

SPDT, 2.4mm, Electromechanical Relay Failsafe Switch, DC to 53GHz, 28VDC, Solder Terminal

The FMSW8010 is a Single Pole Double Throw (SPDT) electromechanical relay switch that operates across an ultra wide frequency range from DC to 53 GHz and can handle up to 3 Watts of Average Power in a break before make condition. The 50 Ohm design is rated for 1 million lifecycles and features a Failsafe Actuator. Impressive typical performance includes 0.6 dB insertion loss and isolation greater than 80 dB. This switch requires +28 Vdc bias voltage and operates over a temperature range of -25°C to +65°C. The rugged and compact package assembly supports 2.4mm female connectors and solder terminal pins 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 = 28 Vdc)

Switch Type SPDT
 Actuator Type Failsafe

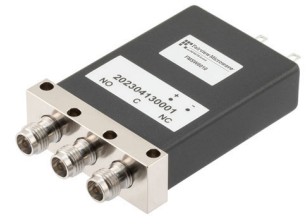
Description	Min	Typ	Max	Units
Frequency Range	DC		53	GHz
Operating Voltage		28		Volts
Actuating Current @ 28 Volts			90	mA
VSWR		1.4:1	2.2:1	
Insertion Loss		0.6	1.2	dB
Isolation	50	80		dB
Switching Time			20	ms

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 6	6 - 18	18 - 26.5	26.5 - 40	40 - 50	GHz
VSWR, Max	1.2:1	1.3:1	1.6:1	1.6:1	1.8:1	
Insertion Loss, Max	0.2	0.3	0.6	0.6	0.8	dB
Isolation, Min	80	70	70	70	50	dB

Performance by Frequency

Description	F6	F7	F8	F9	F10	Units
Frequency Range	50 - 53					GHz
VSWR, Max	2.2:1					
Insertion Loss, Max	1.2					dB
Isolation, Min	50					dB



Features:

- Single Pole Double Throw (SPDT) Electromechanical Relay Switch
- DC to 53 GHz Frequency Range
- Failsafe Actuator
- 1M Lifecycle Rating
- Insertion Loss 0.6 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.2:1 max
- Solder Terminal Pins for DC Control
- +28 Volt DC Bias
- 2.4mm Female Connectors
- -25°C to +65°C Operating Temperature
- Up to 3 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

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	0.115 lbs [52.16 g]
Finish	Electroless Nickel

Connectors

RF Connector Type	2.4mm Female
Control Connector	Solder Terminals

Environmental Specifications

Temperature

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

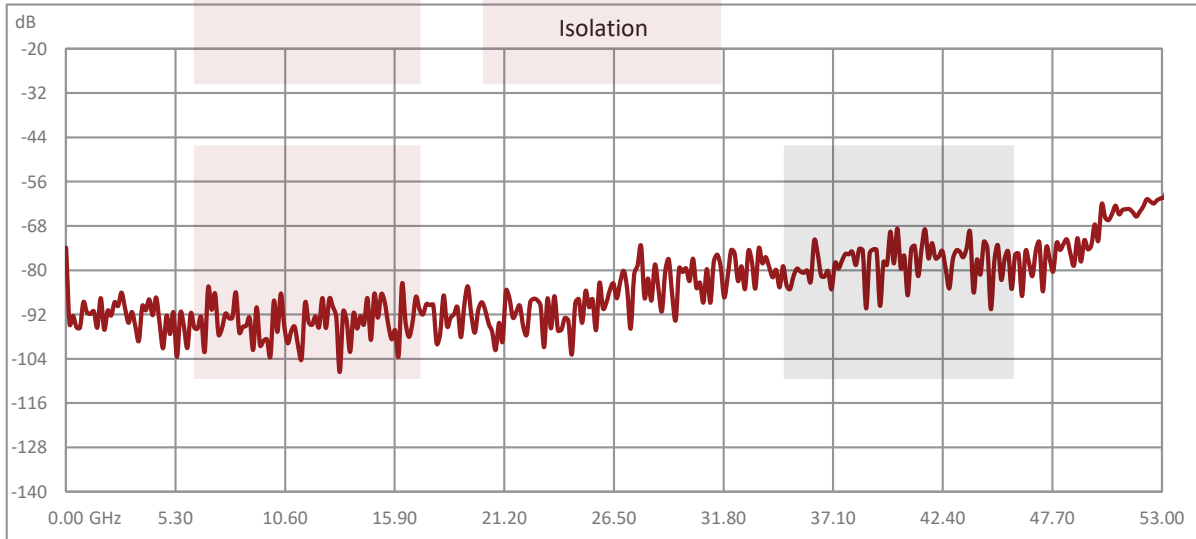
Shock	MIL-STD-202 Method 213, Condition D, 500G (non operational)
Vibration	MIL-STD-202 Method 204, Condition D, 10G RMS (non operational)

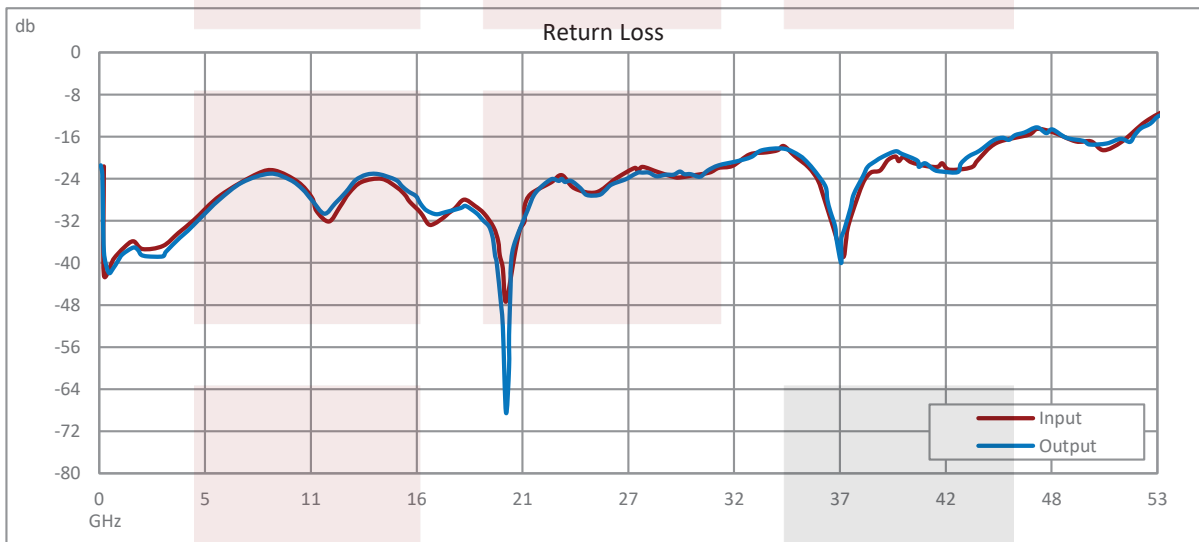
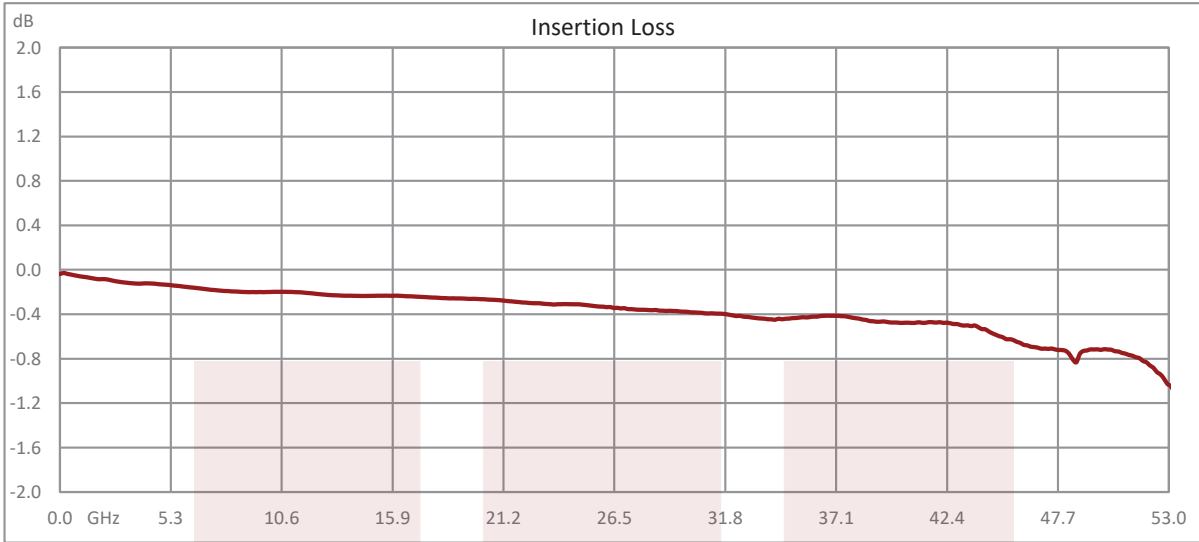
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

Typical Performance Data





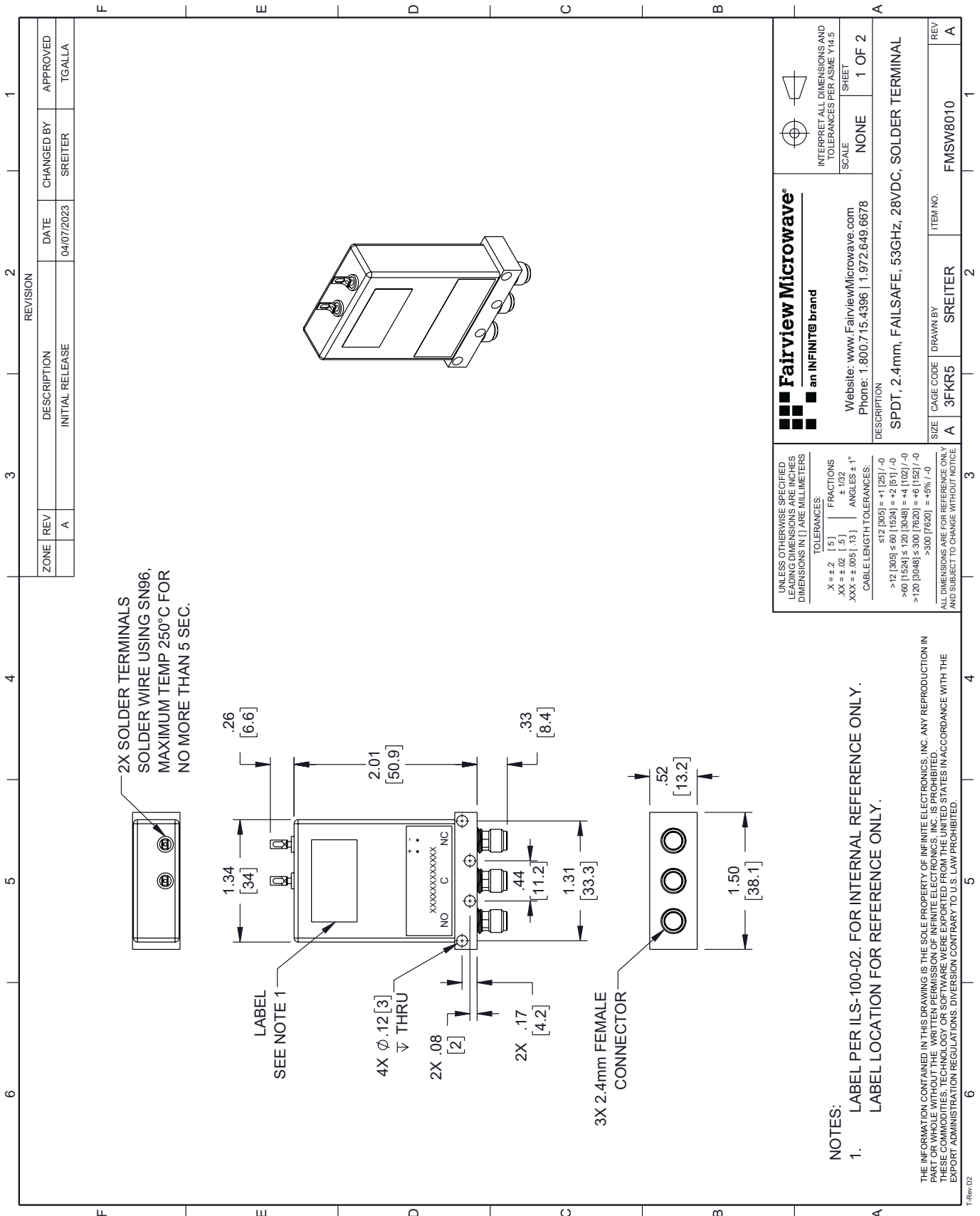
Power Handling vs. Frequency

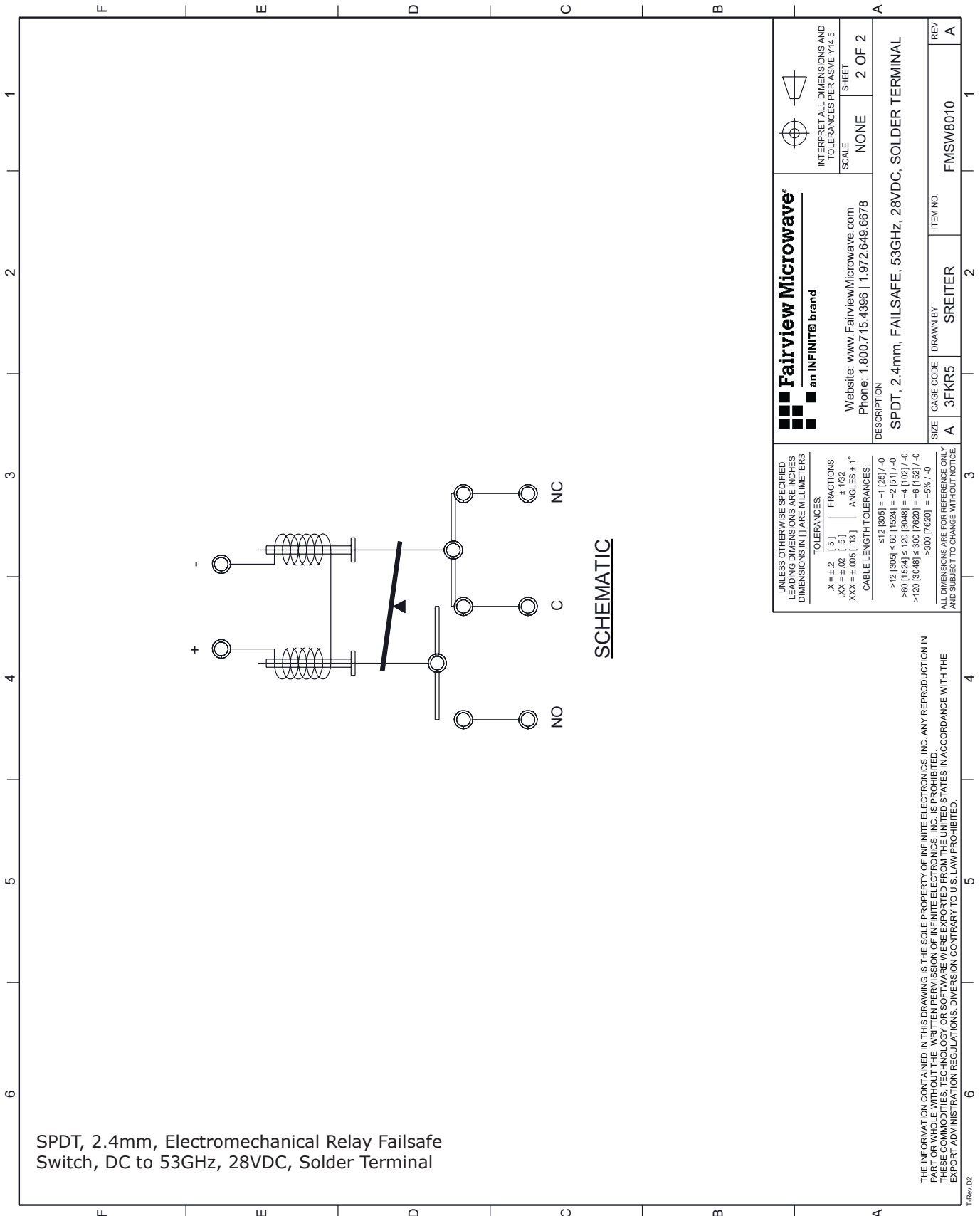
SPDT, 2.4mm, Electromechanical Relay Failsafe Switch, DC to 53GHz, 28VDC, Solder Terminal from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SPDT, 2.4mm, Electromechanical Relay Failsafe Switch, DC to 53GHz, 28VDC, Solder Terminal FMSW8010](#)

URL: <https://www.fairviewmicrowave.com/spdt-failsafe-53-ghz-electro-mechanical-relay-switch-28v-2.4mm-fmsw8010-p.aspx>

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SCHEMATIC

SPDT, 2.4mm, Electromechanical Relay Failsafe Switch, DC to 53GHz, 28VDC, Solder Terminal

<p>Fairview Microwave® an INFINITE® 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</p> <p>SCALE: NONE</p> <p>SHEET: 2 OF 2</p>	
<p>UNLESS OTHERWISE SPECIFIED, LEADING DIMENSIONS ARE INCHES, DIMENSIONS IN [] ARE MILLIMETERS.</p> <p>TOLERANCES:</p> <p>.X = ±.2 [.5] FRACTIONS ± 1/32</p> <p>.XX = ±.02 [.5] ANGLES ± 1°</p> <p>.XXX = ±.005 [.13]</p> <p>CABLE LENGTH TOLERANCES:</p> <p>≤12 [305] = +1 [25] / -0</p> <p>>12 [305] ≤ 60 [1524] = +2 [51] / -0</p> <p>>60 [1524] ≤ 120 [3048] = +4 [102] / -0</p> <p>>120 [3048] ≤ 300 [7620] = +6 [152] / -0</p> <p>>300 [7620] = +5% / -0</p>		<p>DESCRIPTION</p> <p>SPDT, 2.4mm, FAILSAFE, 53GHz, 28VDC, SOLDER TERMINAL</p>	
SIZE	CAGE CODE	DRAWN BY	ITEM NO.
A	3FKR5	SREITER	FMSW8010
REV			A

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