

SP6T NO DC to 18 GHz Electro-Mechanical Relay Switch, TTL, up to 90W, 12V, SMA

FMSW6374



Features

- Single Pole Six Throw
- DC to 18 GHz Frequency Range
- Isolation greater than 80 dB typical
- 2M Cycle Min Operating Life
- +12 Volt DC
- 90 Watt average Power
- Normally Open Actuator
- TTL Control
- -25 to +70°C Operating Temperature
- Insertion Loss as low as 0.15 dB Max
- VSWR as low as 1.2:1 max
- SMA Female RF connectors
- DB-9 Connector for DC Control
- Hot Switching Capability - Consult Factory
- S-Parameter Data available upon request

Applications

- High Performance Relay Switch
- Military Communications
- Communications Systems
- Test & Measurement

Description

The FMSW6374 is a Single Pole Six Throw (SP6T) electromechanical relay switch that operates across a wide frequency range of DC to 18 GHz and can handle up to 90 Watts of CW input power in a break before make condition. The design features a Normally Open actuator and is rated for 2M life cycles for high reliability operation. Impressive performance includes insertion loss less than 0.15 dB typical and isolation greater than 80 dB typical. The Normally Open TTL controlled actuator has a +12 Vdc bias voltage, and operates over a temperature range of -25°C to +70°C. The rugged and compact package assembly supports SMA Female connectors and a DB-9 Connector 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	SP6T
Actuator Type	Normally Open
Switching Sequence	Break before Make
Actuator Options	TTL Logic
TTL Control	on: 2.4 to 5 Volts
	off: 0 to 0.8 Volts
TTL Control Current	200 mA at 5 Volts
	0 mA at 0.8 Volts

Description	Min	Typ	Max	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Operating Voltage	11	12	13	Volts
Actuating Current @ 12 Volts		200		mA
VSWR		1.2:1	1.4:1	
Insertion Loss		0.15	0.4	dB
Isolation	80	80		dB
Input Power (CW)			60	Watts
Switching Time			20	ms

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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	80	80	80			dB
Power In, Typ (CW)	90	75	60			Watts

Mechanical Specifications

Size

Body Material and Plating	Aluminum
Package Type	Connectorized
Operating Life	2,000,000 Cycles

Connectors

RF Connector Type	SMA Female
RF Connector Contact Material & Plating	Beryllium Copper, Gold
RF Connector Body Material & Plating	Aluminum, Nickel
Control Connector	9-Pin D-Subminiature

Environmental Specifications

Temperature

Operating Range	-25 to +70 deg C
Storage Range	-55 to +100 deg C
Shock	MIL-STD-202 Method 213, Cond. D 500G Non Operating
Vibration	MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

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

Plotted and Other Data

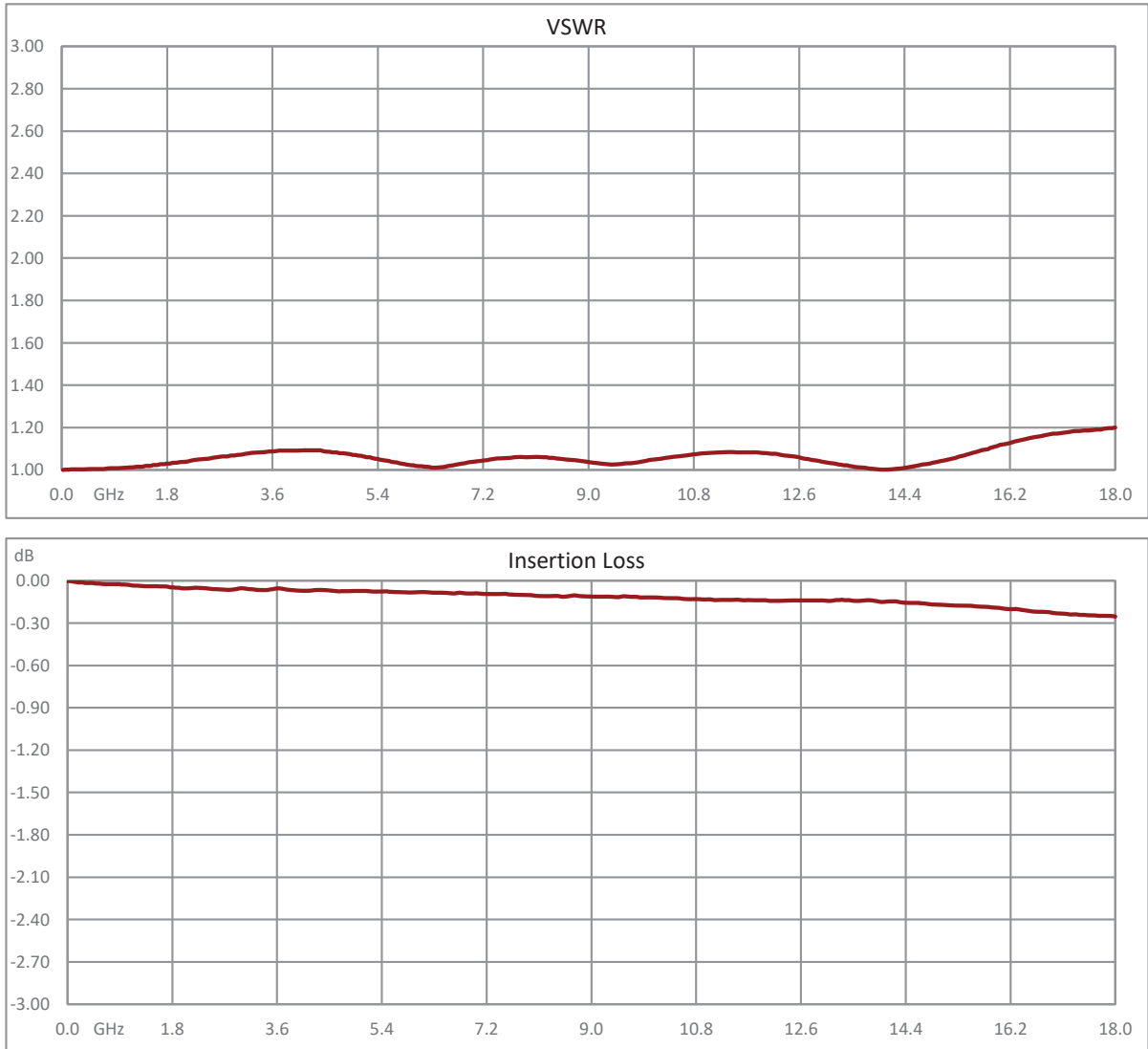
Notes:

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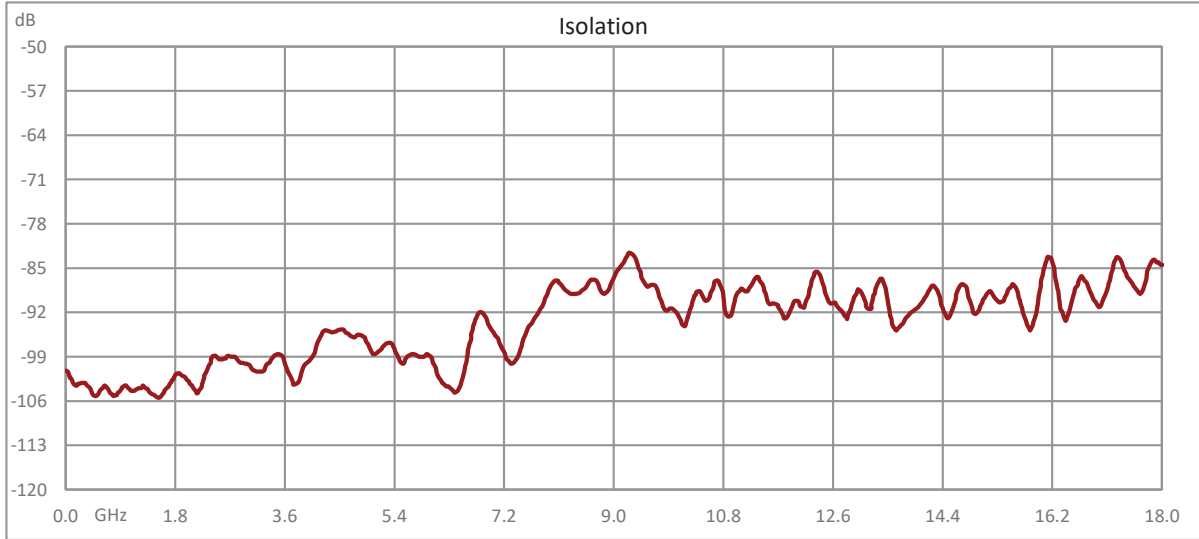


Typical Performance Data



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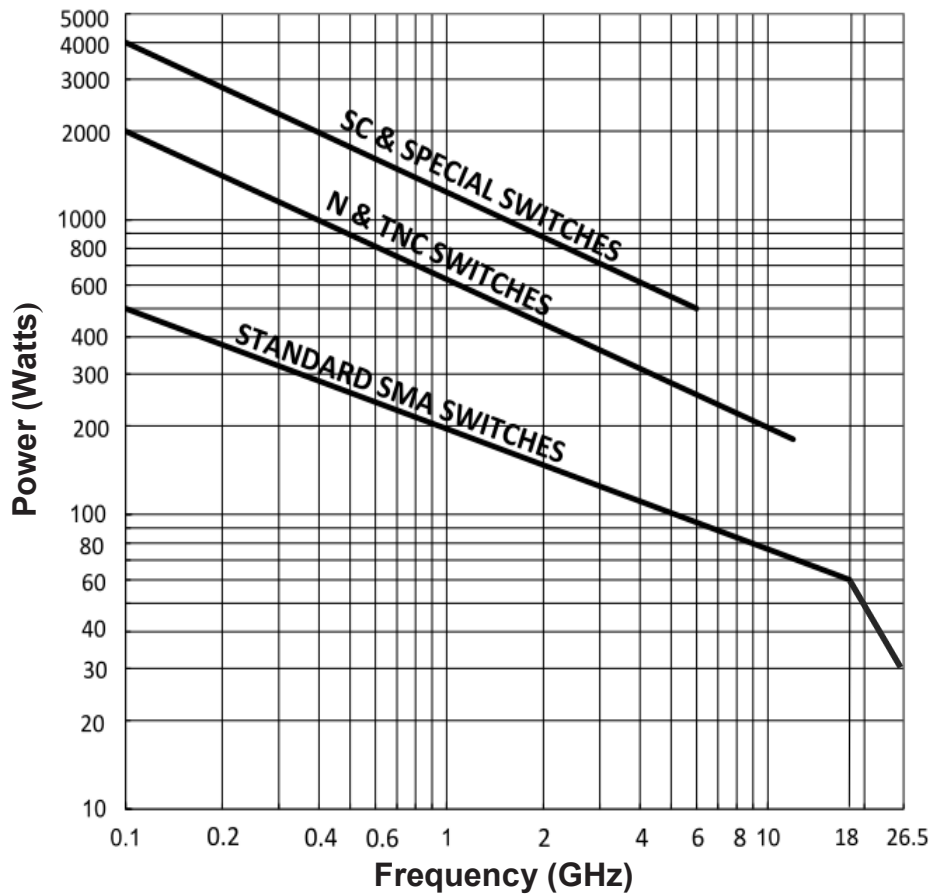


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Power Handling vs. Frequency & Connector Type



Environmental and Test Conditions:

- Ambient temperature of 25°C or less
- Altitude: Sea Level
- Load VSWR: 1.20:1 max.
- Cold Switching

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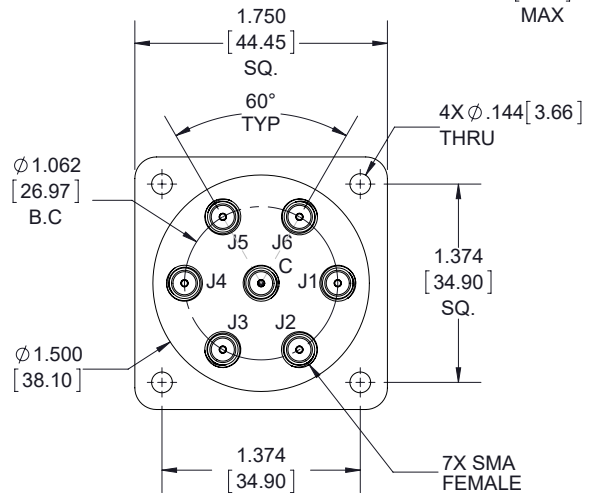
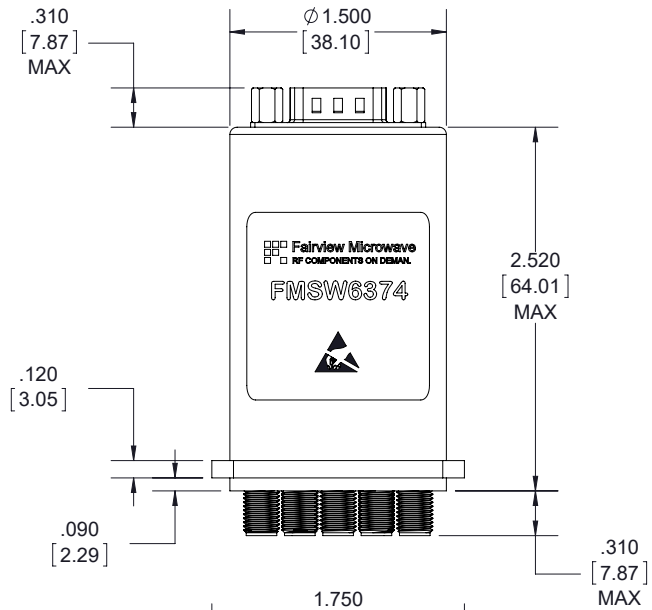
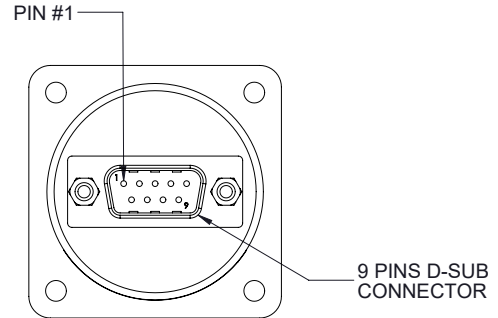
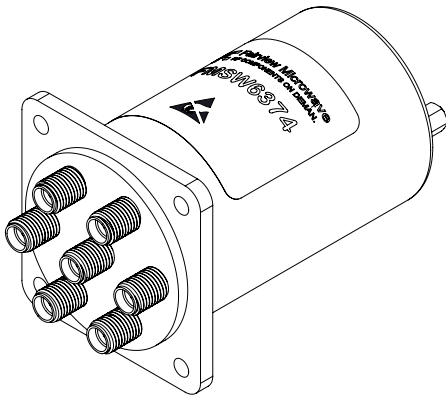
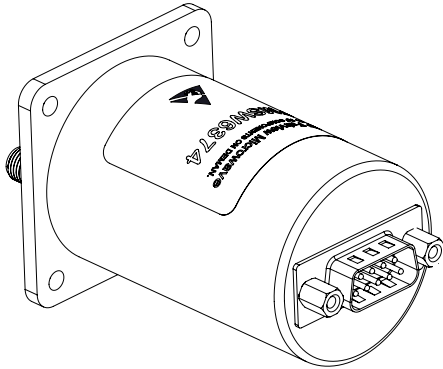
For additional information on this product, please click the following link: [SP6T NO DC to 18 GHz Electro-Mechanical Relay Switch, TTL, up to 90W, 12V, SMA FMSW6374](https://www.fairviewmicrowave.com/sp6t-normally-open-18-ghz-electro-mechanical-relay-switch-60w-12v-sma-fmsw6374-p.aspx)

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FMSW6374 CAD Drawing

SP6T NO DC to 18 GHz Electro-Mechanical Relay Switch, TTL, up to 90W, 12V, SMA



STANDARD TOLERANCES

- .X ±0.2
- .XX ±0.01
- .XXX ±0.005

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

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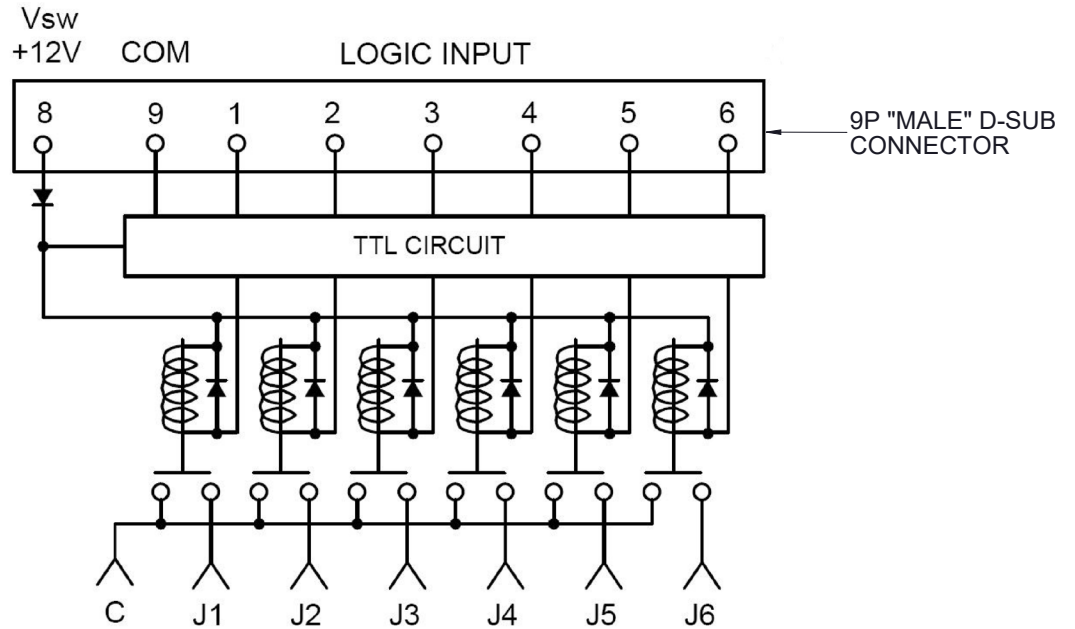
ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM

- 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].

TITLE	DWG NO		CAGE CODE					
	FMSW6374		3FKR5					
CAD FILE	090817	SHEET	1 OF 2	SCALE	N/A	SIZE	A	7361

FMSW6374 CAD Drawing

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SCHEMATIC SHOWN IN NORMALLY OPEN POSITION

TERMINALS LOGIC INPUT PIN ASSIGNMENT	RF PATH					
	J1	J2	J3	J4	J5	J6
1	ON	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF
3	OFF	OFF	ON	OFF	OFF	OFF
4	OFF	OFF	OFF	ON	OFF	OFF
5	OFF	OFF	OFF	OFF	ON	OFF
6	OFF	OFF	OFF	OFF	OFF	ON

PIN 9. COM
PIN 8. Vsw +12VDC

STANDARD TOLERANCES

.X ±0.2
.XX ±0.01
.XXX ±0.005

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

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TITLE		DWG NO FMSW6374		CAGE CODE 3FKR5		
		CAD FILE 090817	SHEET 2 OF 2	SCALE N/A	SIZE A	7361