

SP4T Latching DC to 40 GHz Electro-Mechanical Relay Switch, Indicators, TTL, Self Cut Off, Diodes, 5W, 12V, 2.92mm

The FMSW6140 is an SP4T Electromechanical Relay Switch that operates over a wide frequency band from DC to 40 GHz with up to 18 Watts of input power (CW) handling capability. Rated for 1M life cycles for high reliability operation, this design uses a Latching Actuator with a break before make configuration, self cut off circuitry, TTL logic driver, position indicators and suppression diodes. 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 +12Vdc. External connectors include solder terminals and 2.92mm female connectors.

Electrical Specifications

Switch Type	SP4T
Actuator Type	Latching
Switching Sequence	Break Before Make
Actuator Options	Indicators, TTL Logic, Self Cut Off, Diodes
TTL Control	on: 2.4 to 5 Volts off: 0 to 0.8 Volts

Description	Min	Typ	Max	Units
Frequency Range	DC		40	GHz
Impedance		50		Ohms
Operating Voltage		12		Volts
Actuating Current @ 12 Volts			480	mA
VSWR			2:1	
Insertion Loss			1	dB
Isolation	50			dB
Input Power (CW) (at 40 GHz)			5	Watts
Switching Time			15	ms

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



Features:

- Single Pole Four Throw Relay Switch
- DC to 40 GHz Frequency Range
- 1M Cycle Operating Life Min
- Latching Actuator
- Self Cut Off, TTL Logic Driver, Position Indicators, Suppression Diodes
- Insertion Loss 1 dB max
- Isolation 50 dB min
- 5 Watts Avg Power Max
- Switching Sequence Break Before Make

Applications:

- Test & Measurement
- Communications System
- Instrumentation

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Mechanical Specifications

Size	
Length	2.38 in [60.45 mm]
Width/Diameter	2.25 in [57.15 mm]
Height	2.25 in [57.15 mm]
Weight	0.492 lbs [223.17 g]
Body Material and Plating	Aluminum
Package Type	Connectorized
Operating Life	1,000,000 Cycles

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.



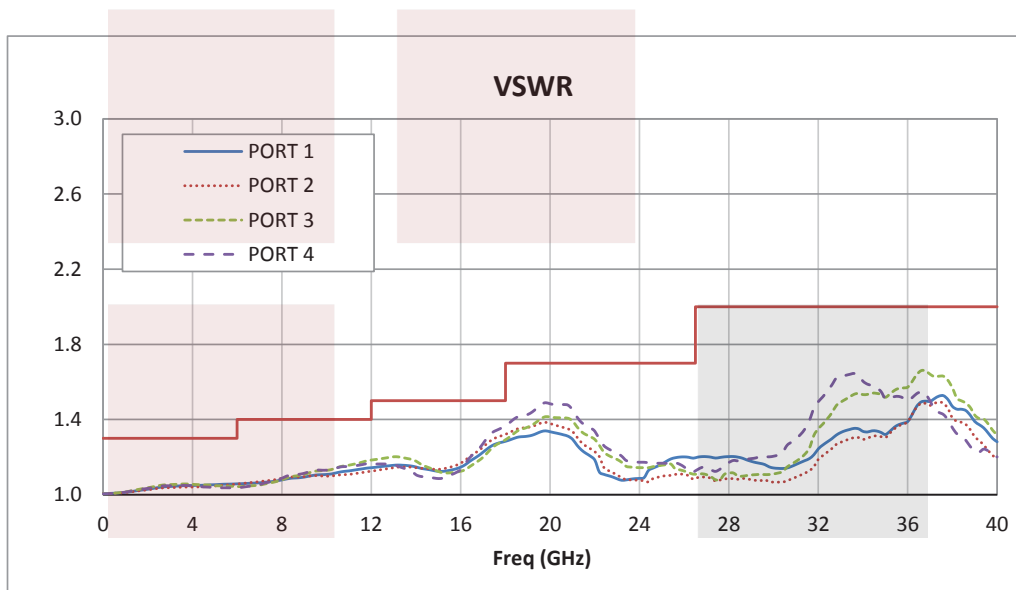
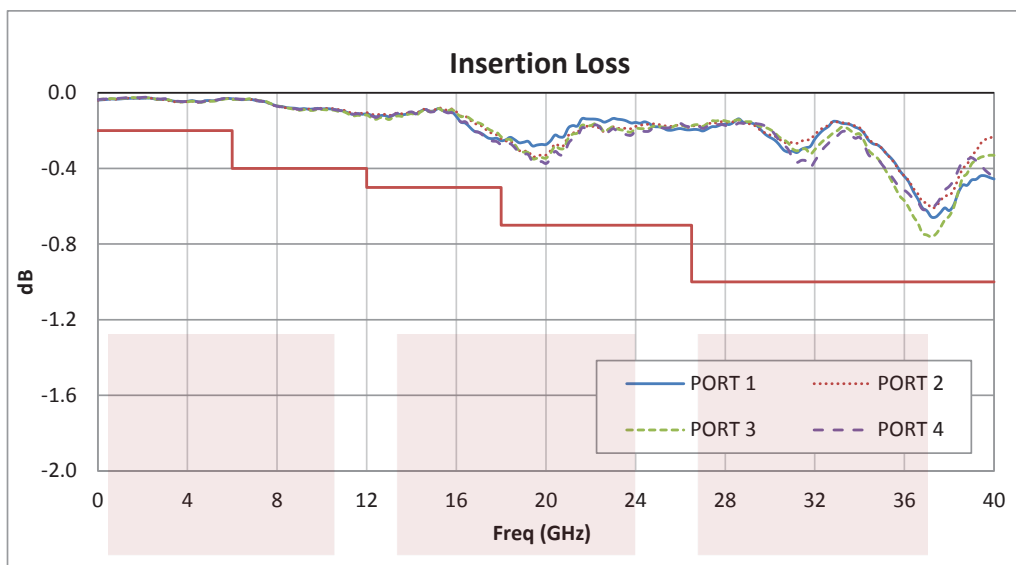
Environmental Specification Notes:
Designed to Meet MIL-DTL-3928

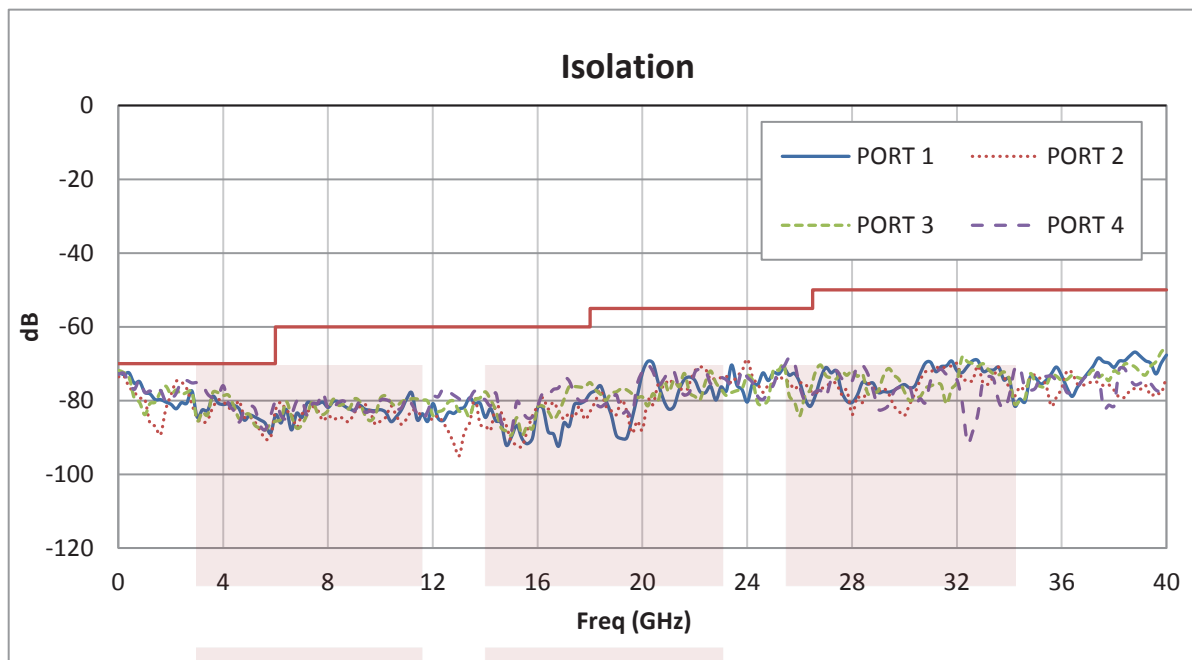
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

Typical Performance Data



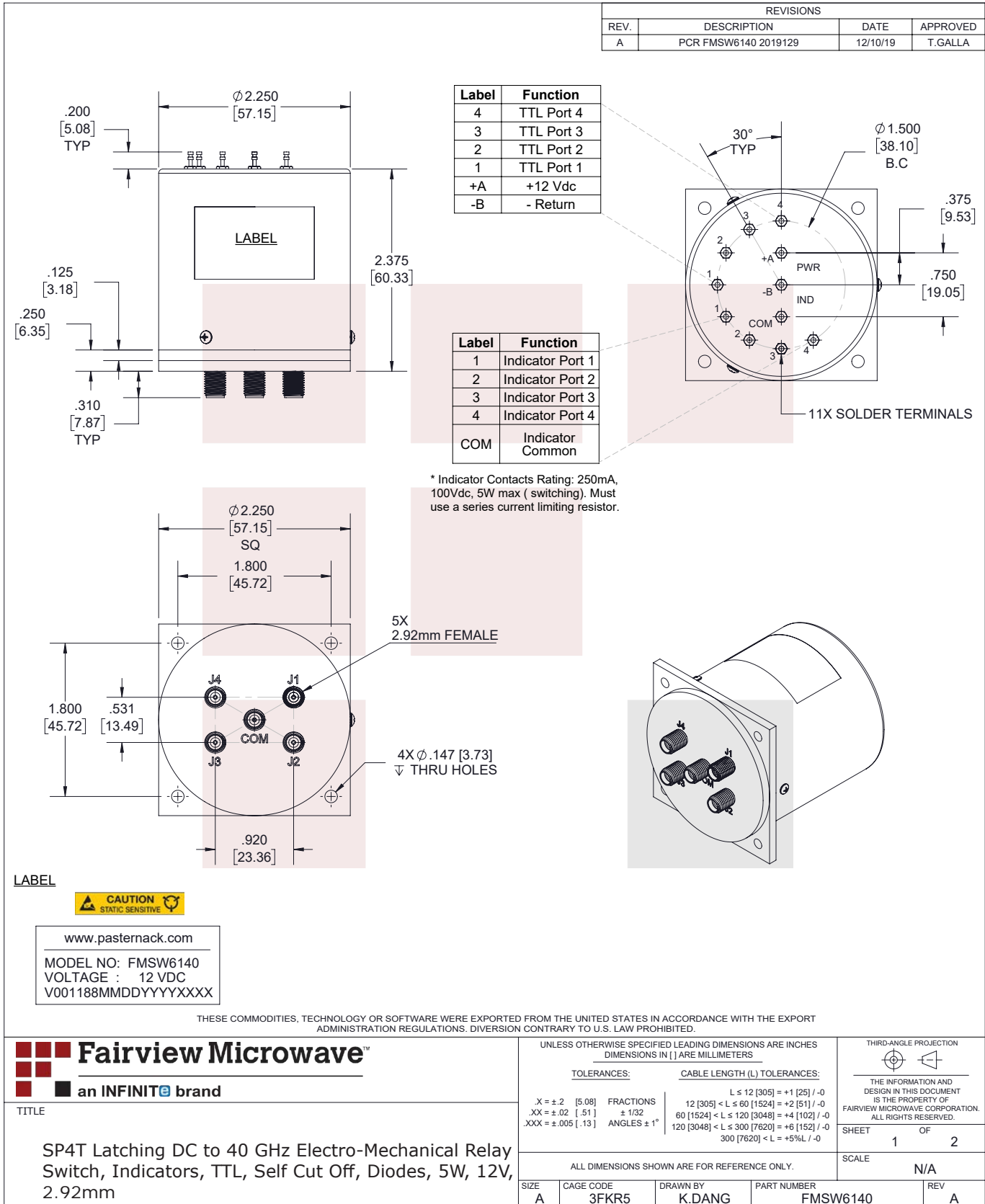


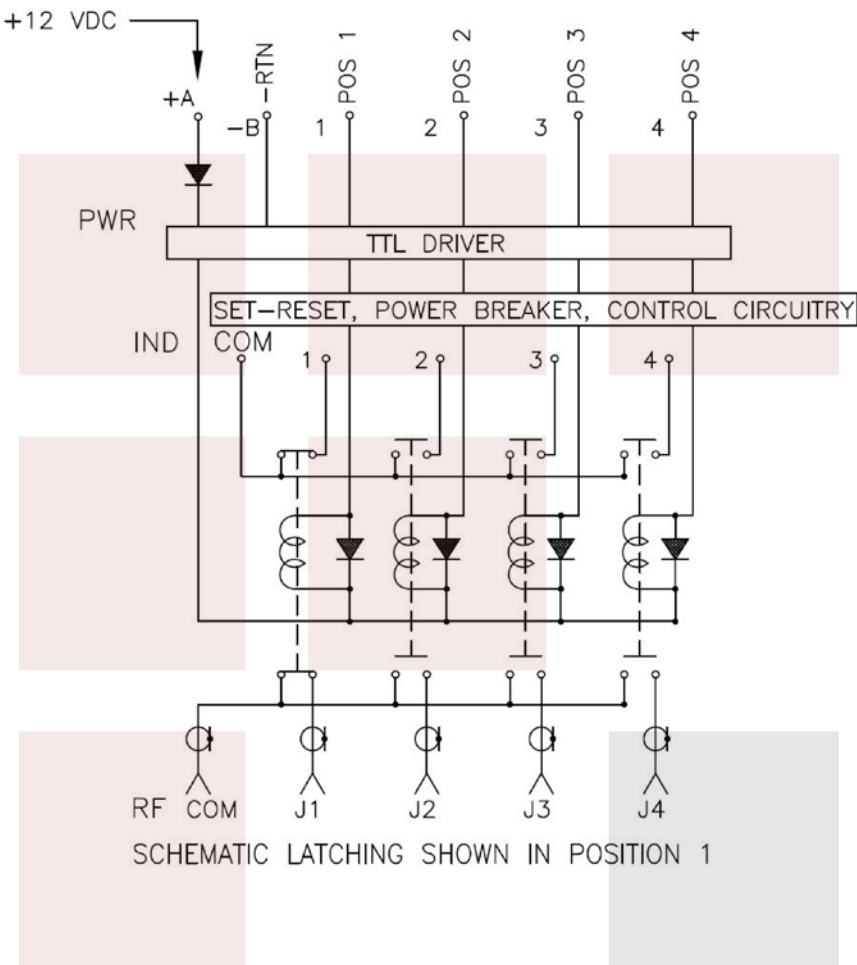
SP4T Latching DC to 40 GHz Electro-Mechanical Relay Switch, Indicators, TTL, Self Cut Off, Diodes, 5W, 12V, 2.92mm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SP4T Latching DC to 40 GHz Electro-Mechanical Relay Switch, Indicators, TTL, Self Cut Off, Diodes, 5W, 12V, 2.92mm FMSW6140](https://www.fairviewmicrowave.com/sp4t-normally-open-electro-mechanical-relay-switch-indicators-self-cut-off-fmsw6140-p.aspx)


URL: <https://www.fairviewmicrowave.com/sp4t-normally-open-electro-mechanical-relay-switch-indicators-self-cut-off-fmsw6140-p.aspx>

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<div><div><div></div><div></div><div></div><div></div></div><div><div>Fairview Microwave™</div><div>an INFINITE brand</div></div></div>		UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS		THIRD-ANGLE PROJECTION 	
TITLE		TOLERANCES:		CABLE LENGTH (L) TOLERANCES:	
SP4T Latching DC to 40 GHz Electro-Mechanical Relay Switch, Indicators, TTL, Self Cut Off, Diodes, 5W, 12V, 2.92mm		.X = ±.2 [.508] FRACTIONS		L ≤ 12 [305] = +1 [25] / -0	
		.XX = ±.02 [.51] ± 1/32		12 [305] < L ≤ 60 [1524] = +2 [51] / -0	
		.XXX = ±.005 [.13] ANGLES ± 1°		60 [1524] < L ≤ 120 [3048] = +4 [102] / -0	
				120 [3048] < L ≤ 300 [7620] = +6 [152] / -0	
				300 [7620] < L = +5%L / -0	
		ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.		SHEET 2 OF 2	
		SIZE A		SCALE N/A	
		CAGE CODE 3FKR5		DRAWN BY K.DANG	
				PART NUMBER FMSW6140	
				REV A	

T-Rev.D