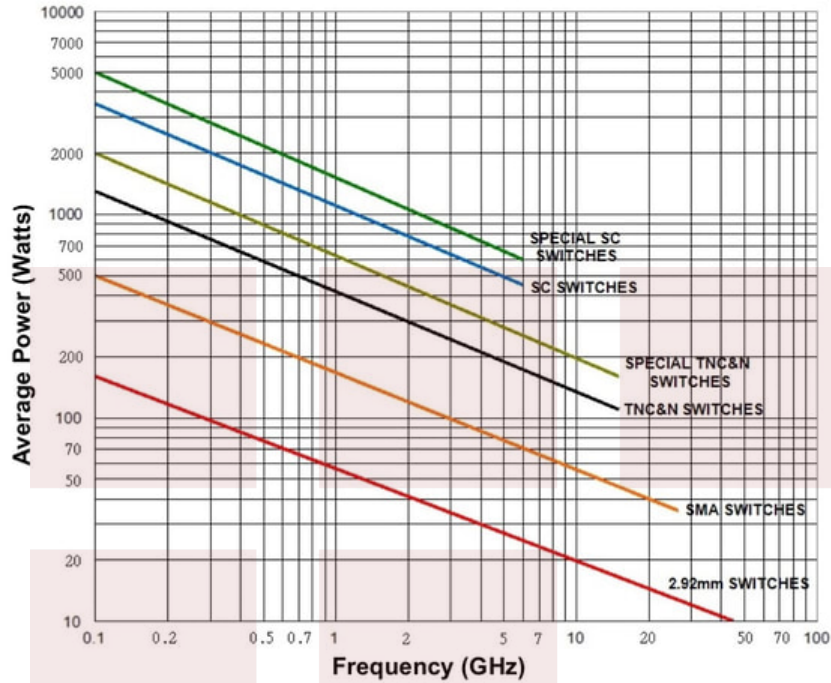
Typical Performance Data





Power Handling vs. Frequency

Power Handling vs. Frequency



Power handling chart and derating curves based on the following conditions:

- Ambient temperature: 40°C or less
- Altitude: Sea level
- Load VSWR: 1.20:1 Maximum
- Relative Humidity: 40-50%
- Cold switching: RF signal off

Note: specifications subject to change without notice

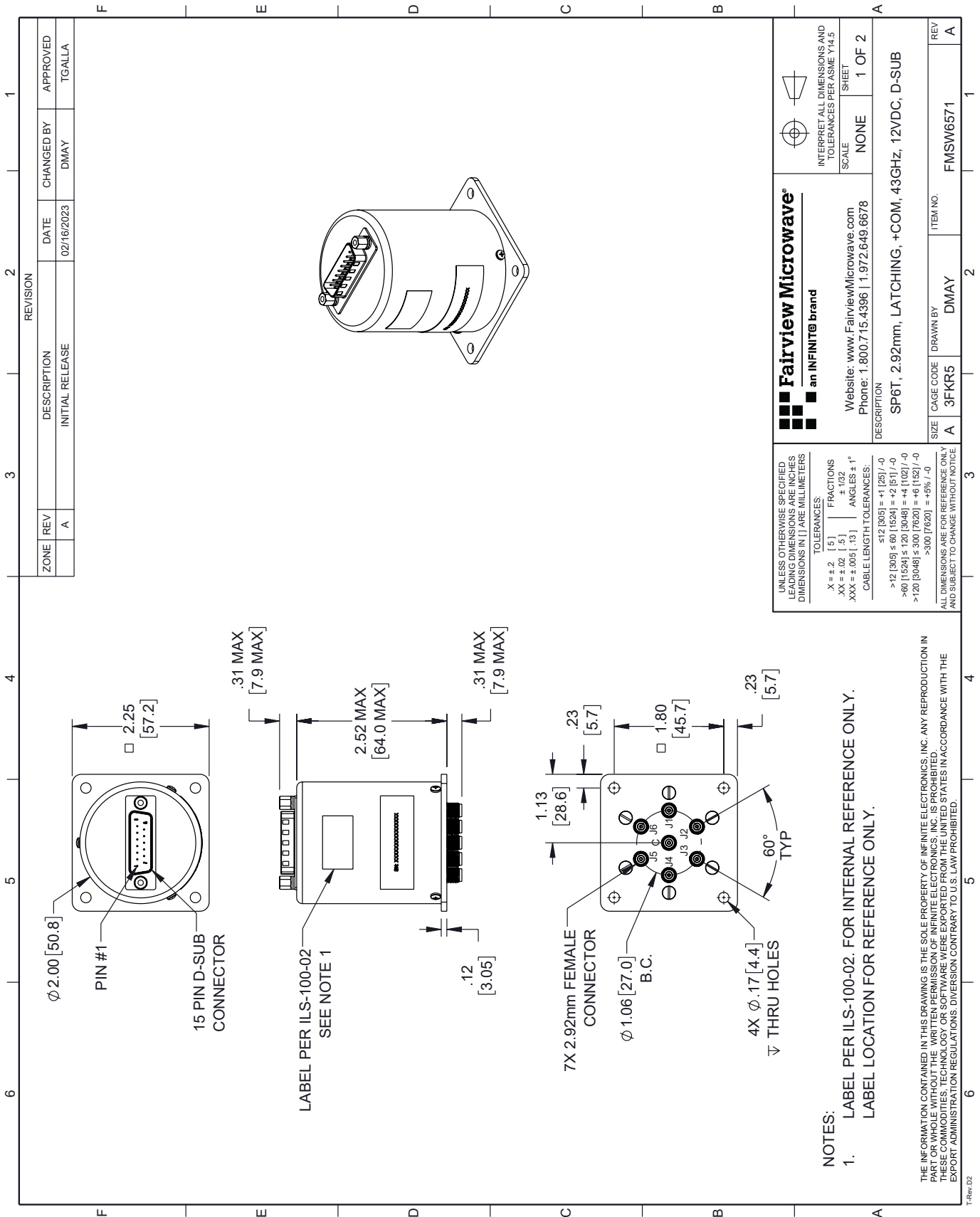
SP6T Electromechanical Relay Latching Switch, +COM, DC to 43 GHz, 10W, 12VDC, 2.92mm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

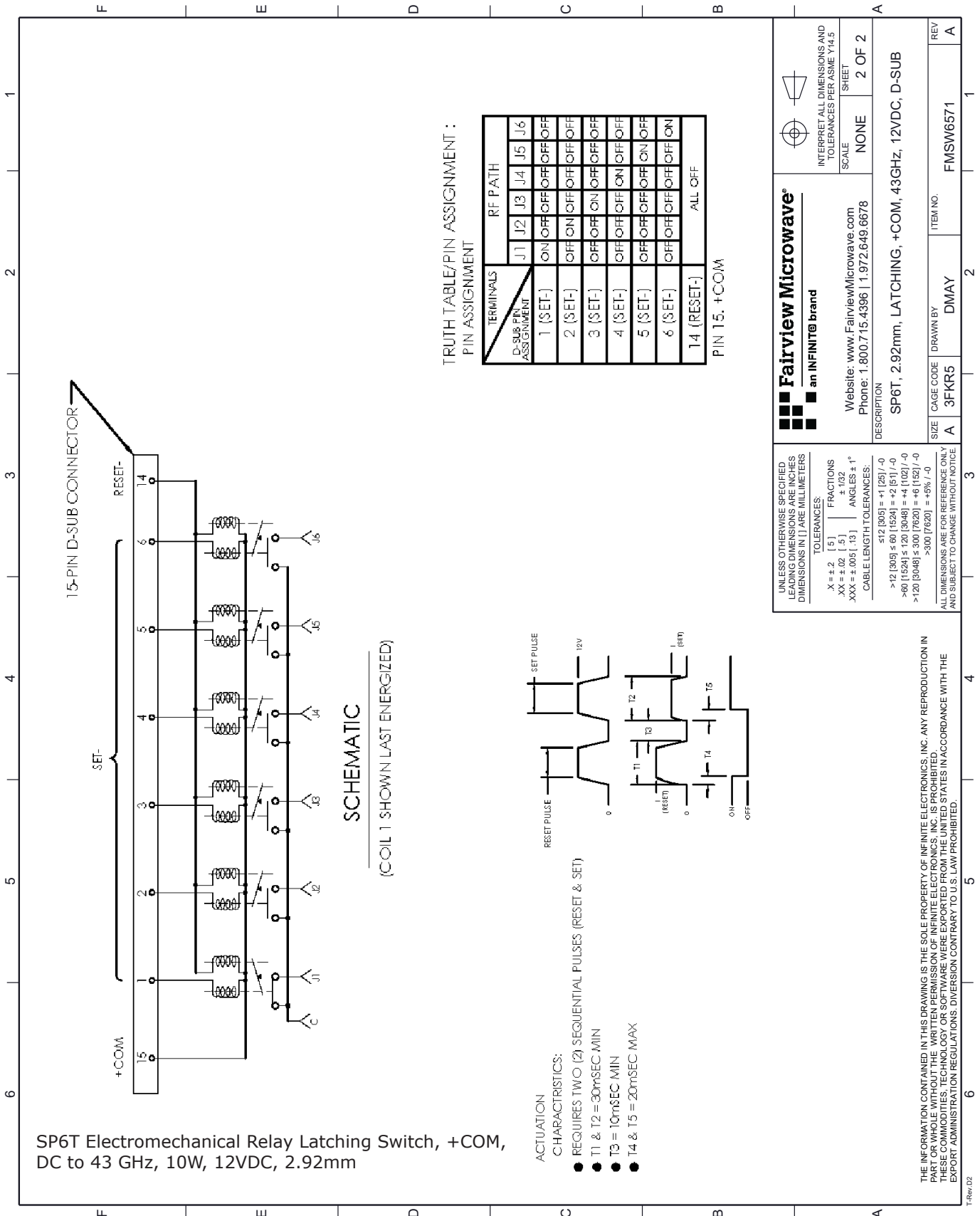
For additional information on this product, please click the following link: [SP6T Electromechanical Relay Latching Switch, +COM, DC to 43 GHz, 10W, 12VDC, 2.92mm FMSW6571](#)

URL: <https://www.fairviewmicrowave.com/sp6t-latching-43-ghz-electro-mechanical-relay-switch-12v-2.92mm-fm-sw6571-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.







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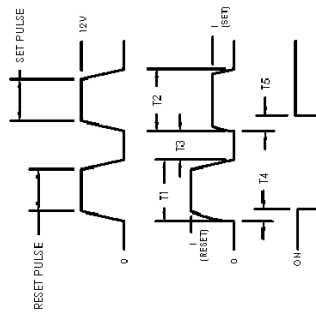
TRUTH TABLE/PIN ASSIGNMENT:
PIN ASSIGNMENT

D-SUB PIN ASSIGNMENT	RF PATH					
	J1	J2	J3	J4	J5	J6
1 (SET-)	ON	OFF	OFF	OFF	OFF	OFF
2 (SET-)	OFF	ON	OFF	OFF	OFF	OFF
3 (SET-)	OFF	OFF	ON	OFF	OFF	OFF
4 (SET-)	OFF	OFF	OFF	ON	OFF	OFF
5 (SET-)	OFF	OFF	OFF	OFF	ON	OFF
6 (SET-)	OFF	OFF	OFF	OFF	OFF	ON
14 (RESET-)	ALL OFF					

PIN 15. +COM

SCHEMATIC

(COIL 1 SHOWN LAST ENERGIZED)



- ACTUATION CHARACTERISTICS:
- REQUIRES TWO (2) SEQUENTIAL PULSES (RESET & SET)
 - T1 & T2 = 30mSEC MIN
 - T3 = 10mSEC MIN
 - T4 & T5 = 20mSEC MAX

<p>Fairview Microwave an INFINIT[®] brand</p> <p>Website: www.FairviewMicrowave.com Phone: 1.800.715.4396 1.972.649.6678</p>	<p>INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5 SHEET</p>
	<p>SCALE: NONE</p> <p>SHEET: 2 OF 2</p>
<p>DESCRIPTION: SP6T, 2.92mm, LATCHING, +COM, 43GHZ, 12VDC, D-SUB</p>	
<p>SIZE: A</p> <p>CAGE CODE: 3FKR5</p> <p>DRAWN BY: DMAY</p>	<p>ITEM NO.: FMSW6571</p> <p>REV: A</p>

UNLESS OTHERWISE SPECIFIED, LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES:

.X ± .2	[.5]	FRACTIONS
.XX ± .02	[.5]	± 1/32
.XXX ± .005	[.13]	ANGLES ± 1°

CABLE LENGTH TOLERANCES:

512 (305)	± .125 / -0
>12 (305) ≤ 60 (1524)	± .2 (51) / -0
>60 (1524) ≤ 120 (3048)	± .4 (102) / -0
>120 (3048) ≤ 300 (7620)	± .6 (152) / -0
>300 (7620)	± .8 (203) / -0

ALL DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO CHANGE WITHOUT NOTICE

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