

SPDT Electromechanical Relay Latching Switch, Terminated, DC to 18 GHz, up to 80W, 24V, Positive Common, SMA Female Type



Electromechanical Relay Switches Technical Data Sheet

SWLDT-MA18G24V-L3S4-01

Features

- Single Pole Double Throw (SPDT) Electromechanical Relay Switch
- DC to 18 GHz Frequency Range
- Latching Actuator
- Positive common Control
- 2M Lifecycle Rating
- Insertion Loss 0.5 dB typ
- VSWR as low as 1.3:1 max
- +24Volt DC Bias
- Solder Pin(4 pin) for DC Command Control
- -25°C to +65°C Operating Temperature
- Up to 80 Watt Average Power Handling
- 50 Ohm Design
- Isolation >65 dB typ
- Rugged Design meets Mil-STD-202 Test Conditions

Applications

- Aerospace & Defense
- Test & Measurement
- Microwave Radio Systems
- Military & Commercial Communication Systems
- Research & Development
- Wireless Communications
- Enterprise
- IoT

Description

The SWSDT-MA18G24V-L3S4-01 is a Single Pole Double Throw (SPDT) electromechanical relay switch that operates across a wide frequency range of DC to 18 GHz and can handle up to 80W of average power in a break before make condition. The design is rated for 2 million lifecycles and features a Latching Actuator where the selected position remains active with constant voltage, all positions are open when voltage is removed. Impressive typical performance includes 0.5 dB insertion loss and isolation greater than 65 dB. This switch requires +24Vdc bias voltage and operates over a temperature range of -25°C to +65°C. The rugged and compact package assembly supports SMA Type female connectors and Solder Pin(4 pin) 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

Switch Type SPDT, with Terminated
 Actuator Type Latching

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Operating Voltage	22	24	26	Volts
Actuating Set Current @ 28 Volts		107		mA
VSWR			1.30:1	
Insertion Loss			0.5	dB
Isolation	65			dB
Input Power (CW)			80	Watts
Switching Time			10	ms

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Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 6	6 to 12.4	12.4 to 18			GHz
VSWR, Max	1.15:1	1.25:1	1.30:1			
Insertion Loss, Max	0.30	0.40	0.50			dB
Isolation, Min	85	75	65			dB
Input Power, Max (CW)	120	90	80			Watts

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

Mechanical Specifications

Size

Length	1.56 in [55.6 mm]
Width/Diameter	1.31 in [48.7mm]
Height	0.51 in [14.2mm]
Weight	0.2 lbs [90g]
Package Type	Connectorized
Operating Life	2,000,000 Cycles

Connectors

RF Connector Type	SMA Female
RF Connector Specification	MIL C 39012
Control Connector	Solder Pin(4 pin)

Mechanical Specification Notes:
D-Sub 15: 250°C max/30sec.

Environmental Specifications

Temperature

Operating Range	-25 to +65 deg C
Storage Range	-55 to +85 deg C

Construction	Splashproof
Shock	MIL-STD-202, Method 213B, Cond.C
Vibration	MIL-STD-202, Method 204D, Cond.D

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

Compliance Certifications

RoHS Compliant
REACH Compliant

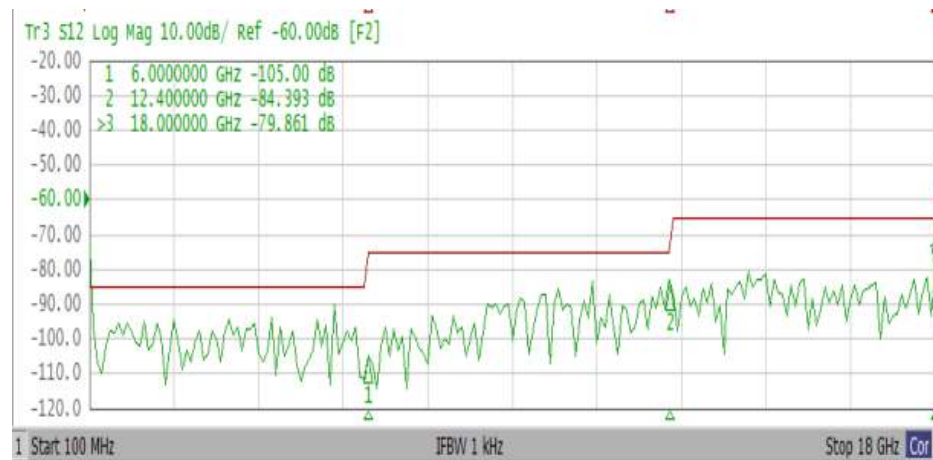
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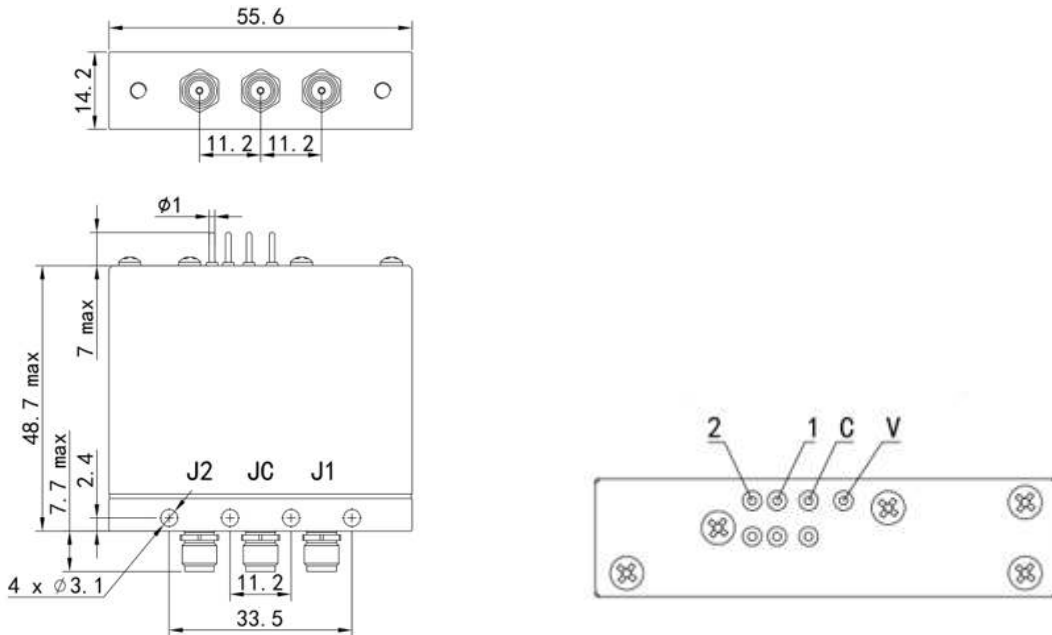
Typical Performance data



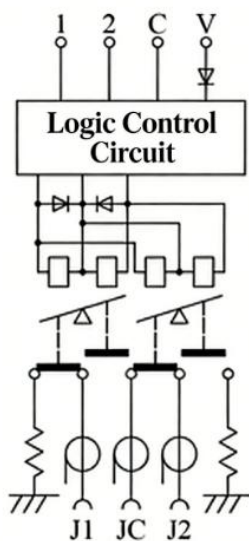
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CAD Drawing



Schematic & Truth Table/ PIN Assignment:



PIN ASSIGNMENT	RF PATH
"1" ↔ GND	J1 ↔ JC J2 ↔ 50 Ω
"2" ↔ GND	J2 ↔ JC J1 ↔ 50 Ω
V (Voltage)	
C (GND)	

LOGIC LOW (OFF)= 0-0.8 Vdc
LOGIC HIGH (ON)= 2.5-5.5 Vdc