

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

The FMSW8011 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 has a Latching Actuator that magnetically latches in place after the control voltage is removed. For power sensitive applications, this is the best actuator option. Impressive typical performance includes 0.5 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 Latching

Description	Min	Typ	Max	Units
Frequency Range	DC		53	GHz
Operating Voltage	26	28	30	Volts
Actuating Current @ 28 Volts			65	mA
VSWR		1.4:1	2.2:1	
Insertion Loss		0.5	1.2	dB
Isolation	50	80		dB
Input Power			3	Watts
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
- Latching Actuator
- 1M Lifecycle Rating
- Insertion Loss 0.5 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	0.1 lbs [45.36 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

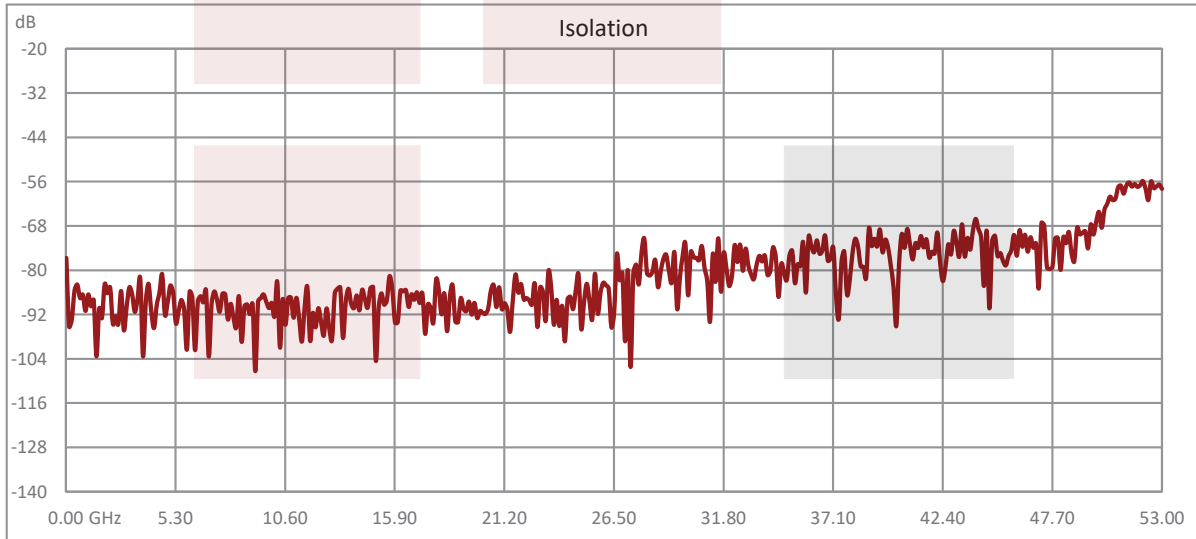
Shock	MIL-STD-202 Method 213, Condition D, 500G (non operational)
Vibration	MIL-STD-202 Method 204, Condition D, 10G RMS (non operational)

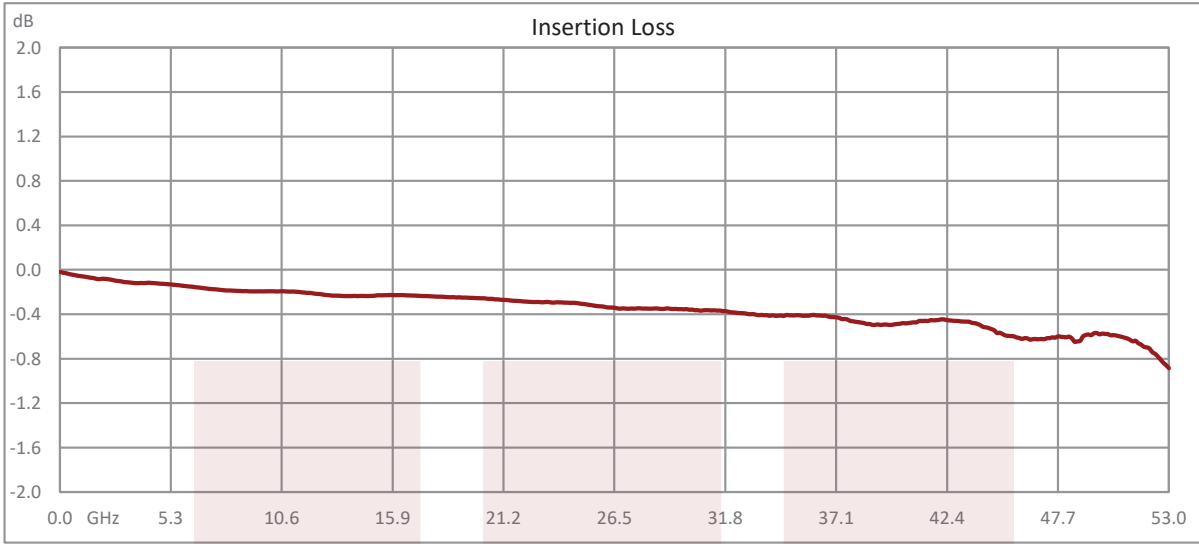
**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

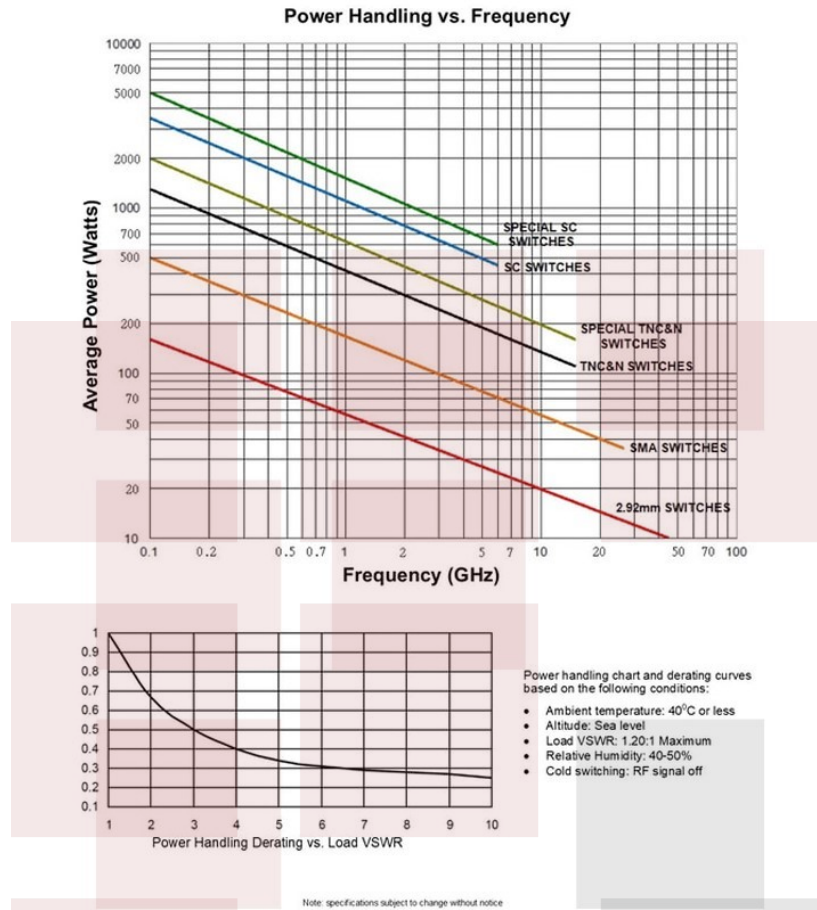
Notes:

**Typical Performance Data**





**Power Handling vs. Frequency**

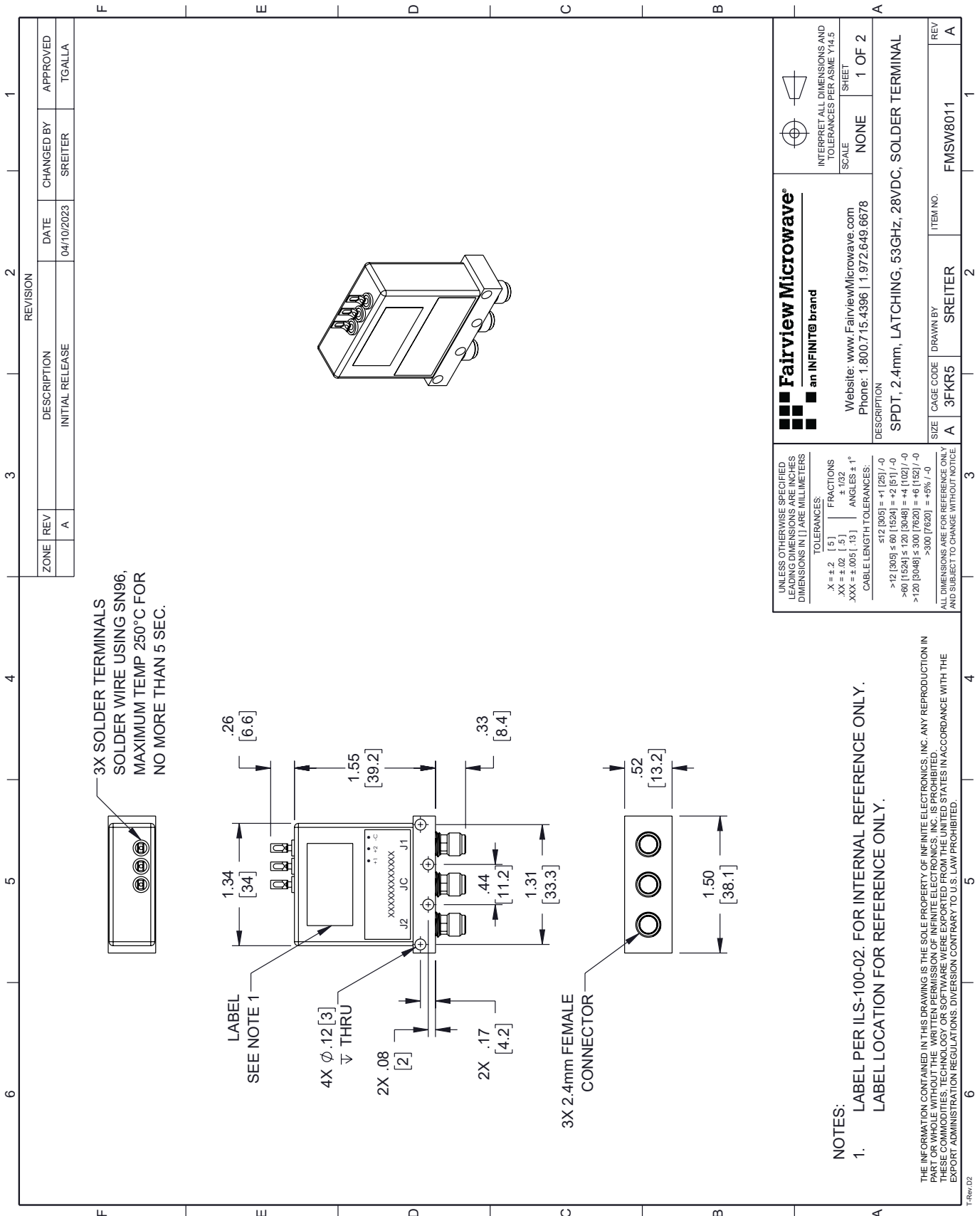


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For additional information on this product, please click the following link: [SPDT, Electromechanical Relay Latching Switch, DC to 53GHz, 28VDC, Solder Terminal, 2.4mm FMSW8011](#)

URL: <https://www.fairviewmicrowave.com/spdt-latching-53-ghz-electro-mechanical-relay-switch-28v-2.4mm-fm-sw8011-p.aspx>

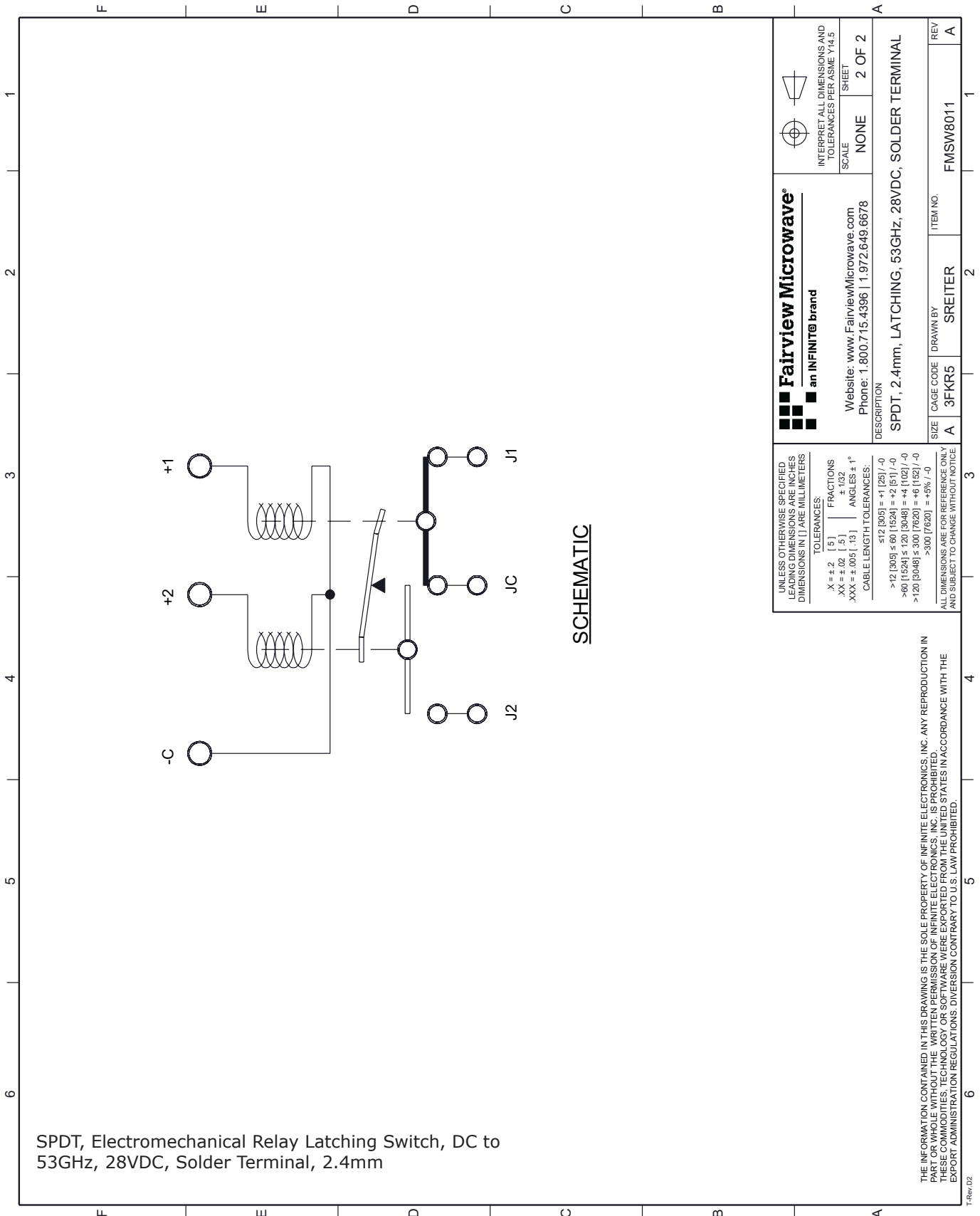
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ZONE	REV	DESCRIPTION	DATE	CHANGED BY	APPROVED
	A	INITIAL RELEASE	04/10/2023	SREITER	TGALLA

REVISION	DESCRIPTION
2	INITIAL RELEASE
1	

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<p>DESCRIPTION</p> <p>SPDT, 2.4mm, LATCHING, 53GHZ, 28VDC, SOLDER TERMINAL</p>		<p>SIZE: A</p> <p>CAGE CODE: 3FKR5</p> <p>DRAWN BY: SREITER</p> <p>ITEM NO.: FMSW8011</p> <p>REV: A</p>



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

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<p>DESCRIPTION: SPDT, 2.4mm, LATCHING, 53GHz, 28VDC, SOLDER TERMINAL</p>			
UNLESS OTHERWISE SPECIFIED, LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [ ] ARE MILLIMETERS	<p>TOLERANCES:</p> <p>.X = ±.2 [ .5 ] FRACTIONS          .XX = ±.02 [ .5 ] ±.132          .XXX = ±.005 [ .13 ] ANGLES ± 1°</p> <p>CABLE LENGTH TOLERANCES:</p> <p>512 [305] = +1 [25] / -0          &gt;12 [305] ≤ 60 [1524] = +2 [51] / -0          &gt;60 [1524] ≤ 120 [3048] = +4 [102] / -0          &gt;120 [3048] ≤ 300 [7620] = +6 [152] / -0          &gt;300 [7620] = +5% / -0</p>		
<p>ALL DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO CHANGE WITHOUT NOTICE</p>			
SIZE	CAGE CODE	DRAWN BY	ITEM NO.
A	3FKR5	SREITER	FMSW8011
REV			A

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