

Single Pole Double Throw TTL Switch Operating from DC to 18GHz

Technical Data Sheet

SW-901

FEATURES:

- Single pole double throw, failsafe
- Off isolation of 30dB
- TTL control, 12 VDC operation
- Break-before-make RF contact
- Broadband DC – 18GHz operation
- Maximum insertion loss of 0.8dB
- Operating life of 10,000,000 cycles
- Type N female connectors, 3 places

APPLICATIONS:

- Antenna and transmission path switching
- Radar and electronic warfare systems
- Airborne and avionics RF subsystems
- Automated test and measurement systems

DESCRIPTION:

The **SW-901** is a single pole double throw electromechanical switch designed for RF systems operating from DC to 18 GHz. The switch provides off isolation of 30 dB while maintaining a maximum insertion loss of 0.8 dB across the operating band, handling 120 W CW and 200 W peak RF power at 50 Ω impedance. RF contacts are break-before-make and the switch is failsafe, returning to its unpowered state when control voltage is removed. TTL control at 2–5 VDC selects the active path: with no control applied RF continuity runs J1–J2, and with control applied it runs J3–J2. Operating from a 12 VDC supply at 500 mA maximum, the SW-901 is rated for 10,000,000 cycles minimum over a -40°C to $+65^{\circ}\text{C}$ operating range and altitudes to 45,000 feet, and terminates in three Type N female connectors.

ELECTRICAL CHARACTERISTICS:

DESCRIPTION	MIN	TYP	MAX	UNITS
Frequency Range	DC		18	GHz
Impedance		50		Ω
Insertion Loss			0.8	dB
Off Isolation	30			dB
RF Power (CW)			120	W
RF Power (Peak)			200	W
Switching Time		50		ms
Operating Voltage		12		VDC
Operating Current			500	mA
Control	TTL (2 – 5 VDC)			
Operating Life	10,000,000			cycles
Operating Temperature	-40		$+65$	$^{\circ}\text{C}$
Non-Operating Temperature	-55		$+74$	$^{\circ}\text{C}$
Altitude	0		45,000	feet

MECHANICAL SPECIFICATIONS

SIZE

Length	2.63" [66.8 mm]
Width	2.375" [60.3 mm]
Height	2.13" [54.1 mm]
Connectors	Type N Female (3 places)
Mounting	2× 6-32 UNC-2B THRU
Cover	Brass, Nickel Plated
Base	6061 Aluminum, Yellow Iridite
Terminals	C.R. Steel, Tin/Lead Plated

R0 (June 17th 2026)

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REVISIONS

REV.	ECO	DESCRIPTION	DATE	APPROVED
A	202609P	INITIAL RELEASE	4/17/2026	

REC SW-901
DATE CODE
SERIAL NO.

2X .380

2X .172 +.005 - .001

3X .714 ±.025

3X SHRINK TUBE COVER TERMINALS AND SOLDER JOINTS

DRILL POINT PERMISSIBLE

3X M22759/9 - 24 - 9

SHRINK SLEEVE MARKER

PIN 1

PIN 2

PIN 6

6195

SECTION A-A

2X .31

47

3X .22

12 VDC

SCHEMATIC

TTL RF CONTINUITY

NOT APPLIED J1 - J2

APPLIED J3 - J2

NOTES:

1. RF CONTACT TO BE BREAK - BEFORE MAKE
2. THE SWITCH TO BE FAILSAFE
3. MATERIALS:
 - 3.1. COVER - BRASS, NICKEL PLATED
 - 3.2. BASE - 6061 ALUMINUM, YELLOW IRRIDITE
 - 3.3. CONNECTORS (BODY) - BRASS, NICKEL PLATED
 - 3.4. TERMINALS - C-R STEEL, TIN/LEAD PLATED
4. MARK COMPONENTS AS SHOWN USING ADHESIVE LABELS

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