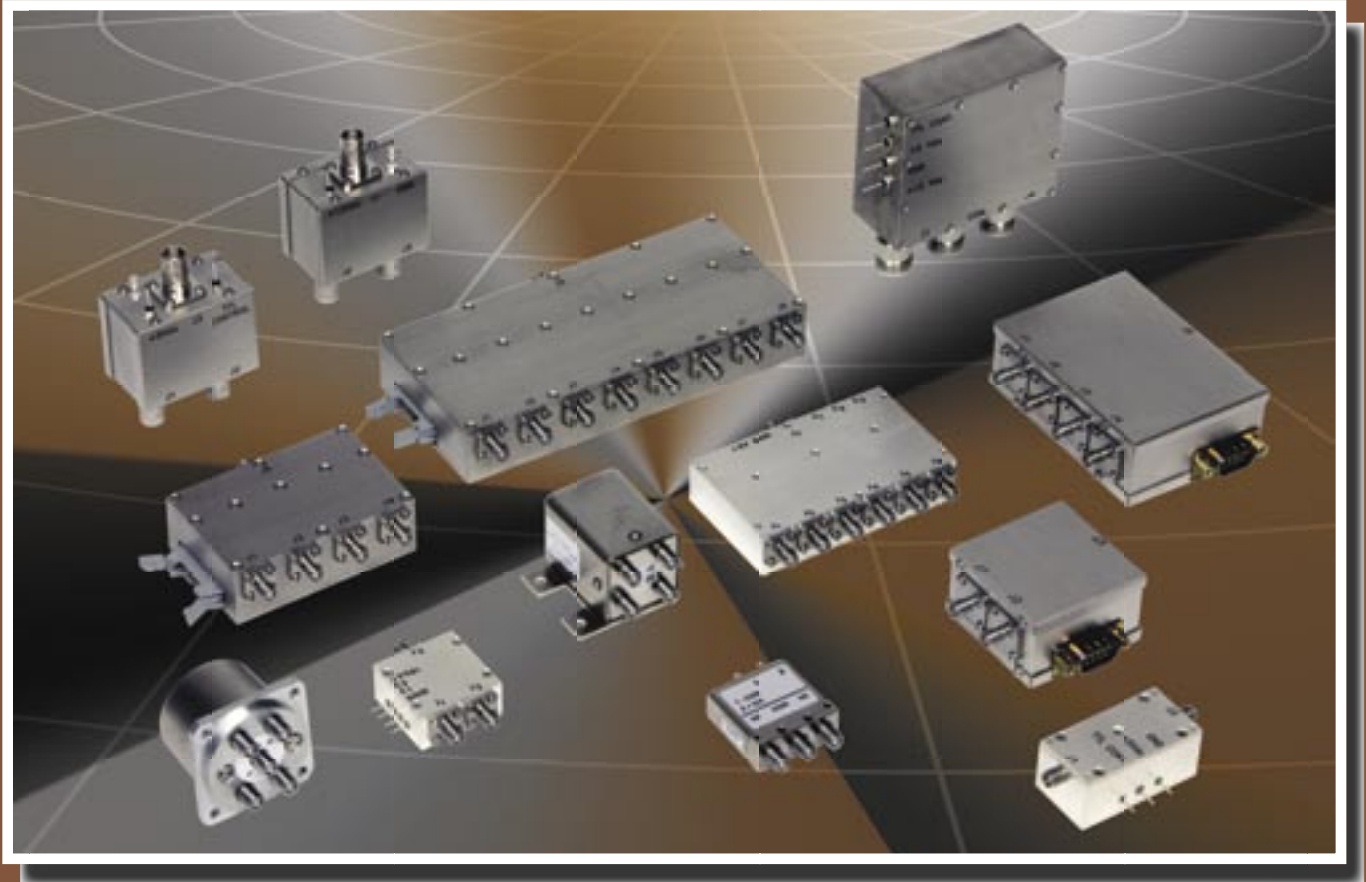


# RF Coaxial Switches

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# RF Switches

## Model Number Index

Please add connector type to the end of part number to complete model number (Example: 50S-348 SMA).

Solid-state - 50 Ohm			
Model Number	Frequency Range	Configuration	Page
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50S-381	100-1250 MHz	1P8T	6-8
50S-534	20-1000 MHz	1P2T	6-4
50S-535	20-1000 MHz	1P3T	6-4
50S-536	20-1000 MHz	1P4T	6-4
50S-642	5-3000 MHz	1P1T	6-6
50S-785	20-2000 MHz	1P1T	6-6
50S-847	50-2000 MHz	1P6T	6-8
50S-884	50-2000 MHz	1P4T	6-8
50S-960	800-2200 MHz	1P12T	6-10
50S-963	800-2200 MHz	1P4T	6-10
50S-964	800-2200 MHz	1P8T	6-10
50S-976	750-4300 MHz	1P2T	6-6
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50S-1011	400-2000 MHz	1P8T	6-8
50S-1035	20-4300 MHz	1P4T	6-12
50S-1075	20-4300 MHz	1P4T	6-12
50S-1090	800-3000 MHz	1P8T	6-10
50S-1163	20-4300 MHz	1P2T	6-12
50S-1173	800-3000 MHz	1P4T	6-10
50S-1199	20-4300 MHz	1P8T	6-12
50S-1220	20-4300 MHz	1P2T	6-12
50S-1310	20-4300 MHz	1P8T	6-12
50S-1312	800-2500 MHz	1P12T	6-10
50S-1324	800-2200 MHz	1P1T	6-6
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50S-1382	5-2500 MHz	1P3T	6-6
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Electro-mechanical - 50 Ohm			
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50S-1316	DC-18 GHz	1P6T	6-20
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Electro-mechanical - 75 Ohm			
Model Number	Frequency Range	Configuration	Page
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75S-073	DC-1450 MHz	1P4T	6-18
75S-087	DC-1450 MHz	1P3T	6-18
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75S-214	DC-1000 MHz	1P8T	6-18
75S-221	DC-2150 MHz	1P8T	6-18

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50S-1256	30-512 MHz	1P4T	6-15
50S-1268	100-500 MHz	1P2T	6-14
50S-1352	800-2500 MHz	1P2T	6-14
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# Switches

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Please add connector type to the end of part number to complete model number (Example: 50S-348 SMA).

<b>Solid-state - 50 Ohm</b>			
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1P4T	800-3000 MHz	50S-1173	6-10
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1P8T	20-4300 MHz	50S-1199	6-12
1P8T	20-4300 MHz	50S-1310	6-12
1P8T	100-1250 MHz	50S-381	6-8
1P8T	400-2000 MHz	50S-1011	6-8
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<b>Electro-mechanical - 50 Ohm</b>			
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1P2T	DC-2150 MHz	75S-111	6-18
1P3T	DC-1450 MHz	75S-087	6-18
1P4T	DC-1450 MHz	75S-073	6-18
1P8T	DC-1000 MHz	75S-214	6-18
1P8T	DC-2150 MHz	75S-221	6-18

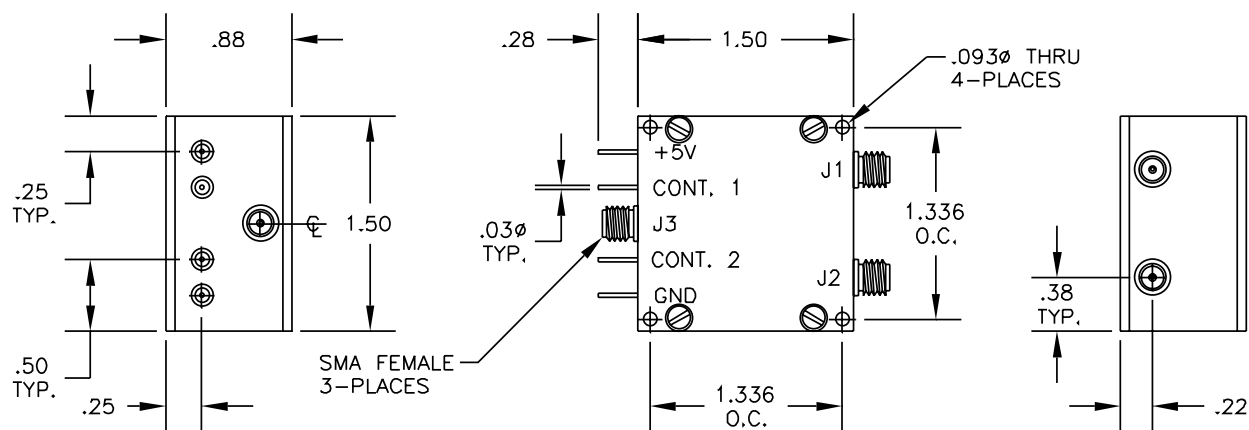
<b>High Power Solid-state - 50 Ohm</b>			
Configuration	Frequency Range	Model Number	Page
1P2T	20-2500 MHz	50S-1505	6-14
1P2T	20-1000 MHz	50S-1559	6-14
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1P2T	800-2500 MHz	50S-1352	6-14
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1P4T	30-512 MHz	50S-1256	6-15

# VHF/UHF Solid State Coaxial Switches

Model	Configuration	Frequency Range	Isolation (minimum)	VSWR (maximum)	Insertion Loss (maximum)	RF Connectors
50S-534	1P2T (reflective)	20-1000 MHz	70 dB	1.4:1	1.5 dB 20-500 MHz 2 dB 500-1000 MHz	SMA female
50S-535	1P3T (reflective)	20-1000 MHz	70 dB	1.4:1	1.5 dB 20-500 MHz 2 dB 500-1000 MHz	SMA female
50S-536	1P4T (reflective)	20-1000 MHz	70 dB	1.4:1	1.5 dB 20-500 MHz 2 dB 500-1000 MHz	SMA female

Model	Impedance	Switching Speed	RF Input Power	Supply Voltage	Control Logic	Operating Temperature
50S-534	50 Ohms	5 microseconds	+13 dBm	+5 Vdc @ 150 mA	(2 lines) TTL low-off (reflective) TTL high-on	-20° C to +85° C
50S-535	50 Ohms	5 microseconds	+13 dBm	+5 Vdc @ 150 mA	(3 lines) TTL low-off (reflective) TTL high-on	-20° C to +85° C
50S-536	50 Ohms	5 microseconds	+13 dBm	+5 Vdc @ 150 mA	(4 lines) TTL low-off (reflective) TTL high-on	-20° C to +85° C

50S-534

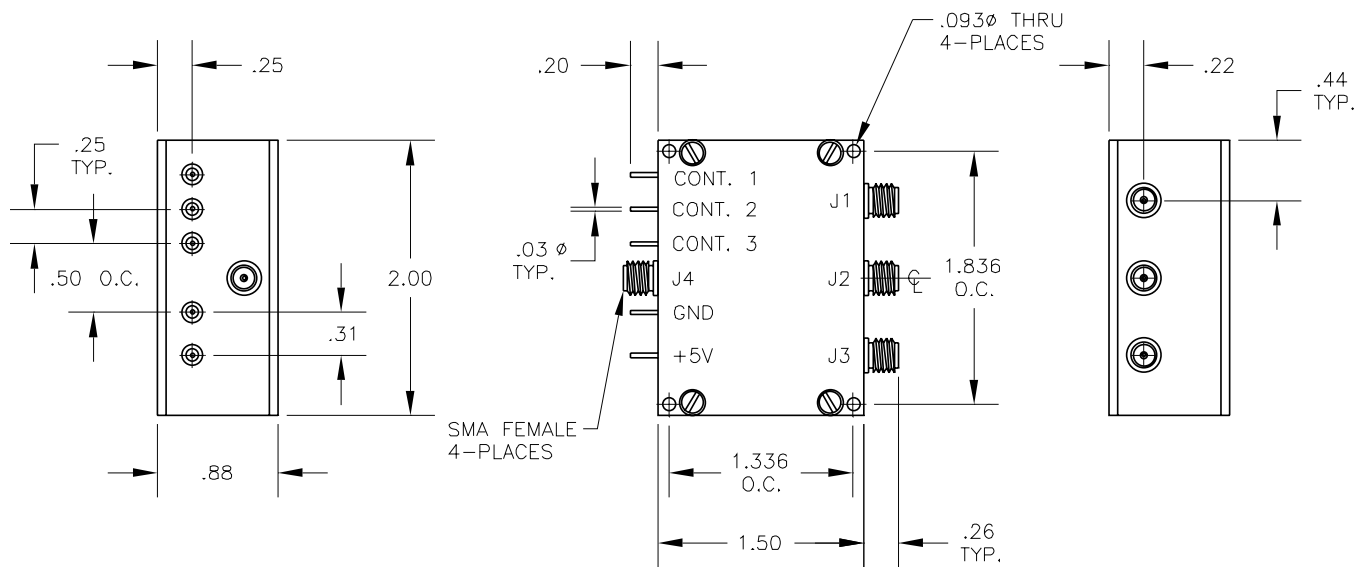


J3 TO	C1	C2
J1	1	0
J2	0	1
OFF	0	0

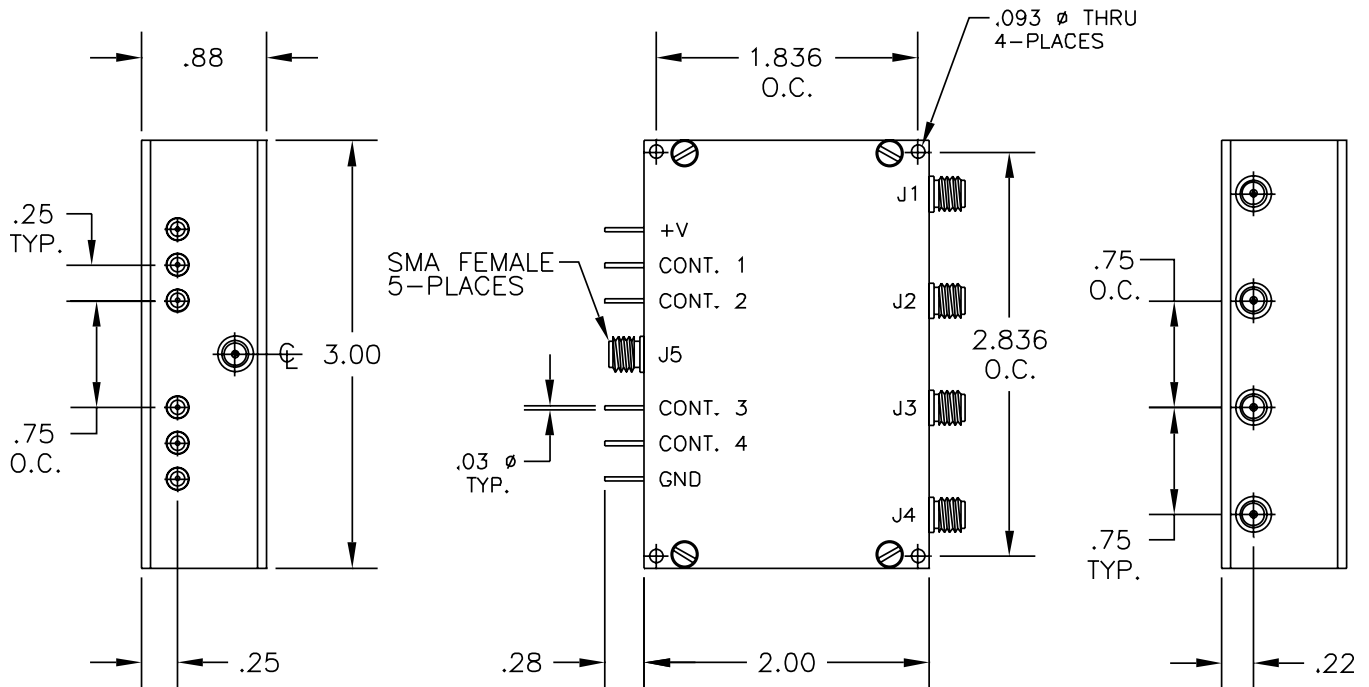
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# VHF/UHF Solid State Coaxial Switches

50S-535



50S-536



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# Wideband Solid State Coaxial Switches

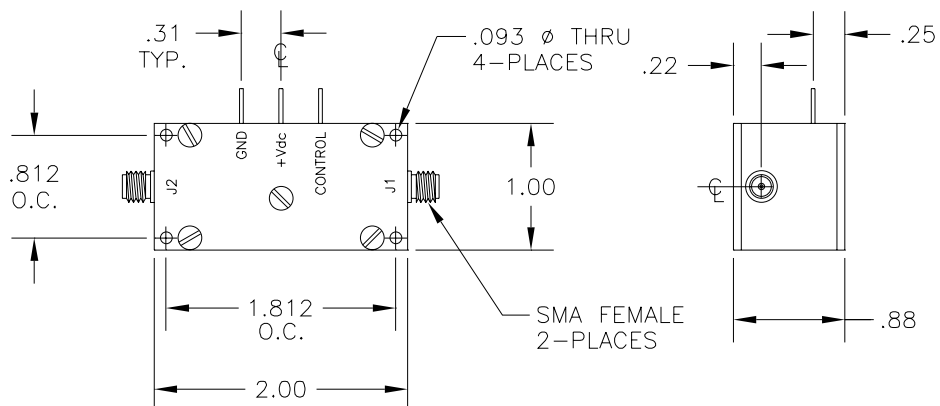
Model	Configuration	Frequency Range	Isolation (minimum)	VSWR (maximum)	Insertion Loss (maximum)	RF Connectors
50S-642	1P1T (reflective)	5-3000 MHz	80 dB 5-500 MHz 60 dB 500-3000 MHz	1.4:1	2.0 dB	SMA female
50S-785	1P1T (reflective)	20-2000 MHz	60 dB	1.4:1	1.5 dB	SMA female
50S-1324	1P1T (absorptive)	800-2200 MHz	55 dB	1.4:1	1.5 dB	SMA female
50S-1337	1P1T (absorptive)	800-3000 MHz	50 dB	1.5:1	1.25 dB 800-1000 MHz 2.25 dB 1000-3000 MHz	SMA female
50S-348	1P2T (reflective)	5-2000 MHz	60 dB 5-1000 MHz 50 dB 1000-2000 MHz	1.4:1	1 dB 5-1000 MHz 1.5 dB 1000-2000 MHz	SMA female
50S-979	1P2T (absorptive)	5-2500 MHz	60 dB 5-1000 MHz 50 dB 1000-2200 MHz 45 dB 2200-2500 MHz	1.4:1	1 dB 5-1000 MHz 1.5 dB 1000-2200 MHz 2.0 dB 2200-2500 MHz	SMA female
50S-976	1P2T (reflective)	750-4300 MHz	50 dB 750-2000 MHz 40 dB 2000-3500 MHz 30 dB 3500-4300 MHz	1.4:1	1.5 dB	SMA female
50S-1382	1P3T (reflective)	5-2500 MHz	55 dB 5-1000 MHz 45 dB 1000-2500 MHz	1.5:1	1.0 dB 5-1000 MHz 1.5 dB 1000-2000 MHz 2.0 dB 2000-2500 MHz	SMA female

Model	Impedance	Switching Speed	RF Input Power	Supply Voltage	Control Logic	Operating Temperature
50S-642	50 Ohms	20 microseconds	+10 dBm 5-1500 MHz +20 dBm 1500-3000 MHz	+5 Vdc @ 100 mA	(1 line) TTL low-off (reflective) TTL high-on	0° C to +70° C
50S-785	50 Ohms	500 nanoseconds	+10 dBm	+5 Vdc @ 125 mA	(1 line) TTL low-off (reflective) TTL high-on	0° C to +70° C
50S-1324	50 Ohms	10 microseconds	+20 dBm	+5 Vdc @ 150 mA	(1 line) TTL low-off ports are internally terminated into 50 Ohms (both ports) TTL high-on	0° C to +70° C
50S-1337	50 Ohms	500 nanoseconds	+20 dBm	+5 Vdc @ 100 mA	(1 line) TTL low-off ports are internally terminated into 50 Ohms (both ports) TTL high-on	0° C to +70° C
50S-348	50 Ohms	5 microseconds	+5 dBm	+5 Vdc @ 150 mA	(2 lines) TTL low-off (reflective) TTL high-on	0° C to +70° C
50S-979	50 Ohms	5 microseconds	+10 dBm	+5 Vdc @ 150 mA	(2 lines) TTL low-off ports are internally terminated into 50 Ohms TTL high-on	0° C to +70° C
50S-976	50 Ohms	5 microseconds	+10 dBm	+5 Vdc @ 150 mA	(2 lines) TTL low-off (reflective) TTL high-on	0° C to +70° C
50S-1382	50 Ohms	20 microseconds	+5 dBm	+5 Vdc @ 150 mA	TTL Low for OFF (Reflective) TTL High for ON	0° C to +70° C

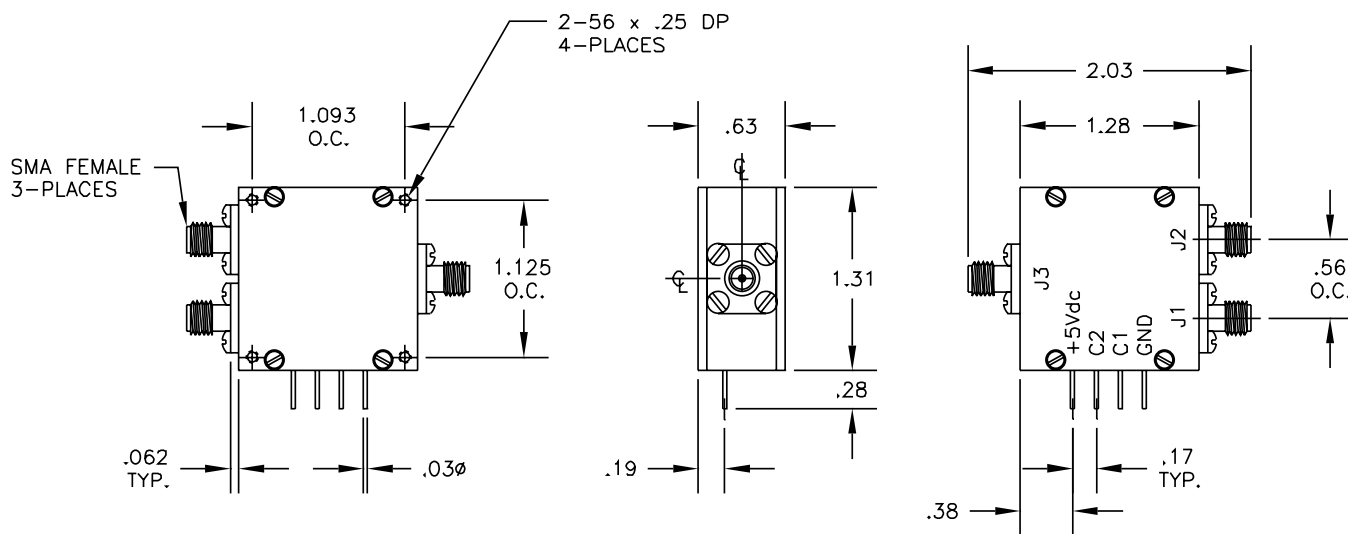
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# Wideband Solid State Coaxial Switches

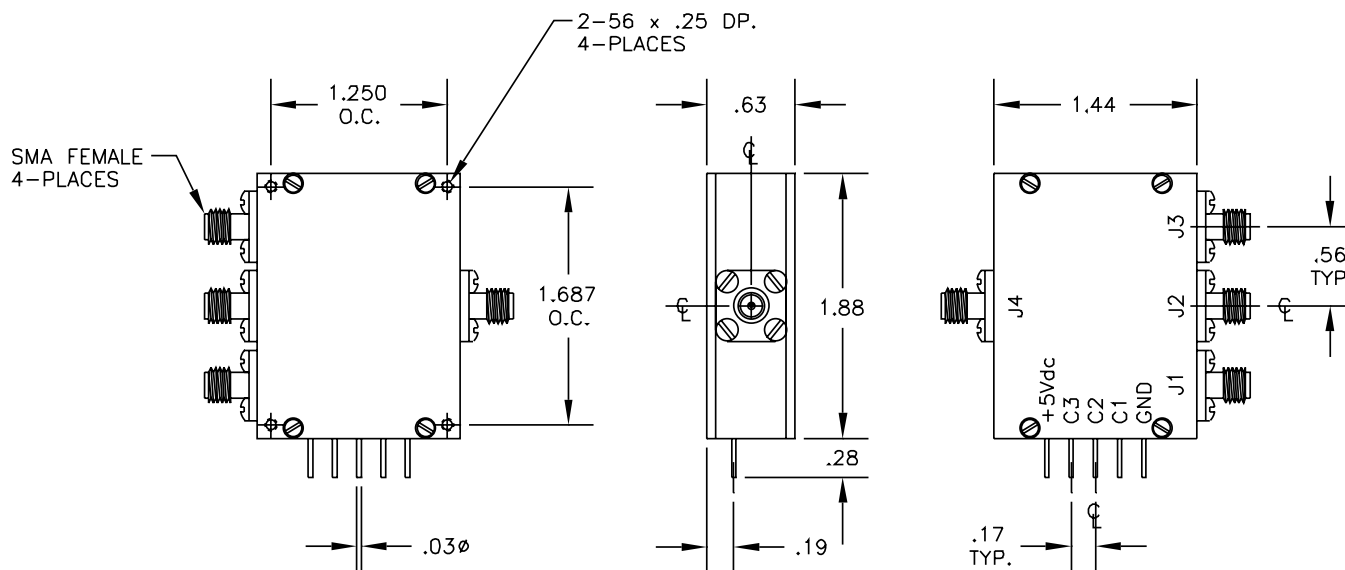
50S-642 / 50S-785 / 50S-1324 / 50S-1337



50S-348 / 50S-976 / 50S-979



50S-1382



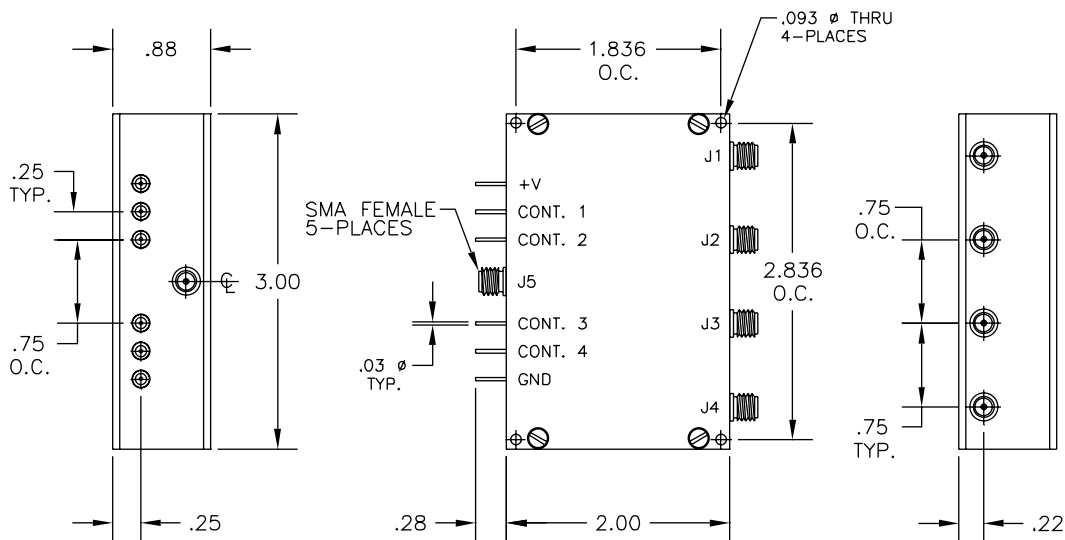
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# Wideband Solid State Coaxial Switch

Model	Configuration	Frequency Range	Isolation (minimum)	VSWR (maximum)	Insertion Loss (maximum)	RF Connectors
50S-884	1P4T (reflective)	50-2000 MHz	65 dB 50-1000 MHz 55 dB 1000-2000 MHz	1.4:1	1.5 dB 50-500 MHz 2.0 dB 500-1000 MHz 2.5 dB 1000-2000 MHz	SMA female
50S-847	1P6T (absorptive)	50-2000 MHz	70 dB 50-1500 MHz 55 dB 1500-2000 MHz	1.3:1 50-750 MHz 1.4:1 750-1500 MHz 1.5:1 1500-2000 MHz	1.5 dB 50-750 MHz 2.0 dB 750-1500 MHz 3.0 dB 1500-2000 MHz	SMA female
50S-381	1P8T (absorptive)	100-1250 MHz	65 dB 100-750 MHz 60 dB 750-1250 MHz	1.3:1 100-750 MHz 1.4:1 750-1250 MHz	1.5 dB 100-750 MHz 2.0 dB 750-1250 MHz	SMA female
50S-1011	1P8T (absorptive)	400-2000 MHz	65 dB 400-1000 MHz 55 dB 1000-2000 MHz	1.5:1	2.0 dB 400-1000 MHz 3.0 dB 1000-2000 MHz	SMA female

Model	Impedance	Switching Speed	RF Input Power	Supply Voltage	Control Logic	Operating Temperature
50S-884	50 Ohms	5 microseconds	+13 dBm	+5 Vdc @ 150 mA	(4 lines) TTL low-off (reflective) TTL high-on	-20° C to +85° C
50S-847	50 Ohms	1 microsecond	+10 dBm	+5 Vdc @ 250 mA	(3 lines) TTL low-off ports are internally terminated into 50 Ohms TTL high-on	0° C to +70° C
50S-381	50 Ohms	1 microsecond	+10 dBm	+5 Vdc @ 150 mA	(8 lines) TTL low-off ports terminated into 50 Ohms TTL high-on	0° C to +70° C
50S-1011	50 Ohms	10 microseconds	+20 dBm	+5 Vdc @ 150 mA	(8 lines) TTL low-off ports terminated into 50 Ohms TTL high-on	0° C to +70° C

## 50S-884

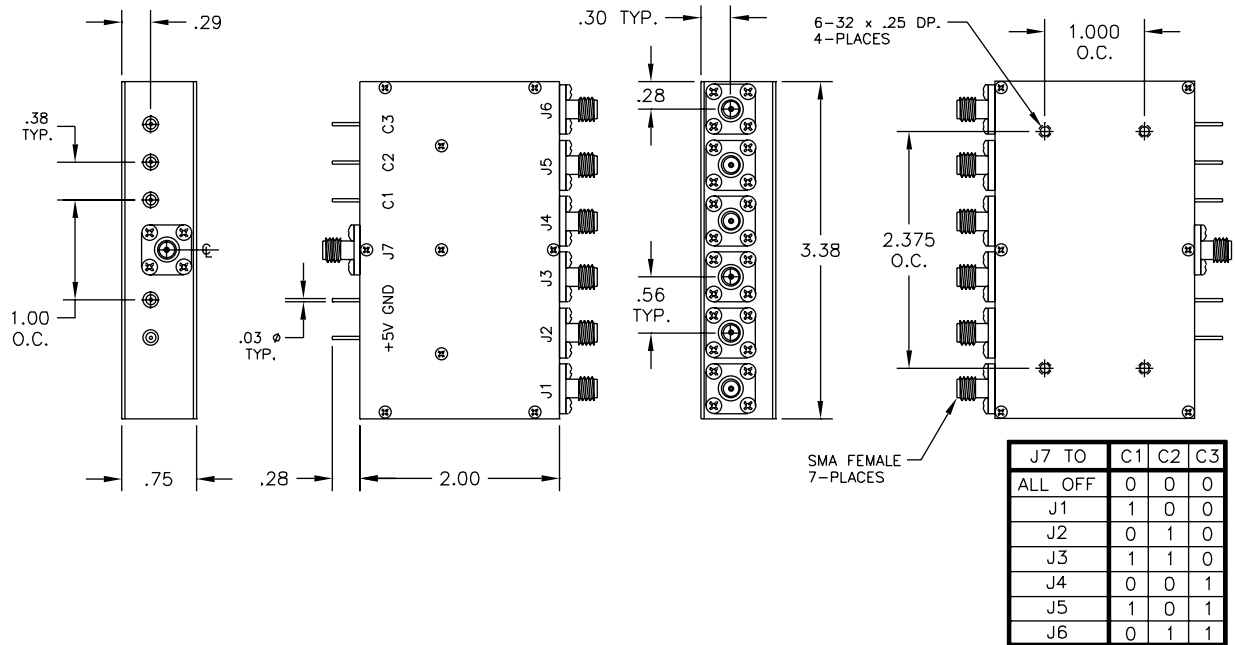


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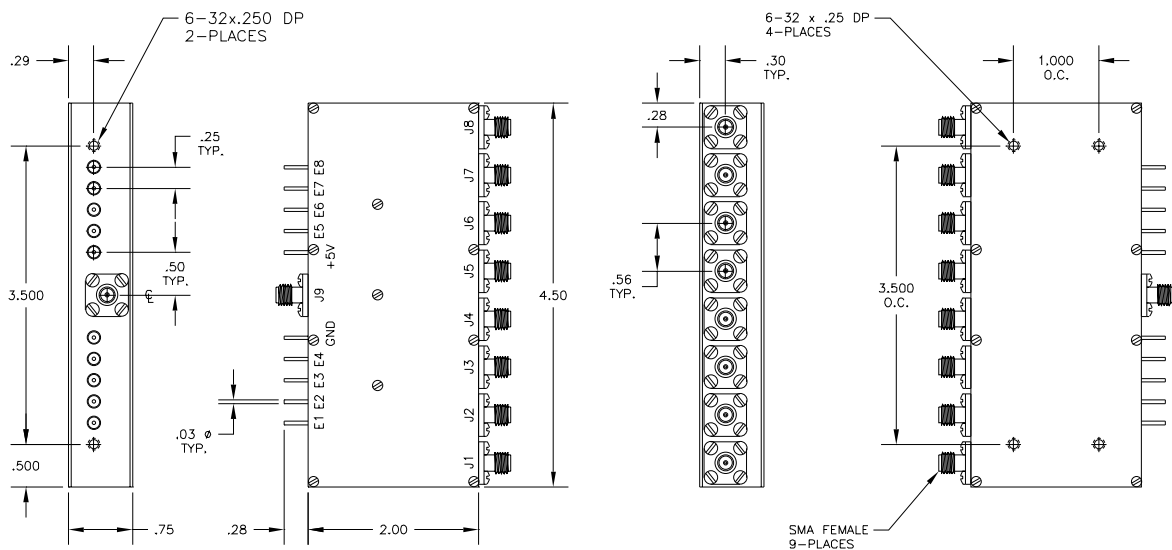


# Wide Band Solid State Coaxial Switches

## 50S-847



## 50S-381 / 50S-1011



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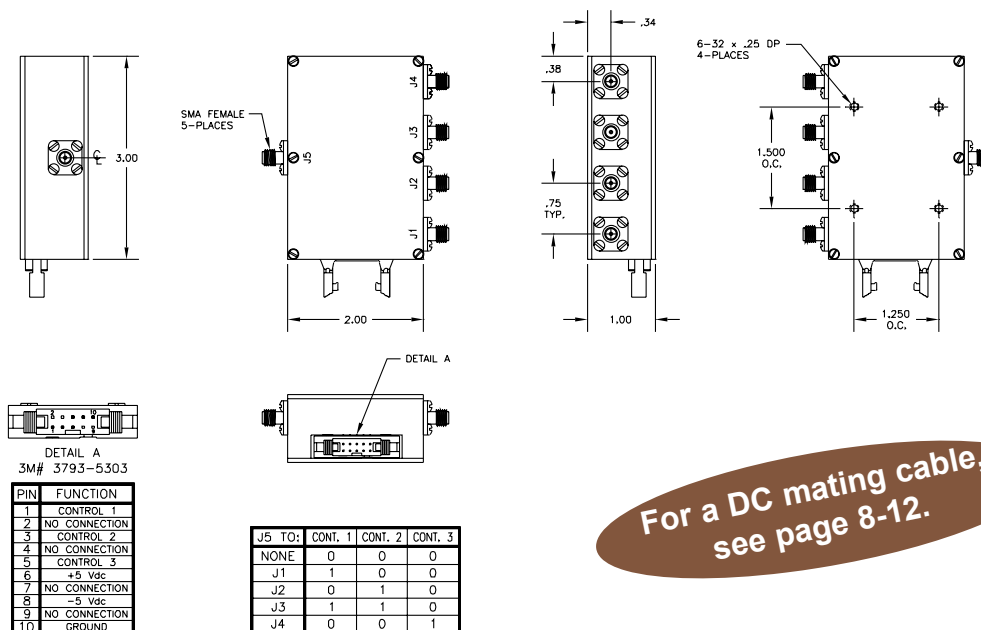
# Cellular Band Solid State Coaxial Switches

All models are Absorptive

Model	Configuration	Frequency Range	Isolation (minimum)	VSWR (maximum)	Insertion Loss (maximum)	RF Connectors
50S-963	1P4T (absorptive)	800-2200 MHz	50 dB	1.4:1 800-1000 MHz 1.5:1 1000-2200 MHz	2.5 dB 800-1000 MHz 3.5 dB 1000-2200 MHz	SMA female
50S-1173	1P4T (absorptive)	800-3000 MHz	50 dB	1.4:1	3 dB 800-1000 MHz 4 dB 1000-3000 MHz	SMA female
50S-964	1P8T (absorptive)	800-2200 MHz	50 dB	1.4:1 800-1000 MHz 1.5:1 1000-2200 MHz	3 dB 800-1000 MHz 4 dB 1000-2200 MHz	SMA female
50S-1090	1P8T (absorptive)	800-3000 MHz	60 dB 800-1000 MHz 55 dB 1000-2000 MHz 50 dB 2000-3000 MHz	1.5:1	3 dB 800-2000 MHz 4 dB 2000-3000 MHz	SMA female
50S-960	1P12T (absorptive)	800-2200 MHz	50 dB	1.5:1	3 dB 800-1500 MHz 4.5 dB 1500-2200 MHz	SMA female
50S-1312	1P12T (absorptive)	800-2500 MHz	50 dB	1.5:1	3 dB 800-1500 MHz 4.5 dB 1500-2500 MHz	SMA female

Model	Impedance	Switching Speed	RF Input Power	Supply Voltage	Control Logic	Operating Temperature
50S-963	50 Ohms	10 microseconds	+20 dBm	+5 Vdc @ 200 mA -5 Vdc @ 200 mA	(3 lines) TTL, off ports are internally terminated into 50 Ohms	0° C to +70° C
50S-1173	50 Ohms	10 microseconds	+10 dBm	+5 Vdc @ 200 mA -5 Vdc @ 200 mA	(3 lines) TTL, off ports are internally terminated into 50 Ohms	0° C to +70° C
50S-964	50 Ohms	10 microseconds	+20 dBm	+5 Vdc @ 400 mA -5 Vdc @ 400 mA	(4 lines) TTL, off ports are internally terminated into 50 Ohms	0° C to +70° C
50S-1090	50 Ohms	10 microseconds	+20 dBm	+5 Vdc @ 200 mA -5 Vdc @ 400 mA	(4 lines) TTL, off ports are internally terminated into 50 Ohms	0° C to +70° C
50S-960	50 Ohms	10 microseconds	+20 dBm	+5 Vdc @ 200 mA -5 Vdc @ 500 mA	(4 lines) TTL, off ports are internally terminated into 50 Ohms	0° C to +70° C
50S-1312	50 Ohms	10 microseconds	+20 dBm	+5 Vdc @ 200 mA -5 Vdc @ 500 mA	(4 lines) TTL, off ports are internally terminated into 50 Ohms	0° C to +70° C

## 50S-963 / 50S-1173

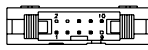
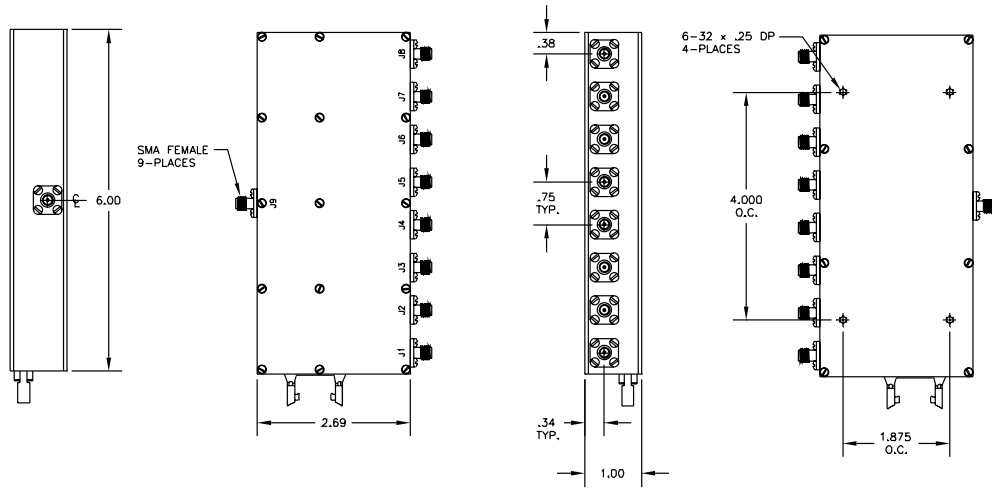


For a DC mating cable, see page 8-12.

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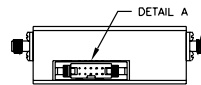
# Cellular Band Solid State Coaxial Switches

## 50S-964 / 50S-1090



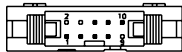
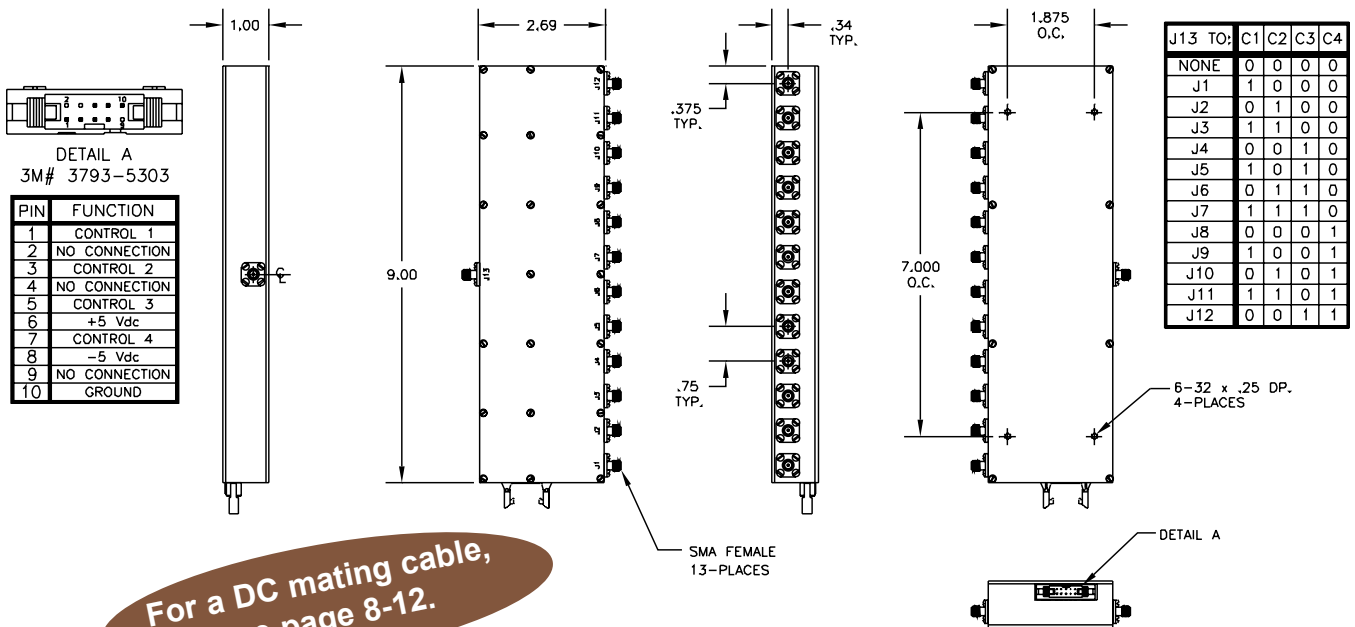
DETAIL A  
3M# 3793-5303

PIN	FUNCTION
1	CONTROL 1
2	NO CONNECTION
3	CONTROL 2
4	NO CONNECTION
5	CONTROL 3
6	+5 Vdc
7	CONTROL 4
8	-5 Vdc
9	NO CONNECTION
10	GROUND



J9 TO:	CONT. 1	CONT. 2	CONT. 3	CONT. 4
NONE	0	0	0	0
J1	1	0	0	0
J2	0	1	0	0
J3	1	1	0	0
J4	0	0	1	0
J5	1	0	1	0
J6	0	1	1	0
J7	1	1	1	0
J8	0	0	0	1

## 50S-960 / 50S-1312



DETAIL A  
3M# 3793-5303

PIN	FUNCTION
1	CONTROL 1
2	NO CONNECTION
3	CONTROL 2
4	NO CONNECTION
5	CONTROL 3
6	+5 Vdc
7	CONTROL 4
8	-5 Vdc
9	NO CONNECTION
10	GROUND

J13 TO:	C1	C2	C3	C4
NONE	0	0	0	0
J1	1	0	0	0
J2	0	1	0	0
J3	1	1	0	0
J4	0	0	1	0
J5	1	0	1	0
J6	0	1	1	0
J7	1	1	1	0
J8	0	0	0	1
J9	1	0	0	1
J10	0	1	0	1
J11	1	1	0	1
J12	0	0	1	1

For a DC mating cable, see page 8-12.

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## 4.3 GHz Wide Band Solid State Coaxial Switches

Model	Configuration	Frequency Range	Isolation (minimum)	VSWR (maximum)	Insertion Loss (maximum)	RF Connectors
50S-1163	1P2T (reflective)	20-4300 MHz	80 dB 20-1000 MHz 70 dB 1000-2000 MHz 60 dB 2000-4000 MHz 55 dB 4000-4300 MHz	1.5:1	1.5 dB 20-1000 MHz 3 dB 1000-4300 MHz	SMA female
50S-1220	1P2T (absorptive)	20-4300 MHz	80 dB 20-1000 MHz 70 dB 1000-2000 MHz 60 dB 2000-4000 MHz 55 dB 4000-4300 MHz	1.5:1	1.5 dB 20-1000 MHz 3 dB 1000-4300 MHz	SMA female
50S-1035	1P4T (reflective)	20-4300 MHz	80 dB 20-1000 MHz 70 dB 1000-2000 MHz 60 dB 2000-4000 MHz 55 dB 4000-4300 MHz	1.5:1	2 dB 20-1000 MHz 4 dB 1000-4300 MHz	SMA female
50S-1075	1P4T (absorptive)	20-4300 MHz	75 dB 20-1000 MHz 65 dB 1000-2000 MHz 55 dB 2000-4300 MHz	1.5:1	2 dB 20-1000 MHz 4 dB 1000-4300 MHz	SMA female
50S-1199	1P8T (reflective)	20-4300 MHz	70 dB to 2000 MHz 50 dB to 4300 MHz	1.5:1	2 dB 20-1000 MHz 2.5 dB 1000-2000 MHz 3 dB 2000-3000 MHz 4 dB 3000-4300 MHz	SMA female
50S-1310	1P8T (absorptive)	20-4300 MHz	70 dB to 2000 MHz 50 dB to 4300 MHz	1.5:1	2.5 dB 20-1000 MHz 3 dB 1000-2000 MHz 3.5 dB 2000-3000 MHz 4.5 dB 3000-4300 MHz	SMA female

Model	Impedance	Switching Speed	RF Input Power	Supply Voltage	Control Logic	Operating Temperature
50S-1163	50 Ohms	20 microseconds	+20 dBm 20-100 MHz +30 dBm 100-4300 MHz	+24 Volts @ 50 mA	(2 lines) TTL low-off (reflective) TTL high-on	0° C to +70° C operating -55° C to +90° C storage
50S-1220	50 Ohms	10 microseconds	+20 dBm 20-100 MHz +30 dBm 100-4300 MHz	+24 Volts @ 50 mA +5 Vdc @ 50 mA	(2 lines) TTL low-off ports are internally terminated into 50 Ohms TTL high-on	0° C to +70° C operating -55° C to +90° C storage
50S-1035	50 Ohms	20 microseconds	+20 dBm 20-100 MHz +30 dBm 100-4300 MHz	+24 Vdc @ 50 mA	(4 lines) TTL low-off (reflective) TTL high-on	0° C to +70° C operating -55° C to +90° C storage
50S-1075	50 Ohms	10 microseconds	+20 dBm 20-100 MHz +30 dBm 100-4300 MHz	+24 Vdc @ 150 mA +5 Vdc @ 100 mA	(4 lines) TTL low-off ports are internally terminated into 50 Ohms TTL high-on	0° C to +70° C operating -55° C to +90° C storage
50S-1199	50 Ohms	20 microseconds	+20 dBm 20-100 MHz +30 dBm 100-4300 MHz	+24 Vdc @ 100 mA +5 Vdc @ 100 mA	(4 lines) TTL low-off (reflective) TTL high-on	0° C to +70° C operating -55° C to +90° C storage
50S-1310	50 Ohms	10 microseconds	+20 dBm 20-100 MHz +30 dBm 100-4300 MHz	+24 Vdc @ 200 mA +5 Vdc @ 150 mA	(4 lines) TTL low-off ports are internally terminated into 50 Ohms TTL high-on	0° C to +70° C operating -55° C to +90° C storage

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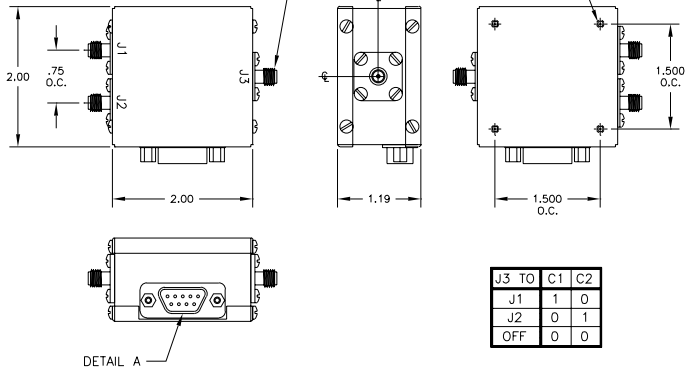
# 4.3 GHz Wide Band Solid State Coaxial Switches

## 50S-1163 / 50S-1220



PIN	50S-1163
1	TTL CONT. 1
2	TTL CONT. 2
3	NO CONNECTION
4	NO CONNECTION
5	NO CONNECTION
6	NO CONNECTION
7	NO CONNECTION
8	+24 Vdc
9	GND

PIN	50S-1220
1	TTL CONT. 1
2	TTL CONT. 2
3	NO CONNECTION
4	NO CONNECTION
5	NO CONNECTION
6	NO CONNECTION
7	+5 Vdc
8	+24 Vdc
9	GND

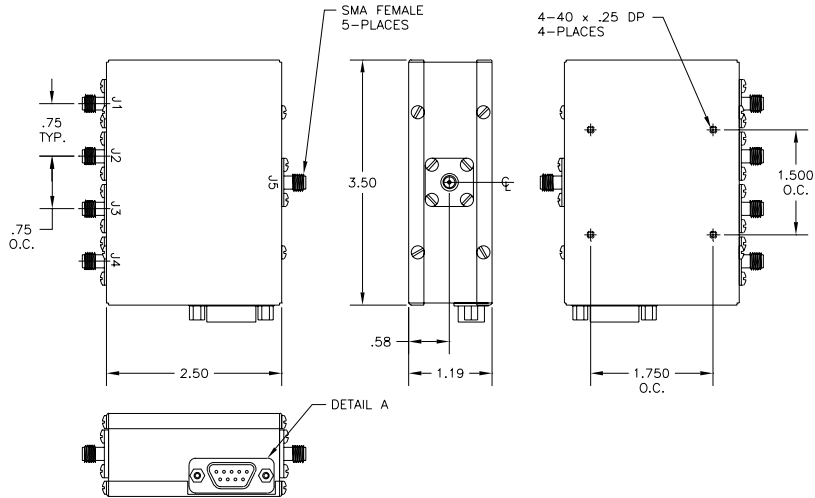


## 50S-1035 / 50S-1075

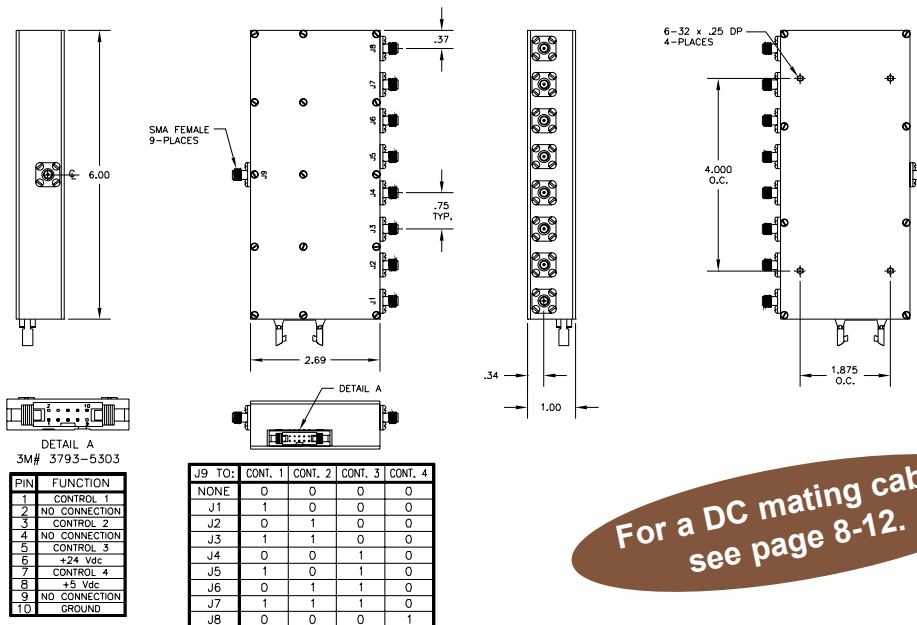


PIN	50S-1035
1	TTL CONT. 1
2	TTL CONT. 2
3	TTL CONT. 3
4	TTL CONT. 4
5	NO CONNECTION
6	NO CONNECTION
7	NO CONNECTION
8	+24 Vdc
9	GROUND

PIN	50S-1075
1	TTL CONT. 1
2	TTL CONT. 2
3	TTL CONT. 3
4	TTL CONT. 4
5	NO CONNECTION
6	NO CONNECTION
7	+5 Vdc
8	+24 Vdc
9	GROUND



## 50S-1199 / 50S-1310



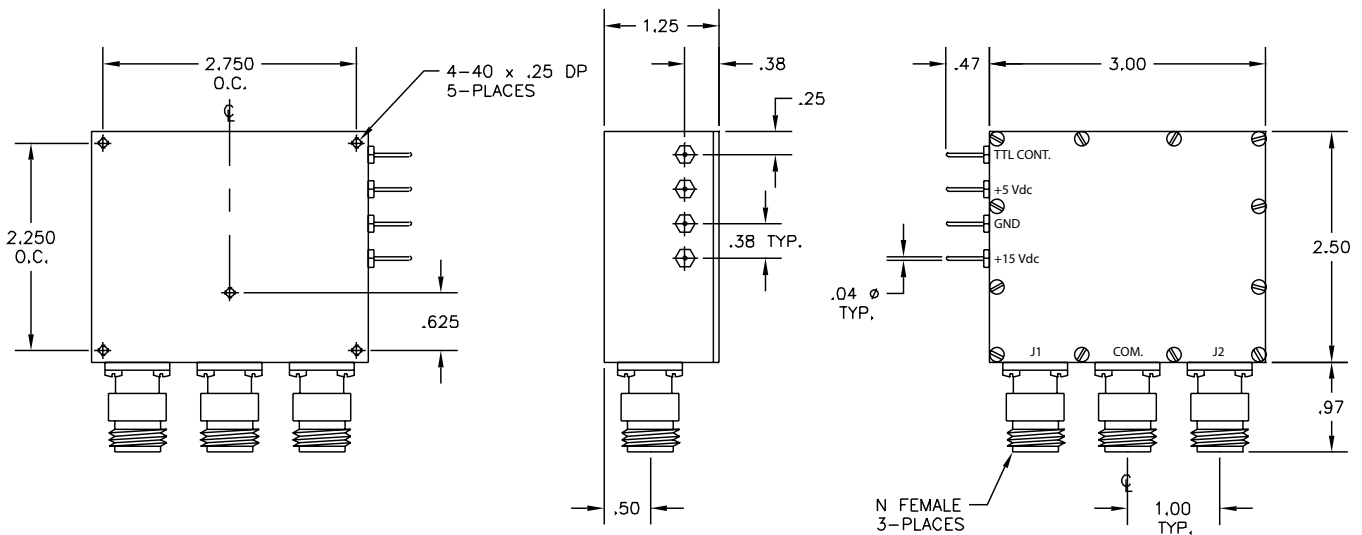
For a DC mating cable, see page 8-12.

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# High Power 1P2T Solid State Coaxial Switch

Model	Configuration	Frequency Range	Isolation (minimum)	VSWR (maximum)	Insertion Loss (maximum)	RF Connectors
50S-1268	1P2T (reflective)	100-500 MHz	55 dB	1.25:1	0.5 dB	SMA, TNC or N female
50S-1352	1P2T (reflective)	800-2500 MHz	45 dB 800-1000 MHz 36 dB 1000-2500 MHz	1.3:1 800-1000 MHz 1.4:1 1000-2500 MHz	0.5 dB 800-1000 MHz 0.7 dB 1000-2000 MHz 0.9 dB 2000-2500 MHz	SMA female, N or TNC
50S-1422	1P2T (reflective)	100-500 MHz	55 dB	1.25:1	0.5 dB	BNC, SMA, TNC or N female
50S-1505	1P2T (reflective)	20-2500 MHz	45 dB 20-1000MHz 35 dB 1000-2500MHz	1.4:1	0.7 dB 20-1000MHz 1.0 dB 1000-2000MHz 1.5 dB 2000-2500MHz	SMA, TNC or N female
50S-1559	1P2T (reflective)	20-1000 MHz	50 dB 20-500 MHz 40 dB 500-1000 MHz	1.4:1	0.50 dB 20-500 MHz 0.75 dB 500-1000 MHz	BNC, SMA, TNC or N female

Model	Impedance	Switching Speed	RF Input Power	Supply Voltage	Operating Temperature
50S-1268	50 Ohm	40 microseconds (50% TTL to 10% or 90% RF)	100 Watts average 500 Watts peak (1 microsecond pulse) Hot Switch: 100 Watts average	+12 Vdc to +15 Vdc @ 250 mA + 5 Vdc @ 40 mA	-20° C to +70° C operating -55° C to +85° C storage
50S-1352	50 Ohm	10 microseconds (50% TTL to 10% or 90% RF) 30 microseconds (50% TTL to full isolation)	50 Watts average 200 Watts peak (1 microsecond pulse) Hot Switch: 50 Watts average	+15 Vdc @ 325 mA +5 Vdc @ 40 mA	-20° C to +70° C operating -55° C to +85° C storage
50S-1422	50 Ohm	40 microseconds (50% TTL to 10% or 90% RF)	250 Watts average 500 Watts peak (1 microsecond pulse) Hot Switch: 100 Watts average	+15 Vdc @ 250 mA +5 Vdc @ 40 mA	-20° C to +70° C operating -55° C to +85° C storage
50S-1505	50 Ohm	10 microseconds (50% TTL to 10% or 90% RF)	25 Watts average 200 Watts peak (1 microsecond pulse)	+15Vdc @ 325 mA +5Vdc @ 40 mA	-20° to +70° C
50S-1559	50 Ohm	40 microseconds (50% TTL to 10% or 90% RF)	150 Watts average (Cold switch) 50 Watts average (Hot Switch)	+15 Vdc @ 250 mA +5 Vdc @ 40 mA	-20° C to +70° C operating -55° C to +85° C storage



**TTL Low = Common to J1**  
**TTL High = Common to J2**

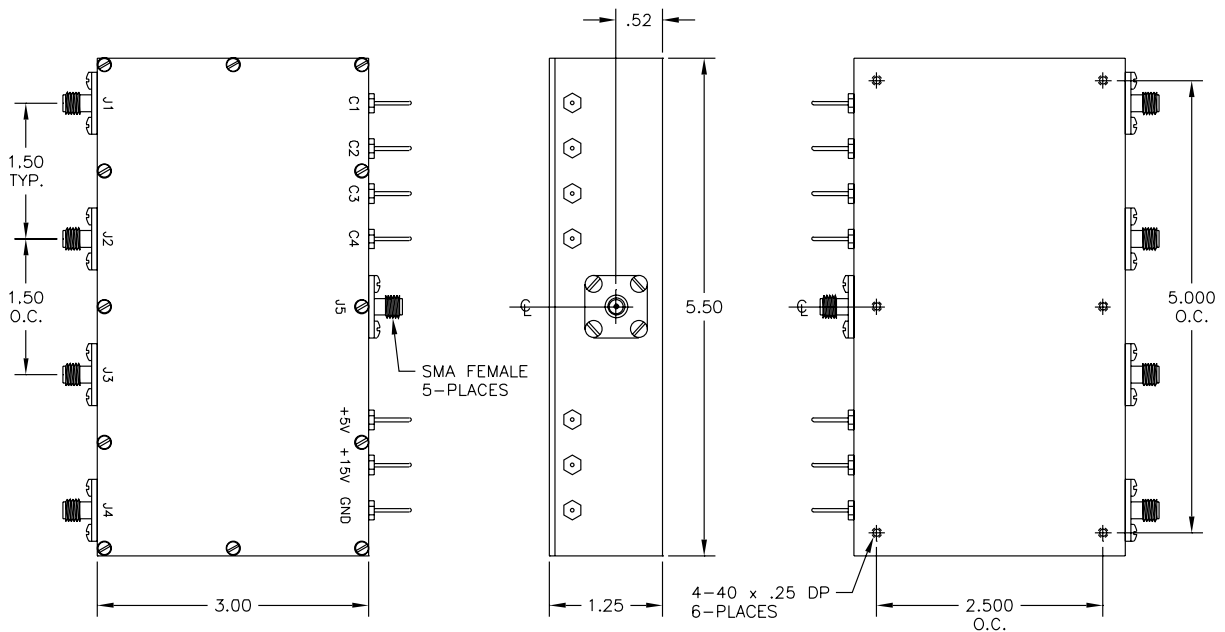
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# High Power 1P4T Solid State Coaxial Switch

Model	Configuration	Frequency Range	Isolation (minimum)	VSWR (maximum)	Insertion Loss (maximum)	RF Connectors
50S-713	1P4T (absorptive)	20-100 MHz	55 dB	1.3:1	0.40 dB	SMA female
50S-1256	1P4T (reflective)	30-512 MHz	50 dB	1.3:1	0.55 dB	SMA, TNC or N female

Model	Impedance	Switching Speed	RF Input Power	Supply Voltage	Control Logic*	Operating Temperature
50S-713	50 Ohms	5 microseconds (50% TTL to 90% RF) 8 microseconds (50% TTL to 10% RF)	20 Watts average (Hot Switch)	+15 Vdc @ 400 mA +5 Vdc @ 150 mA	(4 lines) TTL High-ON TTL Low-OFF	0° C to +70° C operating -55° C to +85° C storage
50S-1256	50 Ohms	60 microseconds (50% TTL to 10% or 90% RF)	Cold Switch: 125 Watts average 500 Watts peak Hot Switch: 20 Watts average	+15 Vdc @ 550 mA +5 Vdc @ 100 mA	(4 lines) TTL High-ON TTL Low-Off	-40° C to +125° C operating -55° C to +125° C storage

\*Only one active port at a time.



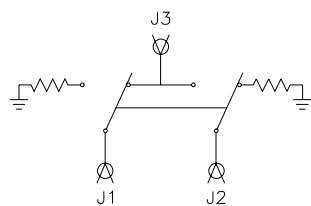
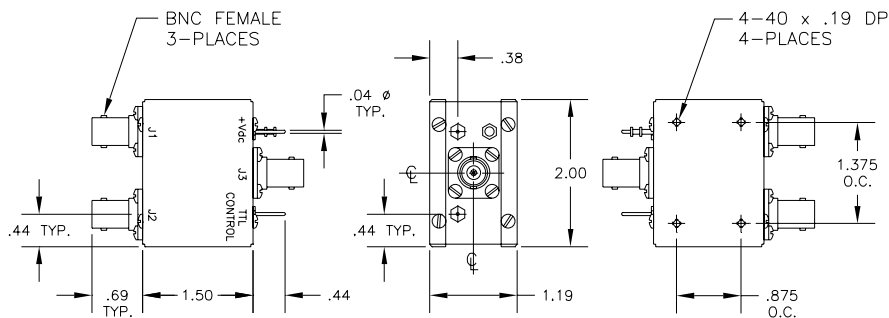
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# 75 Ohm Solid State Coaxial Switches

Model	Configuration	Frequency Range	Isolation (minimum)	VSWR (maximum)	Insertion Loss (maximum)	RF Connectors
75S-081	1P2T (absorptive)	5-1000 MHz	60 dB 5-500 MHz 55 dB 500-1000 MHz	1.2:1 5-300 MHz 1.3:1 300-600 MHz 1.4:1 600-1000 MHz	1.5 dB 5-500 MHz 2.5 dB 500-1000 MHz	BNC, F or N female
75S-225	1P4T (reflective)	5-1000 MHz	60 dB	1.2:1	2.25 dB	BNC or F female
75S-181	1P8T (reflective)	5-1000 MHz	70 dB 5-50 MHz 60 dB 50-500 MHz 55 dB 500-1000 MHz	1.3:1 5-500 MHz 1.4:1 500-1000 MHz	1.5 dB 5-500 MHz 2 dB 500-1000 MHz	BNC or F female
75S-264	1P16T (absorptive)	20-1000 MHz	55 dB	1.4:1	2.0 dB	BNC or F female

Model	Impedance	Switching Speed	RF Input Power	Supply Voltage	Control Logic	Operating Temperature
75S-081	75 Ohms	20 microseconds	+20 dBm (1 dB compression)	+5 Vdc @ 100 mA	(2 lines) TTL low for J3 to J1 TTL high for J3 to J2 off ports terminated into 75 Ohms	0° C to +70° C
75S-225	75 Ohms	10 microseconds	+20 dBm (1 dB compression)	+24 Vdc @ 50 mA nominal	(4 lines) TTL low-off C1 TTL high for J1 to J5 C2 TTL high for J2 to J5 C3 TTL high for J3 to J5 C4 TTL high for J4 to J5	0° C to +70° C
75S-181	75 Ohms	200 microseconds	+10 dBm	+28 Vdc @ 250 mA maximum	(8 lines) TTL low-off TTL high-on	0° C to +70° C
75S-264	75 Ohms	50 microseconds	+20 dBm	+5 Vdc @ 100 mA +15 Vdc @ 200 mA -15 Vdc @ 500 mA	(5 lines) TTL per drawing off ports terminated into 75 Ohms	0° C to +70° C

## 75S-081



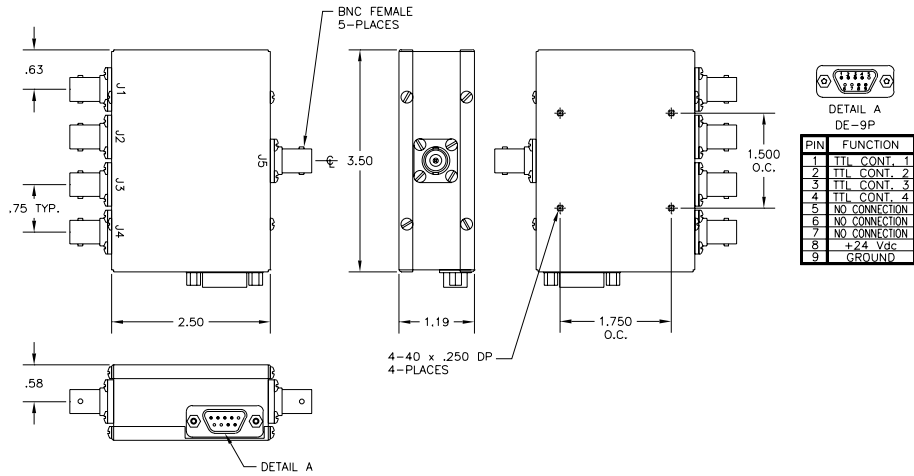
SHOWN WITH TTL LOW

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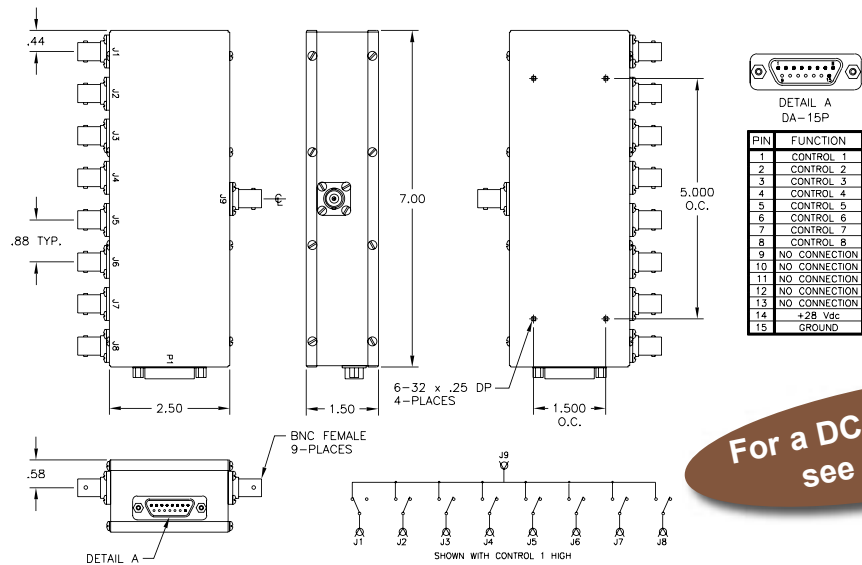


# 75 Ohm Solid State Coaxial Switches

**75S-225**

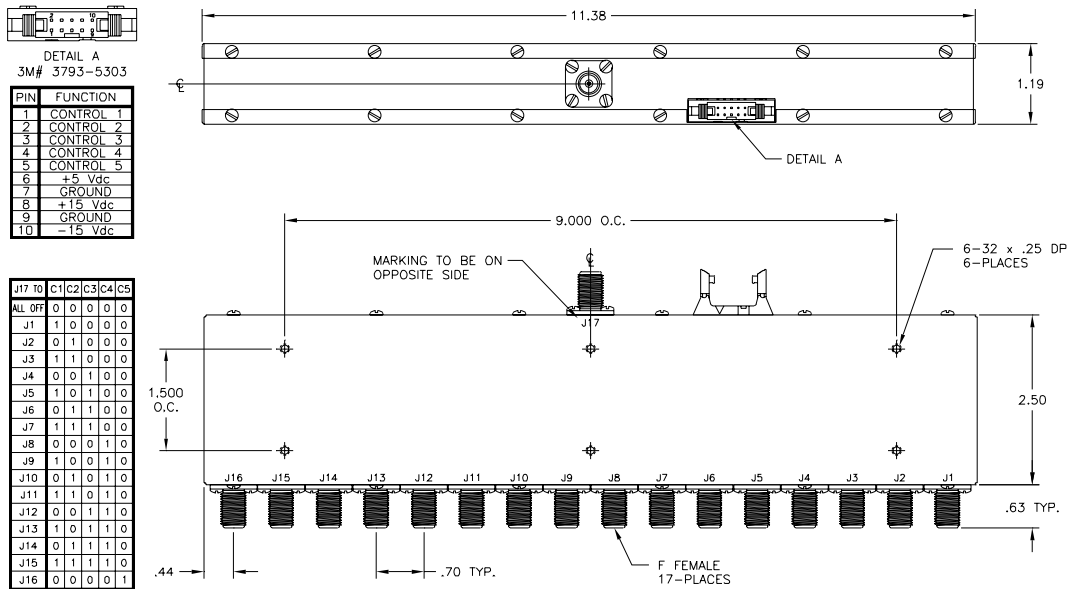


**75S-181**



For a DC mating cable, see page 8-12.

**75S-264**

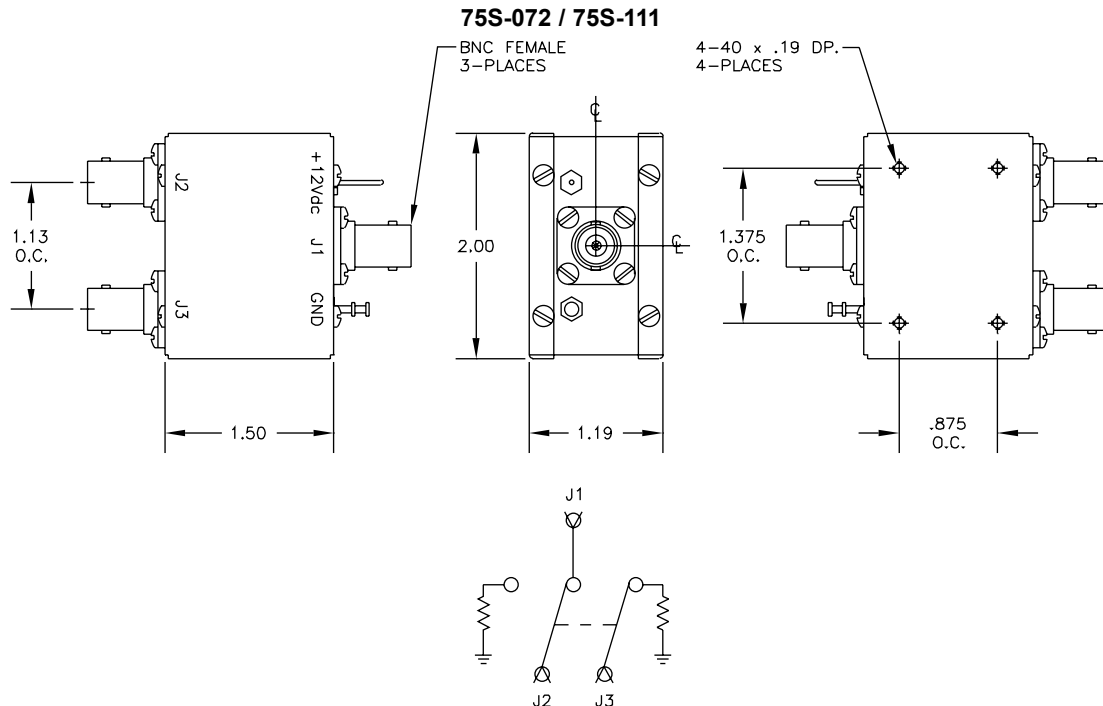


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# 75 Ohm Electro-mechanical Coaxial Switches

Model	Configuration	Frequency Range	Isolation (minimum)	VSWR (maximum)	Insertion Loss (maximum)	RF Connectors
75S-072	1P2T (failsafe, absorptive)	DC-1450 MHz	50 dB DC-500 MHz 45 dB 500-1450 MHz	1.3:1 DC-500 MHz 1.5:1 500-1450 MHz	0.50 dB	BNC or F female
75S-111	1P2T (failsafe, absorptive)	DC-2150 MHz	50 dB DC-1000 MHz 45 dB 1000-2150 MHz	1.3:1 DC-1000 MHz 1.5:1 1000-2150 MHz	0.75 dB DC-1000 MHz 1.0 dB 1000-2150 MHz	BNC or F female
75S-087	1P3T (N.O., absorptive)	DC-1450 MHz	50 dB DC-500 MHz 45 dB 500-1450 MHz	1.3:1 DC-500 MHz 1.5:1 500-1450 MHz	0.50 dB DC-500 MHz 0.75 dB 500-1450 MHz	BNC or F female
75S-073	1P4T (N.O., absorptive)	DC-1450 MHz	50 dB DC-500 MHz 45 dB 500-1450 MHz	1.3:1 DC-500 MHz 1.5:1 500-1450 MHz	0.50 dB DC-500 MHz 0.75 dB 500-1450 MHz	BNC or F female
75S-214	1P8T (failsafe, absorptive)	DC-1000 MHz	60 dB DC-500 MHz 55 dB 500-1000 MHz	1.25:1	0.50 dB	BNC or F female
75S-221	1P8T (failsafe, absorptive)	DC-2150 MHz	60 dB DC-500 MHz 50 dB 500-2150 MHz	1.5:1 DC-2150 MHz	1.0 dB DC-1000 MHz 2.0 dB 1000-2150 MHz	BNC or F female

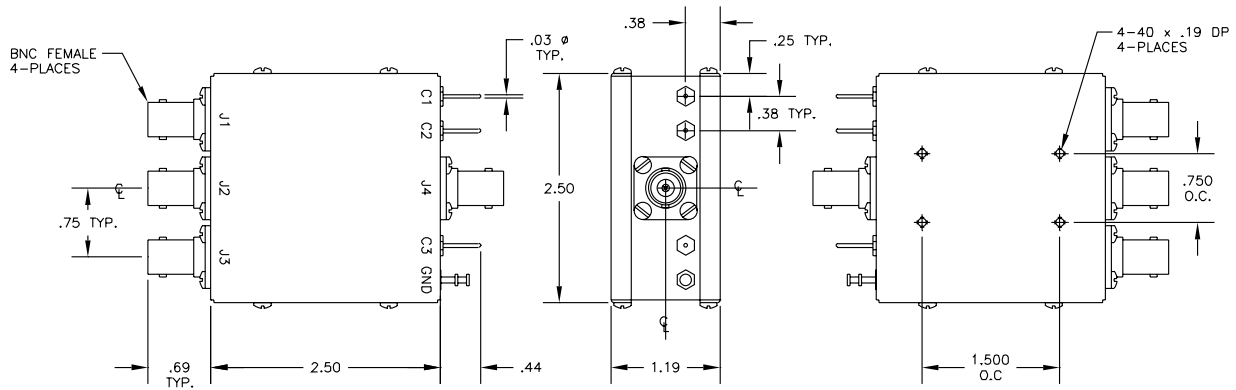
Model	Impedance	Switching Speed	RF Input Power	Control Voltage	Operating Temperature
75S-072	75 Ohms	10 milliseconds	+20 dBm	+12 Vdc @ 50 mA	-20° C to +85° C
75S-111	75 Ohms	10 milliseconds	+20 dBm	+12 Vdc @ 90 mA	-20° C to +85° C
75S-087	75 Ohms	10 milliseconds	+20 dBm	+12 Vdc @ 60 mA	-20° C to +85° C
75S-073	75 Ohms	10 milliseconds	+20 dBm	+12 Vdc @ 60 mA	-20° C to +85° C
75S-214	75 Ohms	10 milliseconds	+20 dBm	TTL per Chart	-20° C to +85° C
75S-221	75 Ohms	10 milliseconds	+20 dBm	+12 Vdc @ 110 mA	-20° C to +85° C



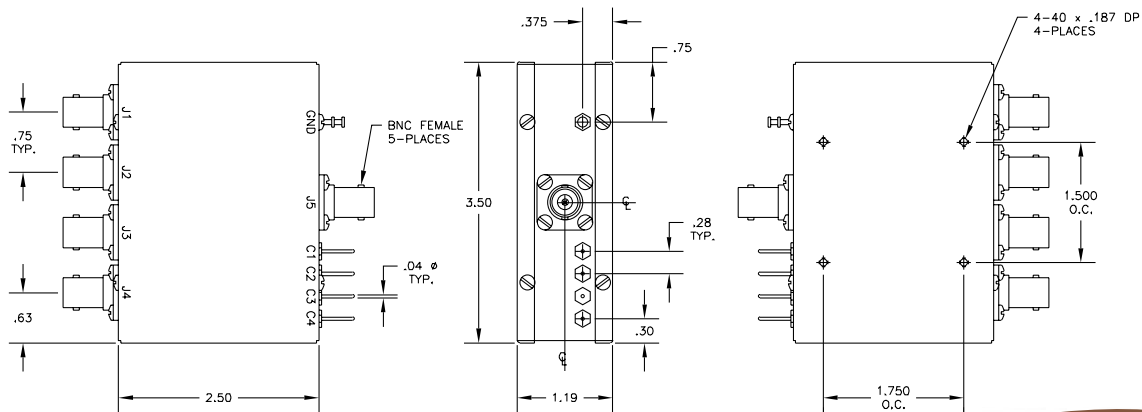
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# 75 Ohm Electro-mechanical Coaxial Switches

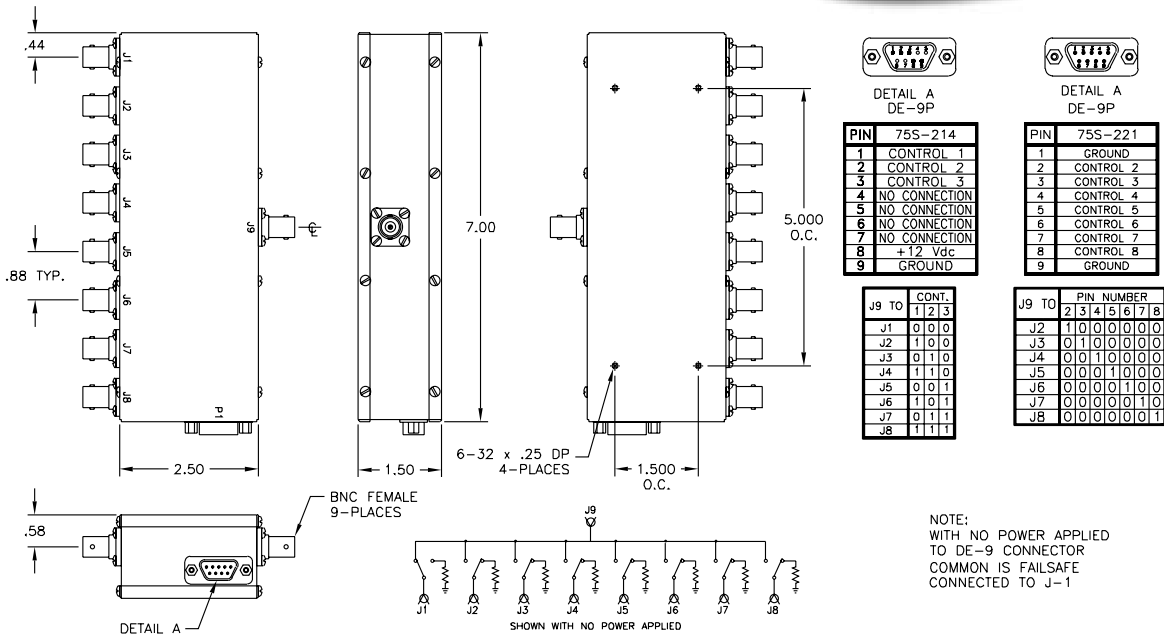
**75S-087**



**75S-073**



**75S-214 / 75S-221**



For a DC mating cable, see page 8-12.

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# 18 GHz Electro-mechanical Coaxial Switches

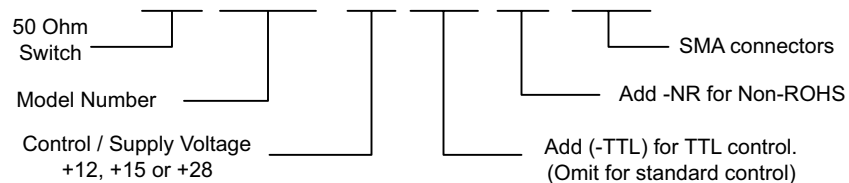
Model	Configuration	Frequency Range	Isolation (minimum)	VSWR (maximum)	Insertion Loss (maximum)	RF Connectors
50S-1313	1P2T (failsafe, reflective)	DC-18 GHz	85 dB DC-1 GHz 80 dB 1-4 GHz 70 dB 4-8 GHz 65 dB 8-12 GHz 60 dB 12-18 GHz	1.1:1 DC-1 GHz 1.15:1 1-4 GHz 1.2:1 4-8 GHz 1.3:1 8-12 GHz 1.35:1 12-18 GHz	0.10 dB DC-1 GHz 0.15 dB 1-4 GHz 0.20 dB 4-8 GHz 0.30 dB 8-12 GHz 0.35 dB 12-18 GHz	SMA female
50S-1360	1P3T (N.O., reflective)	DC-18 GHz	70 dB DC-4 GHz 65 dB 4-8 GHz 60 dB 8-12 GHz 60 dB 12-18 GHz	1.2:1 DC-4 GHz 1.3:1 4-8 GHz 1.4:1 8-12 GHz 1.5:1 12-18 GHz	0.20 dB DC-4 GHz 0.30 dB 4-8 GHz 0.40 dB 8-12 GHz 0.50 dB 12-18 GHz	SMA female
50S-1315	1P4T (N.O., reflective)	DC-18 GHz	70 dB DC-4 GHz 65 dB 4-8 GHz 60 dB 8-12 GHz 60 dB 12-18 GHz	1.2:1 DC-4 GHz 1.3:1 4-8 GHz 1.4:1 8-12 GHz 1.5:1 12-18 GHz	0.20 dB DC-4 GHz 0.30 dB 4-8 GHz 0.40 dB 8-12 GHz 0.50 dB 12-18 GHz	SMA female
50S-1316	1P6T (N.O., reflective)	DC-18 GHz	70 dB DC-4 GHz 65 dB 4-8 GHz 60 dB 8-12 GHz 60 dB 12-18 GHz	1.2:1 DC-4 GHz 1.3:1 4-8 GHz 1.4:1 8-12 GHz 1.5:1 12-18 GHz	0.20 dB DC-4 GHz 0.30 dB 4-8 GHz 0.40 dB 8-12 GHz 0.50 dB 12-18 GHz	SMA female
50S-1361	Transfer Switch (failsafe)	DC-18 GHz	85 dB DC-1 GHz 80 dB 1-4 GHz 70 dB 4-8 GHz 65 dB 8-12 GHz 60 dB 12-18 GHz	1.1:1 DC-1 GHz 1.2:1 1-4 GHz 1.3:1 4-8 GHz 1.4:1 8-12 GHz 1.5:1 12-18 GHz	0.10 dB DC-1 GHz 0.20 dB 1-4 GHz 0.30 dB 4-8 GHz 0.40 dB 8-12 GHz 0.50 dB 12-18 GHz	SMA female

Model	Impedance	Switching Speed	RF Input Power (average)	Control Voltage / Supply Voltage (Non-TTL) (TTL)	Operating Temperature	Lifetime (minimum)
50S-1313	50 Ohms	15 milliseconds	See Power Table Below	+12 Vdc @ 200 mA nominal +15 Vdc @ 200 mA nominal +28 Vdc @ 100 mA nominal	-25° C to +65° C	1 million cycles
50S-1360	50 Ohms	20 milliseconds	See Power Table Below	+12 Vdc @ 325 mA nominal +15 Vdc @ 280 mA nominal +28 Vdc @ 160 mA nominal	-25° C to +65° C	1 million cycles
50S-1315	50 Ohms	20 milliseconds	See Power Table Below	+12 Vdc @ 325 mA nominal +15 Vdc @ 280 mA nominal +28 Vdc @ 160 mA nominal	-25° C to +65° C	1 million cycles
50S-1316	50 Ohms	20 milliseconds	See Power Table Below	+12 Vdc @ 325 mA nominal +15 Vdc @ 280 mA nominal +28 Vdc @ 160 mA nominal	-25° C to +65° C	1 million cycles
50S-1361	50 Ohms	20 milliseconds	See Power Table Below	+12 Vdc @ 360 mA nominal +15 Vdc @ 290 mA nominal +28 Vdc @ 150 mA nominal	-25° C to +65° C	1 million cycles

## Power Table

Frequency Range	DC-100 MHz	100-200 MHz	200-500 MHz	500-1000 MHz	1-4 GHz	4-8 GHz	8-12 GHz	12-18 GHz
Maximum Average RF Power	500 Watts	400 Watts	300 Watts	200 Watts	100 Watts	90 Watts	70 Watts	60 Watts

## 50S-AAAA+BB-TTL-NR SMA

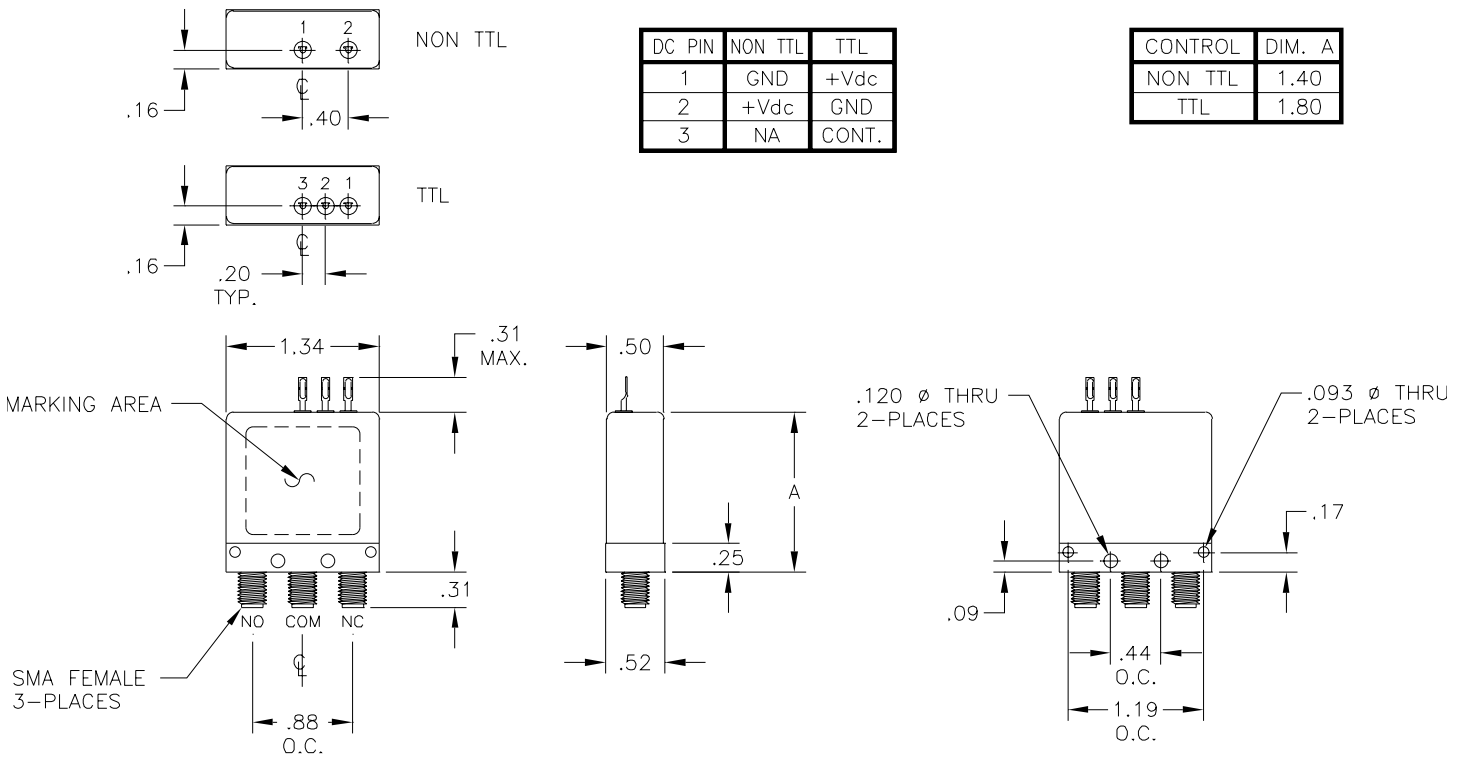


**Examples:** 50S-1313+12-NR SMA (1P2T / +12 Volt / NON-TTL / Non-ROHS)  
50S-1315+28-TTL SMA (1P4T / +28 Volt / TTL)

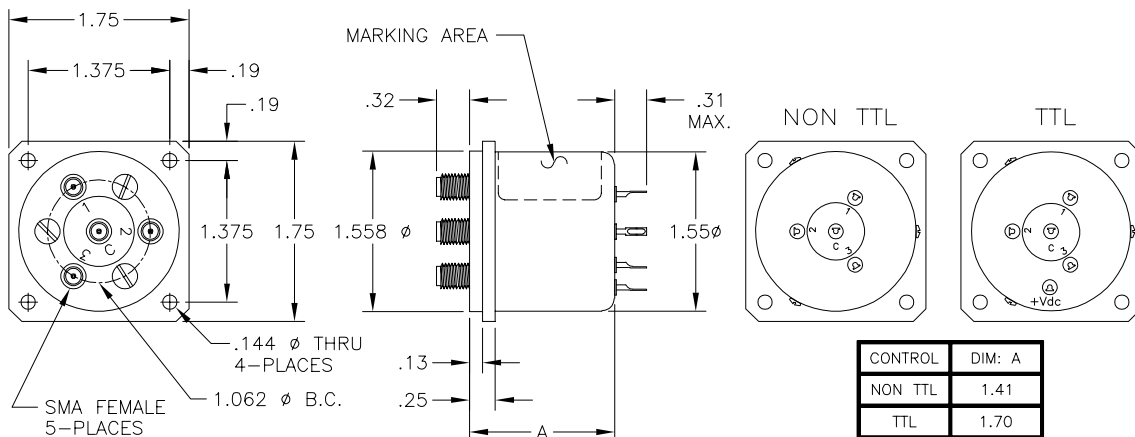
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# 18 GHz Electro-mechanical Coaxial Switches

## 50S-1313



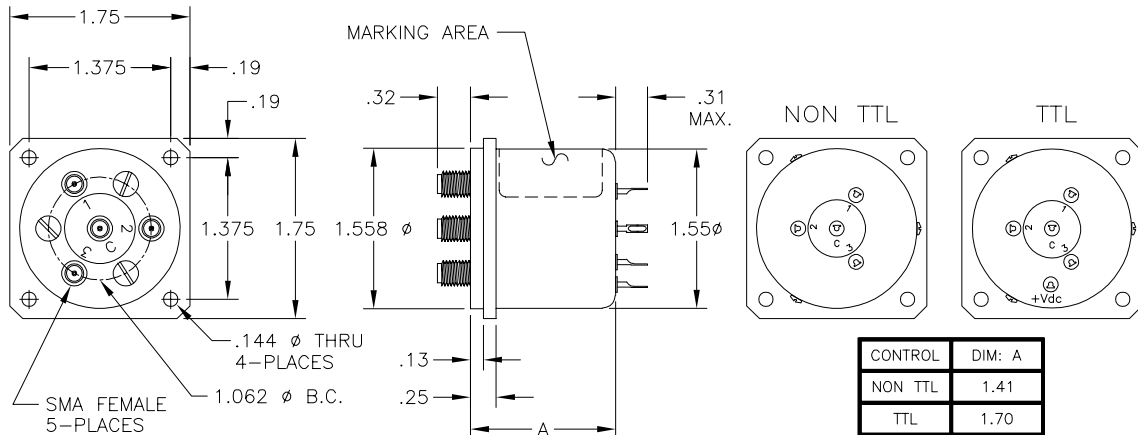
## 50S-1360



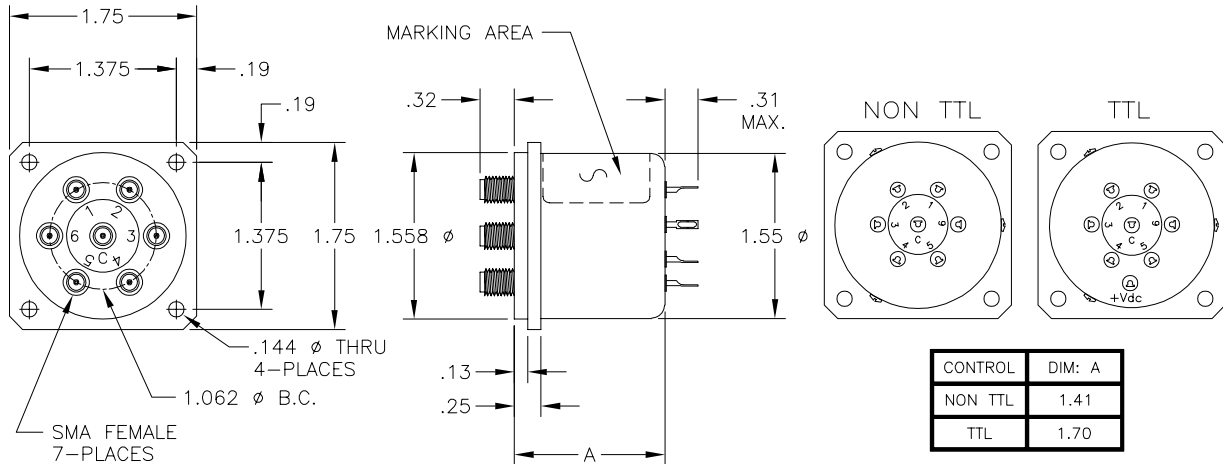
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# 18 GHz Electro-mechanical Coaxial Switches

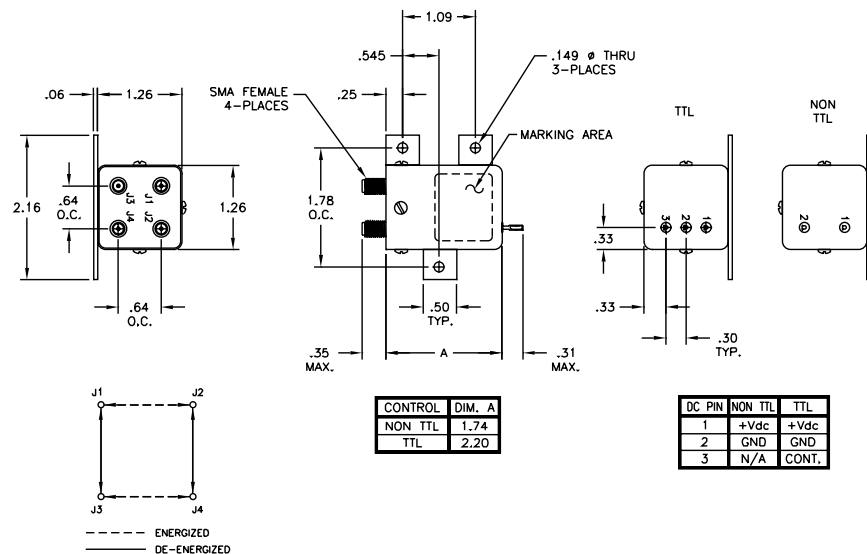
**50S-1315**



**50S-1316**



**50S-1361**



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