

**SP6T Normally Open Electro-Mechanical Relay
 Switch From DC to 26.5 GHz, 40 Watts with TTL, SMA**

The SEMS-4086-SP6T-SMA is an SP6T Electromechanical Relay Switch that operates over a wide frequency band from DC to 26.5GHz with up to 250 Watts of input power (CW) handling capability. Rated for 10M Life Cycles (25M typical) for high reliability operation, this design uses a Normally Open Actuator with a break before make configuration and TTL logic. The switch exhibits exceptional electrical performance specified from 0.2 dB max for insertion loss and from 80 dB min for isolation, and guaranteed over -40°C to +85°C. The assembly requires an operating voltage of +28Vdc and is certified as RoHS and REACH compliant. External connectors include solder terminals and SMA female connectors.



Electrical Specifications

Switch Type	SP6T, Reflective
Actuator Type	Normally Open
Switching Sequence	Break before Make
Actuator Options	TTL Logic
TTL Control	on: 2.2 to 5.5 Volts off: 0 to 0.8 Volts

Features:

- Single Pole Six Throw Relay Switch
- DC to 26.5 GHz Frequency Range
- 10M Cycle Min (25M Typ) Operating Life
- 40 Watt Avg Power Max
- -40 to +85 Deg C Operating Temperature
- Insertion Loss 0.6 dB Max
- VSWR 1.6:1 Max

Applications:

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

Description	Min	Typ	Max	Units
Frequency Range	DC		26.5	GHz
Impedance		50		Ohms
Operating Voltage	21	28	30	Volts
Actuating Current @ 28 Volts		110		mA
VSWR			1.6:1	
Insertion Loss			0.6	dB
Isolation	55			dB
Coil Resistance		250		Ohms
Input Power (CW)			40	Watts

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 3	3 - 8	8 - 12.4	12.4 - 18	18 - 26.5	GHz
VSWR, Max	1.2:1	1.3:1	1.4:1	1.5:1	1.6:1	
Insertion Loss, Max	0.2	0.3	0.4	0.5	0.6	dB
Isolation, Min	80	70	60	60	55	dB
Power In, Max (CW)	250	150	120	100	40	Watts

Electrical Specification Notes:
 Average Power and Actuating Current values at 25°C.

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Mechanical Specifications

Size

Length	1.45 in [36.83 mm]
Width/Diameter	1.327 in [33.71 mm]
Height	1.327 in [33.71 mm]
Weight	0.24 lbs [108.86 g]
Operating Life	10,000,000 Cycles
Switching Time	10 ms Max

Connectors

RF Connector Type	SMA Female
Control Connector	Solder Pins

Mechanical Specification Notes:
 Solder Pins: 250°C max/30sec.
 Specified operating life is minimum. Typical operating life is 25M cycles.

Environmental Specifications

Temperature

Operating Range	-40 to +85 deg C
Storage Range	-55 to +85 deg C

Shock	MIL-STD-202, Method 213B, Cond. C
Sine Vibration	MIL-STD-202, Method 204D, Cond. D
Random Vibration	MIL-STD-202, Method 214A, Profile I, Cond. F
ESD Sensitivity	ESD Sensitive Material. Transport material in approved ESD bags. Handle in approved ESD Workstation.



Environmental Specification Notes:
 Environmental specifications are guaranteed but not tested.

Compliance Certifications (visit www.FairviewMicrowave.com for current document)

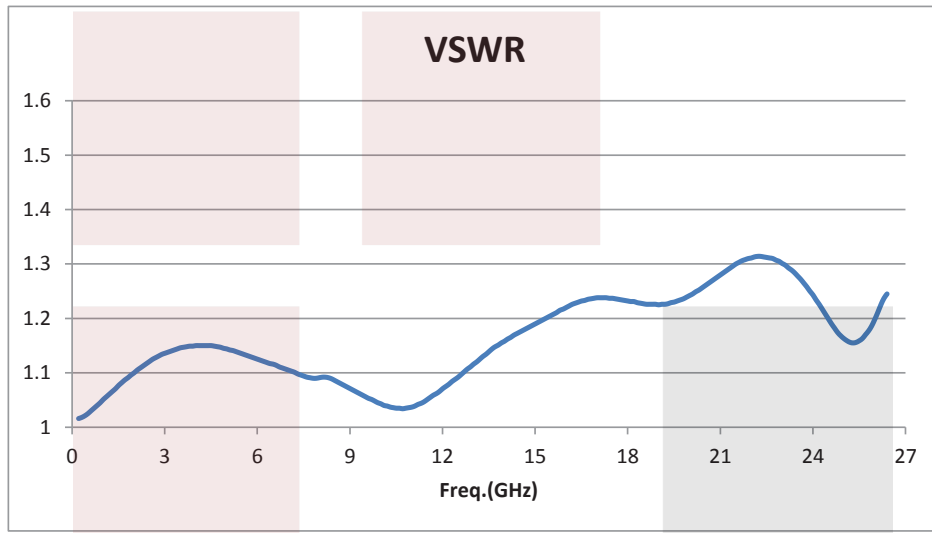
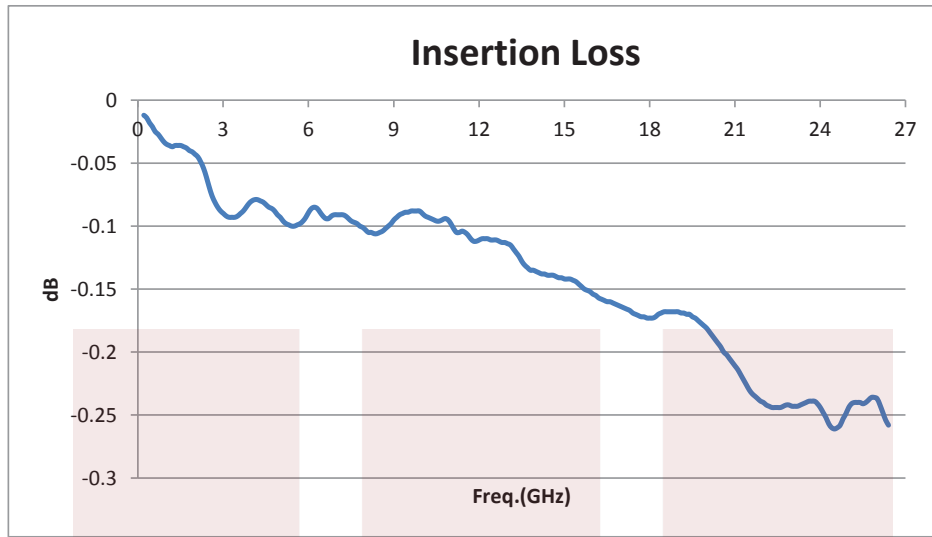
RoHS Compliant	
REACH Compliant	12/17/2014

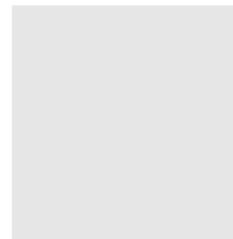
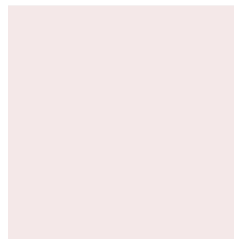
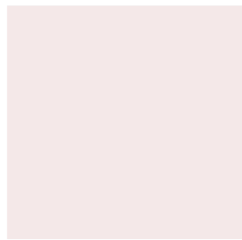
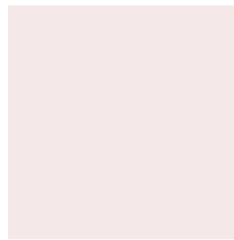
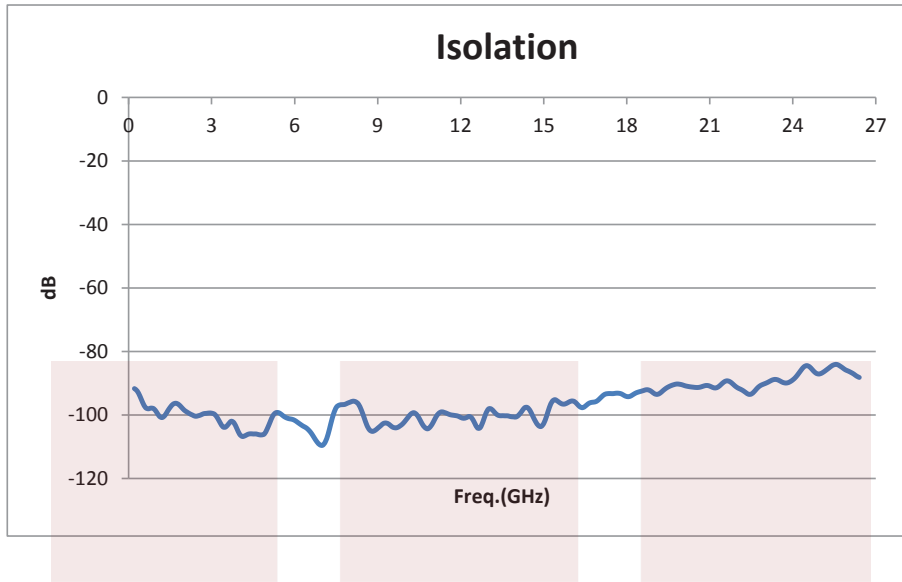
Plotted and Other Data

Notes:

- Values shown are typical at 25°C.

Typical Performance Data





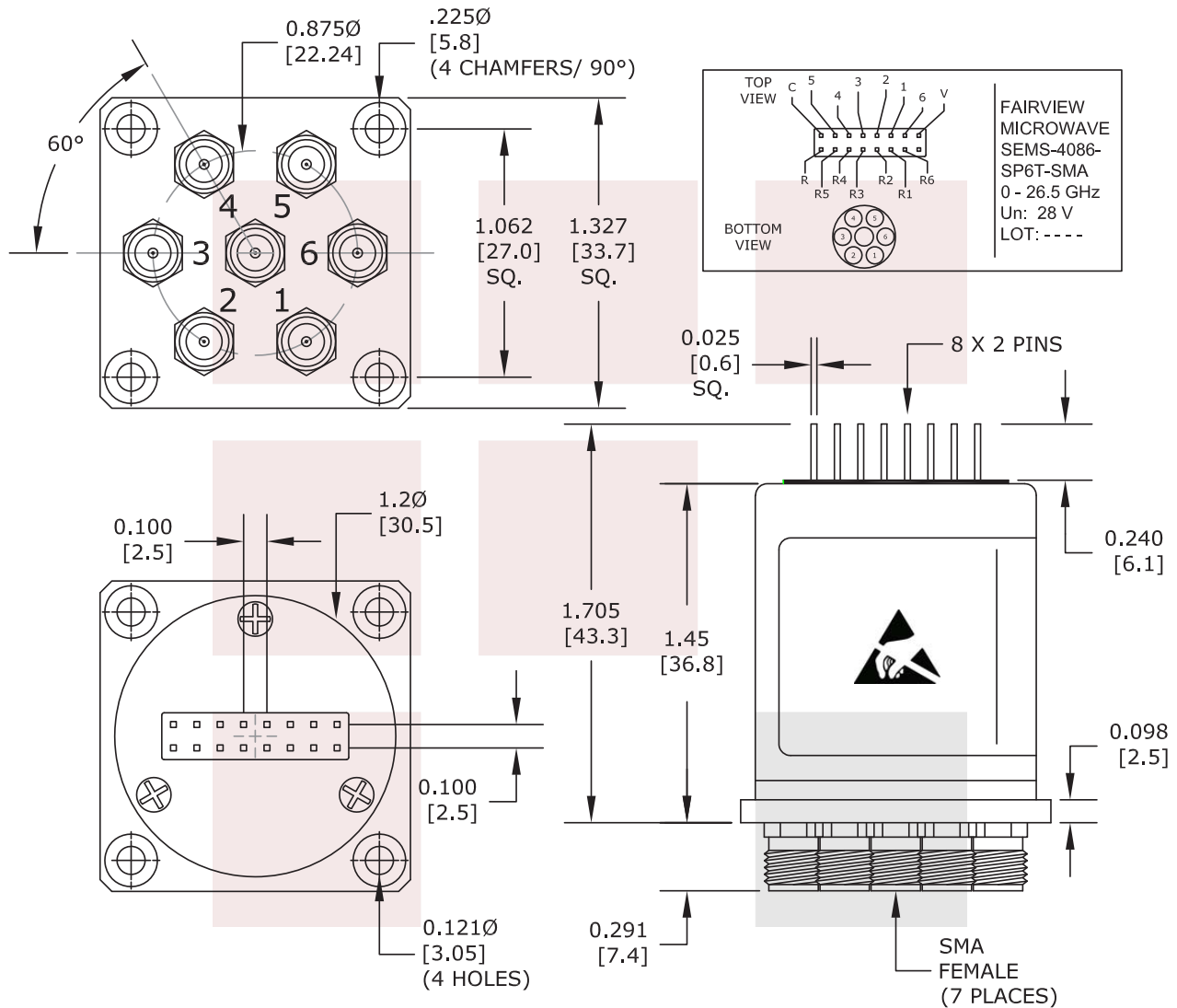
SP6T Normally Open Electro-Mechanical Relay Switch From DC to 26.5 GHz, 40 Watts with TTL, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave 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 26.5 GHz, 40 Watts with TTL, SMA SEMS-4086-SP6T-SMA](#)

URL: <http://www.fairviewmicrowave.com/sp6t-normally-open-electro-mechanical-relay-switch-ttl-sems-4086-sp6t-sma-p.aspx>

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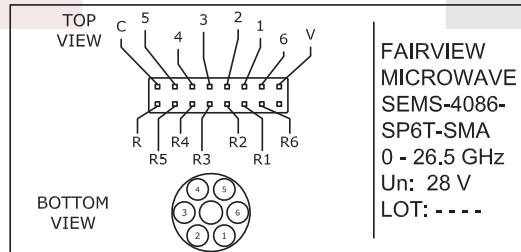
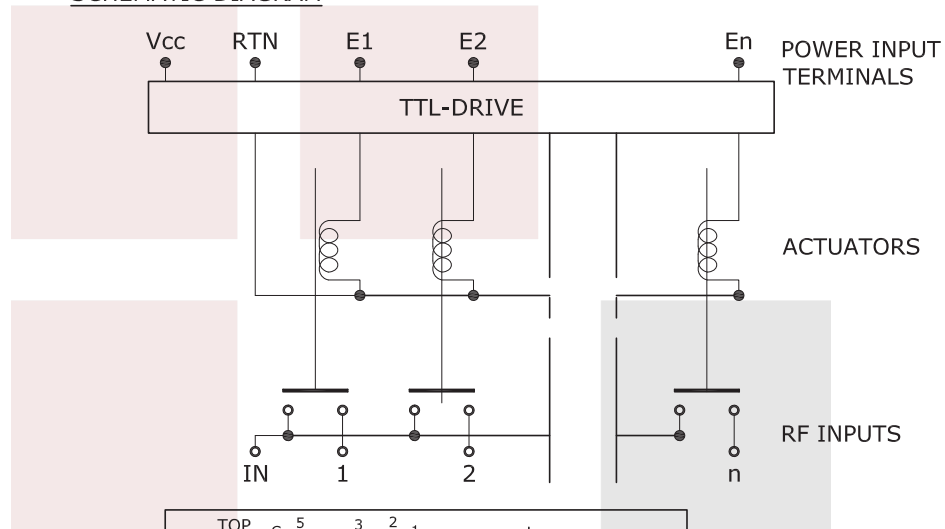




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TITLE SP6T Normally Open Electro-Mechanical Relay Switch From DC to 26.5 GHz, 40 Watts with TTL, SMA		DWG NO SEMS-4086-SP6T-SMA	CAGE CODE 3FKR5		
CAD FILE 120314	SHEET	SCALE N/A	SIZE A	150	

PIN	Indicator
C	RTN
V	Vcc
1	E1
2	E2
3	E3
4	E4
5	E5
6	E6
R	NC
R1	NC
R2	NC
R3	NC
R4	NC
R5	NC
R6	NC

SCHEMATIC DIAGRAM



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TITLE SP6T Normally Open Electro-Mechanical Relay Switch From DC to 26.5 GHz, 40 Watts with TTL, SMA		DWG NO SEMS-4086-SP6T-SMA		CAGE CODE 3FKR5	
CAD FILE	120314	SHEET	SCALE	N/A	SIZE A 150