

## SP6T Normally Open Electro-Mechanical Relay Switch From DC to 40 GHz, 3 Watts, 2.92mm

The FMSW6143 is an SP6T Electromechanical Relay Switch that operates over a wide frequency band from DC to 40 GHz and has a rating of 3 Watts input power (CW). Rated for 1M life cycles for high reliability operation, this design uses a Normally Open Actuator with a break before make configuration. The switch exhibits exceptional electrical performance specified from 0.2 dB max for insertion loss and 70 dB min for isolation, and guaranteed over -35°C to +85°C. The assembly requires an operating voltage of +28Vdc. External connectors include solder terminals and 2.92mm female connectors.

### Electrical Specifications

Switch Type	SP6T, Reflective
Actuator Type	Normally Open
Switching Sequence	Break Before Make
Polarity	Positive Common

Description	Min	Typ	Max	Units
Frequency Range	DC		40	GHz
Impedance		50		Ohms
Operating Voltage	24	28	30	Volts
Actuating Current @ 28 Volts			180	mA
VSWR			2:1	
Insertion Loss			1	dB
Isolation	50			dB
Input Power (CW) (at 40 GHz)			3	Watts

### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 6	6 - 12	12 - 18	18 - 26.5	26.5 - 40	GHz
VSWR, Max	1.3:1	1.4:1	1.5:1	1.7:1	2:1	
Insertion Loss, Max	0.2	0.4	0.5	0.7	1	dB
Isolation, Min	70	60	60	55	50	dB

### Mechanical Specifications

Size	
Length	1.6 in [40.64 mm]
Width/Diameter	1.75 in [44.45 mm]
Height	1.75 in [44.45 mm]
Weight	0.256 lbs [116.12 g]
Body Material and Plating	Aluminum
Package Type	Connectorized
Operating Life	1,000,000 Cycles
Switching Time	15 ms Max



### Features:

- Single Pole Six Throw Relay Switch
- DC to 40 GHz Frequency Range
- 1M Cycle Operating Life Min
- Normally Open Actuator
- Insertion Loss 1 dB max
- Isolation 50 dB min
- 3 Watts Avg Power Max
- Switching Sequence Break Before Make

### Applications:

- Test & Measurement
- Communications System
- Instrumentation
- Suitable for Aircraft

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#### Connectors

RF Connector Type	2.92mm Female
RF Connector Contact Material & Plating	Beryllium Copper, Gold
RF Connector Body Material & Plating	Passivated Stainless Steel
Control Connector	Solder Pin

#### Environmental Specifications

##### Temperature

Operating Range	-35 to +85 deg C
ESD Sensitivity	ESD Sensitive Material. Transport material in Approved ESD bags. Handle in approved ESD Workstation.



Environmental Specification Notes:  
 Designed to meet MIL-E-5400 and MIL-DTL-3928

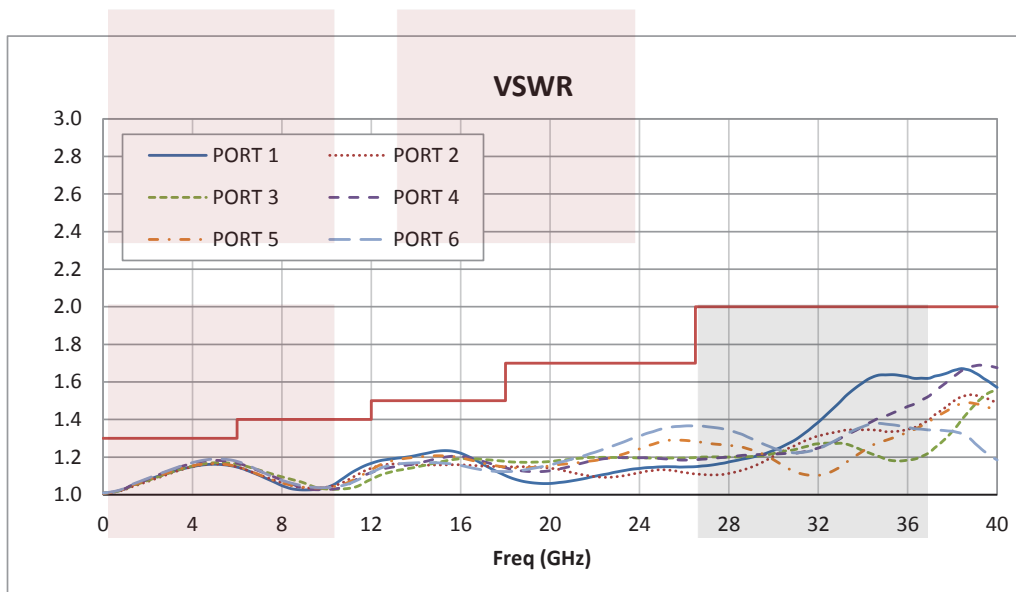
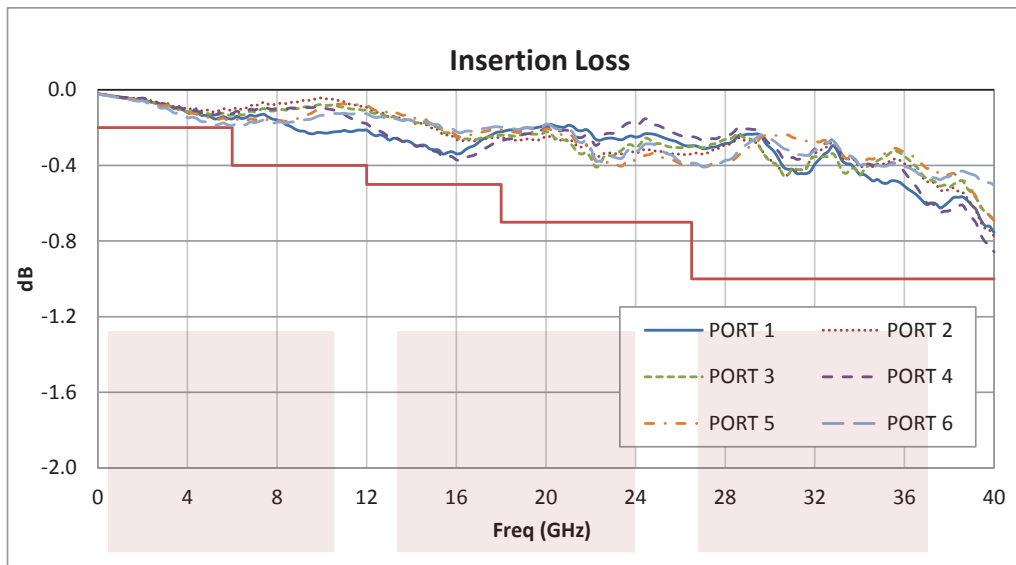
#### Compliance Certifications (visit [www.FairviewMicrowave.com](http://www.FairviewMicrowave.com) for current document)

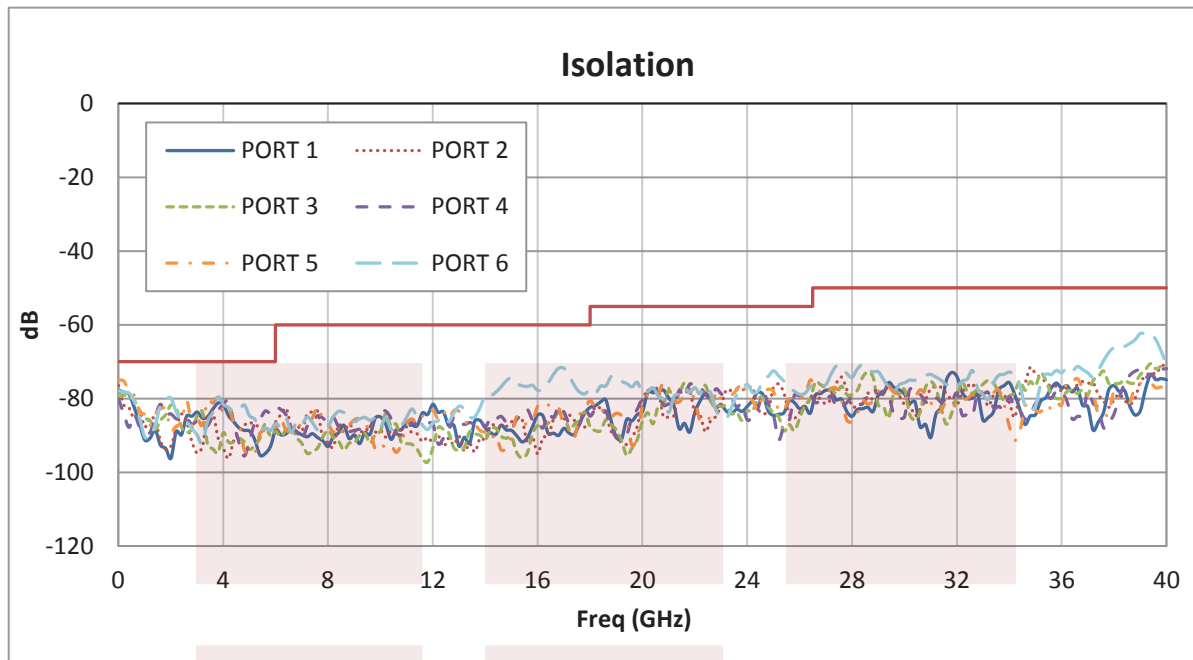
Not RoHS Compliant

#### Plotted and Other Data

Notes:

**Typical Performance Data**



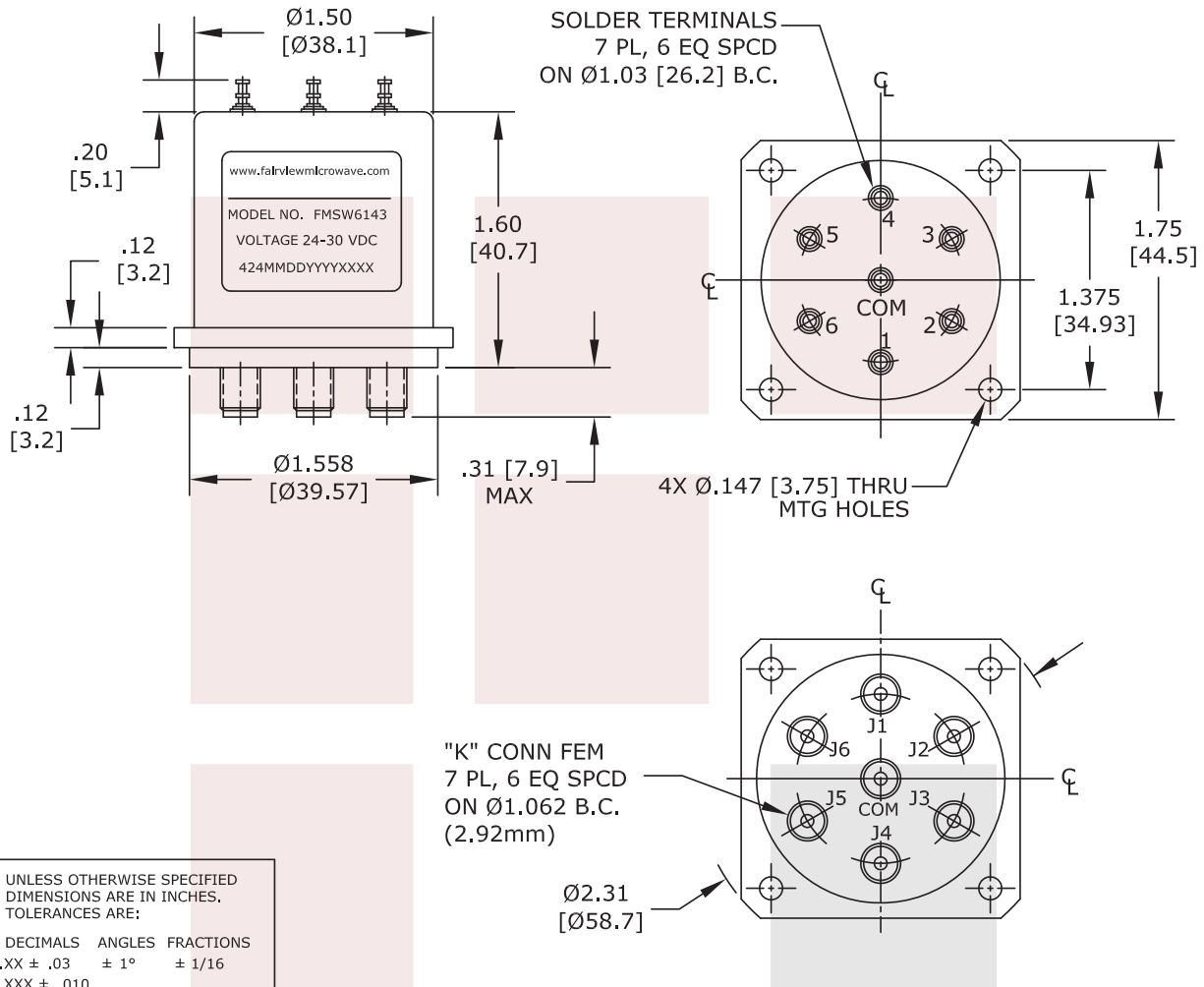


SP6T Normally Open Electro-Mechanical Relay Switch From DC to 40 GHz, 3 Watts, 2.92mm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SP6T Normally Open Electro-Mechanical Relay Switch From DC to 40 GHz, 3 Watts, 2.92mm FMSW6143](http://www.fairviewmicrowave.com/sp6t-normally-open-electro-mechanical-relay-switch-fmsw6143-p.aspx)

URL: <http://www.fairviewmicrowave.com/sp6t-normally-open-electro-mechanical-relay-switch-fmsw6143-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.



UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES.  
TOLERANCES ARE:

DECIMALS	ANGLES	FRACTIONS
.XX ± .03	± 1°	± 1/16
.XXX ± .010		

HOLE DIAMETER	TOLERANCE
.0135 TO .125	+.004/-0.001
.126 TO .250	+.005/-0.001
.251 TO .500	+.006/-0.001
.501 TO .750	+.008/-0.001
.751 TO 1.000	+.010/-0.001
1.001 TO 2.000	+.012/-0.001

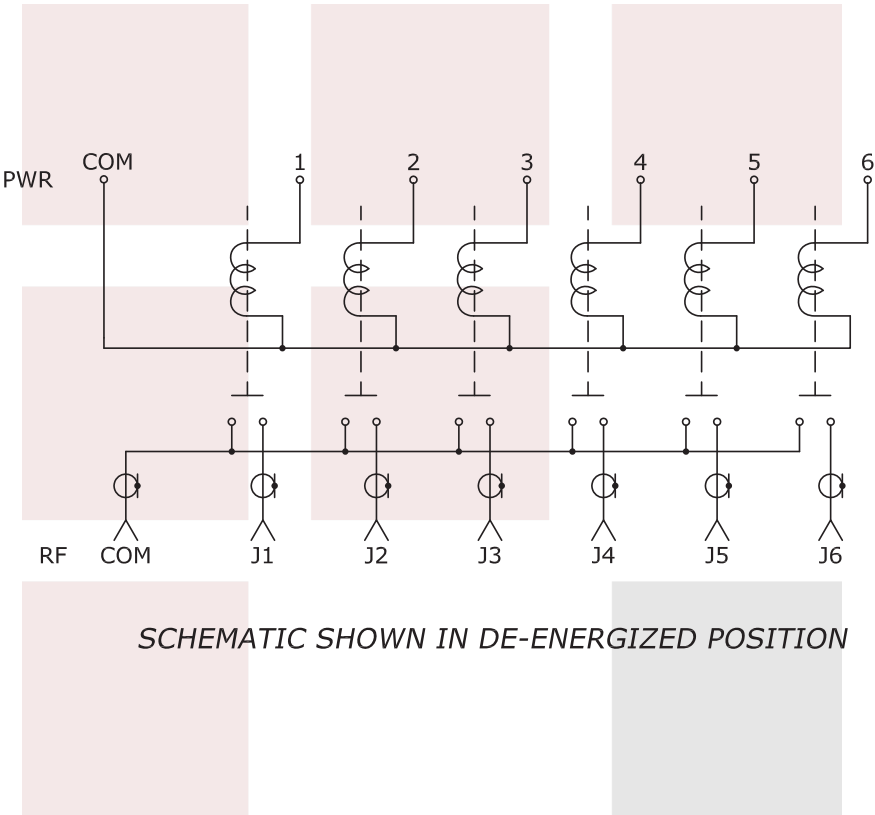
\* THESE DIMENSIONS AND TOLERANCES  
SUPERSEDE NOTE #1 ON TITLE BLOCK.

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NOTES:  
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.  
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.  
3. DIMENSIONS ARE IN INCHES [mm].

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From DC to 40 GHz, 3 Watts, 2.92mm

DWG NO	FMSW6143	CAGE CODE	3FKR5
CAD FILE	031915	SHEET	SCALE N/A SIZE A 200



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				<div></div> <div>200</div>	