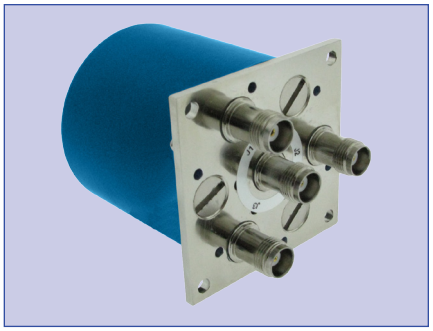
TELEDYNE
COAX SWITCHES
Everywhereyoulook™

Series CCS-19
Multi-Throw DC-2 GHz Latching Coaxial Switch

PART NUMBER	DESCRIPTION
CCS-19	Commercial Latching Multi-throw, DC-2GHz, with N or TNC connectors
CS-19	Elite Latching Multi-throw, DC-2GHz, with N or TNC connectors

The CCS-19/CS-19 is a broadband, multi-throw, electromechanical coaxial switch designed to switch a microwave signal from a common input to any of 3, 4, 5, or 6 outputs. The characteristic impedance is 50 Ohms. Each position has an individual actuator mechanism allowing random position selection. This also minimizes switching time.
The CCS-19/CS-19 comes with a latching actuator. The latching switch remains in the last position selected when the switch is de-energized. STD dual command requires a reset pulse before a new selected position. A separate reset circuit allows all positions to be set to an open position. User must provide both reset (clear) and set (select new position) commands.



RoHS Compliant

Available with USB & Ethernet Control!

Click here MMC SERIES

ENVIRONMENTAL AND PHYSICAL CHARACTERISTICS

Operating Temperature Commercial Model, CCS-19N Elite Model, CS-19N	 –25°C to 65°C –55°C to 85°C
Vibration (MIL-STD-202 Method 214, Condition D, non-operating)	10 g's RMS
Shock (MIL-STD-202 Method 213, Condition D, non-operating)	500 g's
Standard Actuator Life Actuator Life w/ Additional Features	3,000,000 cycles 1,000,000 cycles
Connector Type	Type N and TNC
Humidity (Moisture Seal)	Available
Weight	9 oz. (255.2g) (max.)

ELECTRICAL CHARACTERISTICS

Form Factor		Multi-Throw, break before make				
Frequency Range CCS-19N CS-19N		 DC–2 GHz DC–2 GHz				
Characteristic Impedance		50 Ohms				
Operate Time		20 ms (max.)				
Actuation Voltage Available		12	15	24	28	V
Actuation Current		255	205	130	90	mA
Reset Current (# of Positions)	3	765	615	390	270	mA
	4	1020	820	520	360	mA
	5	1275	1025	650	450	mA
	6	1530	1230	780	540	mA

TYPICAL PERFORMANCE CHARACTERISTICS

Frequency	DC–1 GHz	1–2 GHz
Insertion Loss, dB, max.	0.7	0.9
Isolation, dB, min.	80	80
VSWR , max.	1.15:1	1.20:1

For maximum limits, please see charts on page 6

PART NUMBERING SYSTEM

CCS-19 N 6 6 C - T **

- CCS-19: Series
- N: Connectors
- 6: Actuator Voltage
- 6: Number of Positions
- C: Actuator Type
- T: Options

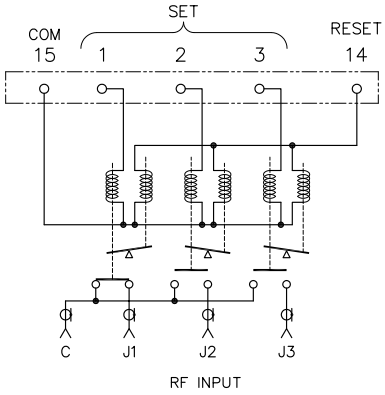
CONNECTOR	ACTUATOR VOLTAGE	NUMBER OF POSITIONS	ACTUATOR TYPE	OPTIONS
N: N FEMALE	6: 28 VDC LATCHING	3: SP3T	O: NO INDICATOR CONTACTS	T: TTL DRIVERS WITH DIODES
T: TNC FEMALE	7: 15 VDC LATCHING	4: SP4T	C: INDICATOR CONTACTS	D: COIL TRANSIENT SUPPRESSION DIODES
	8: 12 VDC LATCHING	5: SP5T	D: SELF CUTOFF ONLY	R: POSITIVE + COMMON
	9: 24 VDC LATCHING	6: SP6T	E: INDICATORS AND SELF CUTOFF	TD: DECODERS AND TTL DRIVERS WITH DIODES
				M: MOISTURE SEAL
				S: D-SUB CONNECTOR*

**SEE PARTS LIST ON PAGE 11-13

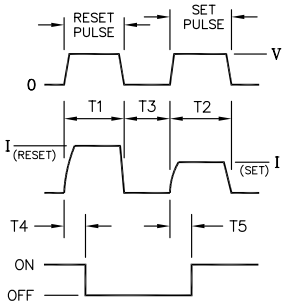
For additional options, please contact factory.

*** D-Sub Connector may be 9 or 15 pin depending on number of throws. (See Connector Pinout page)**

SCHEMATICS AND MECHANICAL OUTLINE

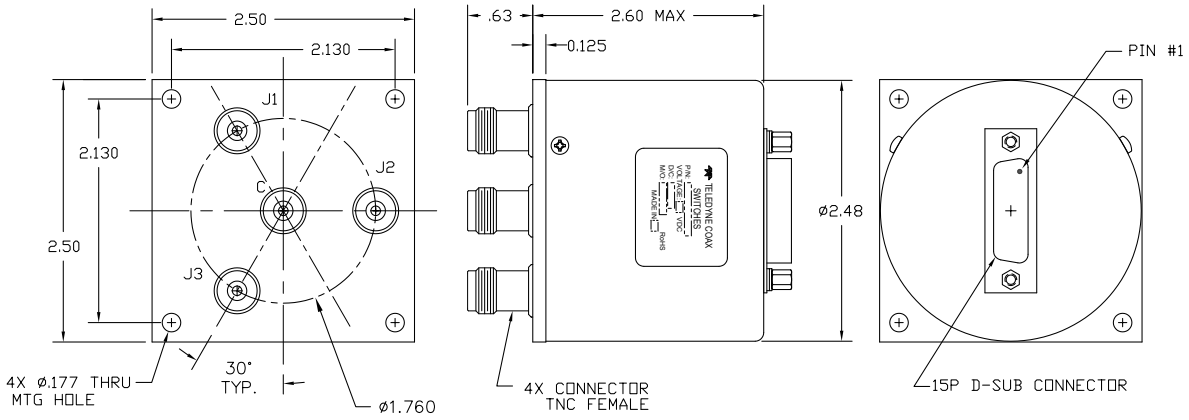


SCHEMATIC



ACTUATION CHARACTERISTICS:

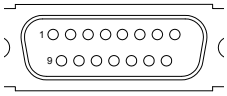
- REQUIRES TWO (2) SEQUENTIAL PULSES (RESET & SET)
- T1 & T2 = 30 mSEC MIN
- T3 = 10 mSEC MIN
- T4 & T5 = 20 mSEC MAX



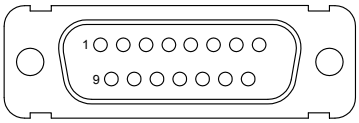
H = 2.60 Max. STD Model
H = 3.13 Max TTL Model

CONNECTOR PINOUT FOR LATCHING SP3T MULTI-THROW SWITCHES

Example	CS-19N630-S	CS-19N63C-S	CS-19N630-TS	CS-19N63C-TS	CS-19N630-TDS	CS-19N63C-TDS
Indicator		Yes		Yes		Yes
TTL			Yes	Yes		
Decoders & TTL					Yes	Yes
PIN NO.	9-Pin	9-Pin	9-Pin	15-Pin	9-Pin	9-Pin
1	Port 1	Port 1	TTL 1	TTL 1	Logic 1	Logic 1
2	Port 2	Port 2	TTL 2	TTL 2	Logic 2	Logic 2
3	Port 3	Port 3	TTL 3	TTL 3	Logic 3	Logic 3
4		E Indicator				E Indicator
5		F Indicator				F Indicator
6		G Indicator				G Indicator
7	Common	Common	Common	Common	Common	Common
8	Reset	Reset	Reset	Reset		D Indicator (COM)
9		D Indicator (COM)	Vsw	Vsw	Vsw	Vsw
10	n/a	n/a	n/a	D Indicator (COM)	n/a	n/a
11				E Indicator		
12				F Indicator		
13				G Indicator		
14						
15						



9-PIN D-SUB CONNECTOR



15-PIN D-SUB CONNECTOR

CONNECTOR PINOUT FOR LATCHING SP4T MULTI-THROW SWITCHES

Example	CS-19N640-S	CS-19N64C-S	CS-19N640-TS	CS-19N64C-TS	CS-19N640-TDS	CS-19N64C-TDS
Indicator		Yes		Yes		Yes
TTL			Yes	Yes		
Decoders & TTL					Yes	Yes
PIN NO.	9-Pin	15-Pin	9-Pin	15-Pin	9-Pin	9-Pin
1	Port 1	Port 1	TTL 1	TTL 1	Logic 1	Logic 1
2	Port 2	Port 2	TTL 2	TTL 2	Logic 2	Logic 2
3	Port 3	Port 3	TTL 3	TTL 3	Logic 3	Logic 3
4	Port 4	Port 4	TTL 4	TTL 4		
5						
6						
7	Common	Common	Common	Common	Common	Common
8	Reset	Reset	Reset	Reset		
9			Vsw	Vsw	Vsw	Vsw
10	n/a	D Indicator (COM)	n/a	D Indicator (COM)	n/a	D Indicator (COM)
11		E Indicator		E Indicator		E Indicator
12		F Indicator		F Indicator		F Indicator
13		G Indicator		G Indicator		G Indicator
14		H Indicator		H Indicator		H Indicator
15						

CONNECTOR PINOUT FOR LATCHING SP5T MULTI-THROW SWITCHES

Example	CS-19N650-S	CS-19N65C-S	CS-19N650-TS	CS-19N65C-TS	CS-19N650-TDS	CS-19N65C-TDS
Indicator		Yes		Yes		Yes
TTL			Yes	Yes		
Decoders & TTL					Yes	Yes
PIN NO.	9-Pin	15-Pin	9-Pin	15-Pin	9-Pin	15-Pin
1	Port 1	Port 1	TTL 1	TTL 1	Logic 1	Logic 1
2	Port 2	Port 2	TTL 2	TTL 2	Logic 2	Logic 2
3	Port 3	Port 3	TTL 3	TTL 3	Logic 3	Logic 3
4	Port 4	Port 4	TTL 4	TTL 4		
5	Port 5	Port 5	TTL 5	TTL 5		
6						
7	Common	Common	Common	Common	Common	Common
8	Reset	Reset	Reset	Reset		
9			Vsw	Vsw	Vsw	Vsw
10	n/a	D Indicator (COM)	n/a	D Indicator (COM)	n/a	D Indicator (COM)
11		E Indicator		E Indicator		E Indicator
12		F Indicator		F Indicator		F Indicator
13		G Indicator		G Indicator		G Indicator
14		H Indicator		H Indicator		H Indicator
15		K Indicator		K Indicator		K Indicator

CONNECTOR PINOUT FOR LATCHING SP6T MULTI-THROW SWITCHES

Example	CS-19N660-S	CS-19N66C-S	CS-19N660-TS	CS-19N66C-TS	CS-19N660-TDS	CS-19N66C-TDS
Indicator		Yes		CONFIGURATION NOT AVAILABLE CONTACT FACTORY		Yes
TTL			Yes			
Decoders & TTL					Yes	Yes
PIN NO.	9-Pin	15-Pin	9-Pin		9-Pin	15-Pin
1	Port 1	Port 1	TTL 1		Logic 1	Logic 1
2	Port 2	Port 2	TTL 2		Logic 2	Logic 2
3	Port 3	Port 3	TTL 3		Logic 3	Logic 3
4	Port 4	Port 4	TTL 4			
5	Port 5	Port 5	TTL 5			
6	Port 6	Port 6	TTL 6			
7	Common	Common	Common		Common	Common
8	Reset	Reset	Reset			Vsw
9		D Indicator (COM)	Vsw		Vsw	D Indicator (COM)
10	n/a	E Indicator	n/a		n/a	E Indicator
11		F Indicator				F Indicator
12		G Indicator				G Indicator
13		H Indicator				H Indicator
14		K Indicator				K Indicator
15		L Indicator				L Indicator

TRUTH TABLE Latching
CCS-19NX3C-T

Logic Input				RF Path				Indicator Switches		
1	2	3	R	J1	J2	J3	Reset	E	F	G
1	0	0	0	On	Off	Off	Off	C	0	0
0	1	0	0	Off	On	Off	Off	0	C	0
0	0	1	0	Off	Off	On	Off	0	0	C

TRUTH TABLE Latching
CCS-19NX3C-TD

Logic Input			RF Path				Indicator Switches		
1	2	3	J1	J2	J3	Reset	E	F	G
0	0	0	On	Off	Off	Off	C	0	0
1	0	0	Off	On	Off	Off	0	C	0
0	1	0	Off	Off	On	Off	0	0	C
0	1	1	Off	Off	Off	Reset	0	0	0
1	1	1	COIL OFF				0	0	0

TRUTH TABLE Latching
CCS-19NX4C-T

Logic Input					RF Path					Indicator Switches			
1	2	3	4	R	J1	J2	J3	J4	Reset	E	F	G	H
1	0	0	0	0	On	Off	Off	Off	Off	C	0	0	0
0	1	0	0	0	Off	On	Off	Off	Off	0	C	0	0
0	0	1	0	0	Off	Off	On	Off	Off	0	0	C	0
0	0	0	1	0	Off	Off	Off	On	Off	0	0	0	C

TRUTH TABLE Latching
CCS-19NX4C-TD

Logic Input			RF Path					Indicator Switches			
1	2	3	J1	J2	J3	J4	Reset	E	F	G	H
0	0	0	On	Off	Off	Off	Off	C	0	0	0
1	0	0	Off	On	Off	Off	Off	0	C	0	0
0	1	0	Off	Off	On	Off	Off	0	0	C	0
1	1	0	Off	Off	Off	On	Off	0	0	0	C
0	1	1	Off	Off	Off	Off	Reset	0	0	0	0
1	1	1	COIL OFF					0	0	0	0

TRUTH TABLE Latching
CCS-19NX5C-T

Logic Input						RF Path						Indicator Switches				
1	2	3	4	5	R	J1	J2	J3	J4	J5	Reset	E	F	G	H	K
1	0	0	0	0	0	On	Off	Off	Off	Off	Off	C	0	0	0	0
0	1	0	0	0	0	Off	On	Off	Off	Off	Off	0	C	0	0	0
0	0	1	0	0	0	Off	Off	On	Off	Off	Off	0	0	C	0	0
0	0	0	1	0	0	Off	Off	Off	On	Off	Off	0	0	0	C	0
0	0	0	0	1	0	Off	Off	Off	Off	On	Off	0	0	0	0	C

TRUTH TABLE Latching
CCS-19NX5C-TD

Logic Input			RF Path						Indicator Switches				
1	2	3	J1	J2	J3	J4	J5	Reset	E	F	G	H	K
0	0	0	On	Off	Off	Off	Off	Off	C	0	0	0	0
1	0	0	Off	On	Off	Off	Off	Off	0	C	0	0	0
0	1	0	Off	Off	On	Off	Off	Off	0	0	C	0	0
1	1	0	Off	Off	Off	On	Off	Off	0	0	0	C	0
0	0	1	Off	Off	Off	Off	On	Off	0	0	0	0	C
0	1	1	Off	Off	Off	Off	Off	Reset	0	0	0	0	0
1	1	1	COIL OFF						0	0	0	0	0

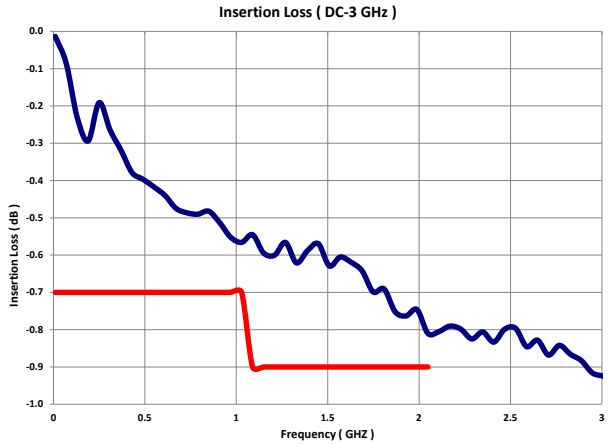
TRUTH TABLE Latching
CCS-19NX6C-T

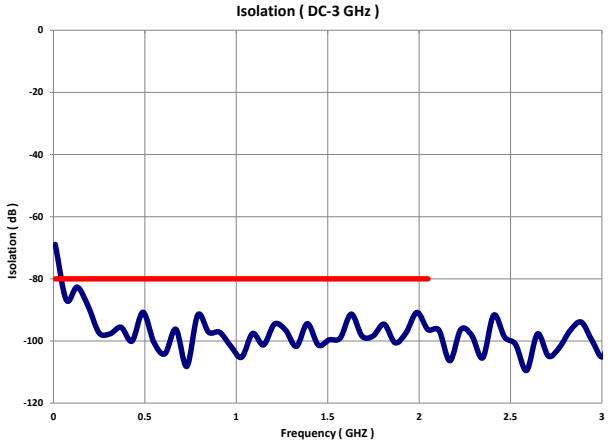
Logic Input							RF Path							Indicator Switches					
1	2	3	4	5	6	R	J1	J2	J3	J4	J5	J6	Reset	E	F	G	H	K	L
1	0	0	0	0	0	0	On	Off	Off	Off	Off	Off	Off	C	0	0	0	0	0
0	1	0	0	0	0	0	Off	On	Off	Off	Off	Off	Off	0	C	0	0	0	0
0	0	1	0	0	0	0	Off	Off	On	Off	Off	Off	Off	0	0	C	0	0	0
0	0	0	1	0	0	0	Off	Off	Off	On	Off	Off	Off	0	0	0	C	0	0
0	0	0	0	1	0	0	Off	Off	Off	Off	On	Off	Off	0	0	0	0	C	0
0	0	0	0	0	1	0	Off	Off	Off	Off	Off	On	Off	0	0	0	0	0	C

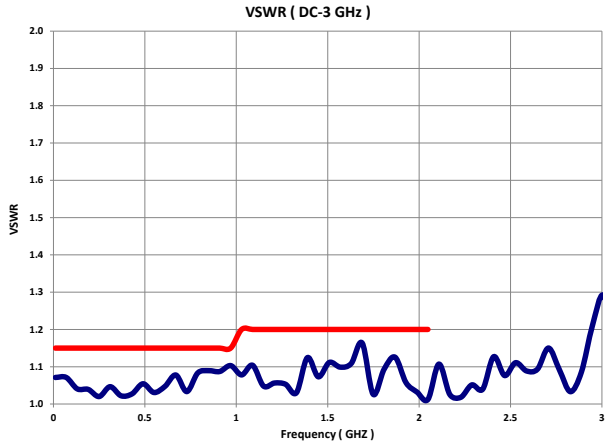
TRUTH TABLE Latching
CCS-19NX6C-TD

Logic Input			RF Path							Indicator Switches					
1	2	3	J1	J2	J3	J4	J5	J6	Reset	E	F	G	H	K	L
0	0	0	On	Off	Off	Off	Off	Off	Off	C	0	0	0	0	0
1	0	0	Off	On	Off	Off	Off	Off	Off	0	C	0	0	0	0
0	1	0	Off	Off	On	Off	Off	Off	Off	0	0	C	0	0	0
1	1	0	Off	Off	Off	On	Off	Off	Off	0	0	0	C	0	0
0	0	1	Off	Off	Off	Off	On	Off	Off	0	0	0	0	C	0
1	0	1	Off	Off	Off	Off	Off	On	Off	0	0	0	0	0	C
0	1	1	Off	Off	Off	Off	Off	Off	Reset	0	0	0	0	0	0
1	1	1	COIL OFF							0	0	0	0	0	0

TYPICAL NARROWBAND RF INSERTION LOSS PERFORMANCE CURVES





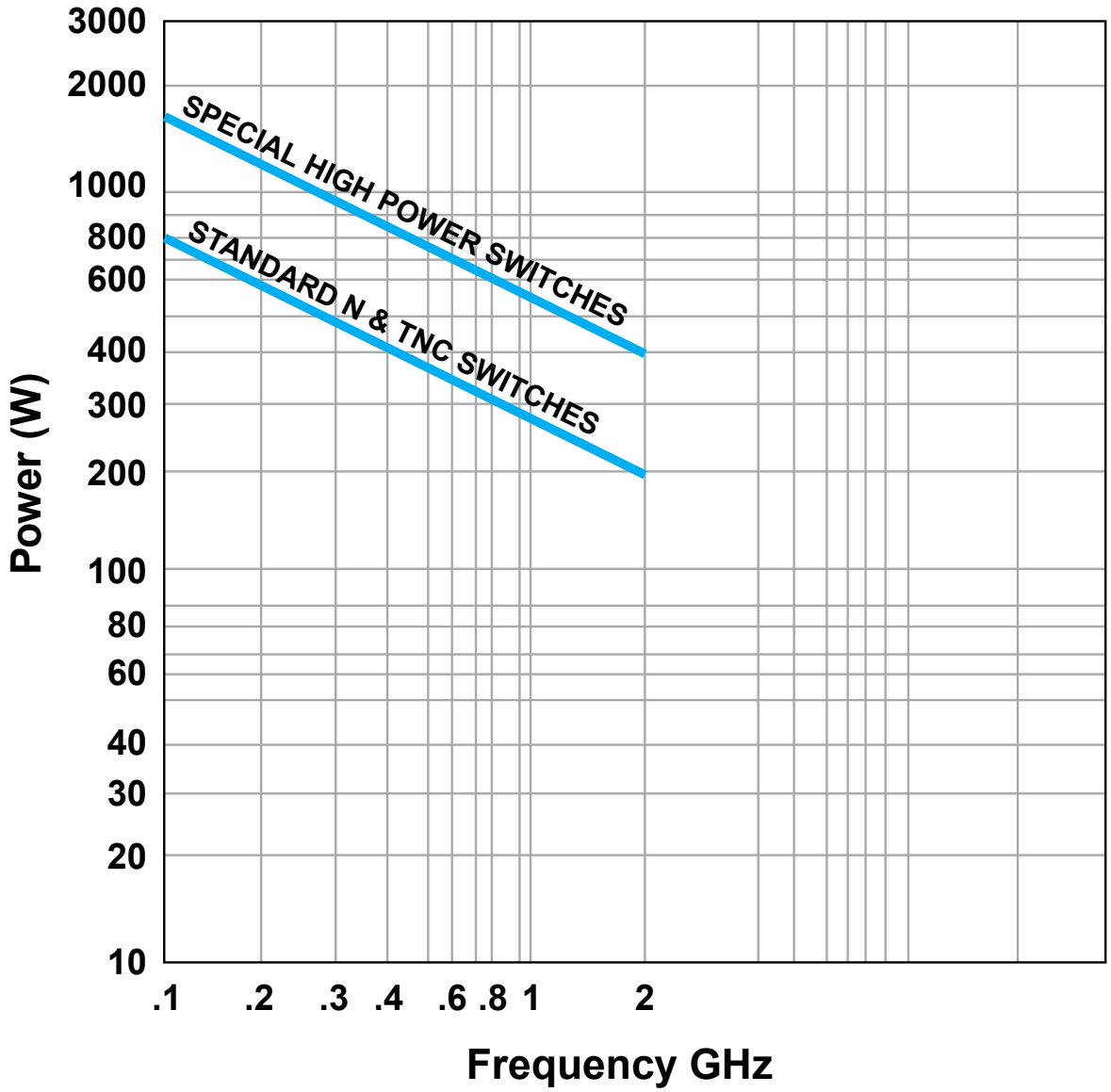


TYPICAL

MAXIMUM TEST LIMIT

TYPICAL POWER PERFORMANCE CURVE

Power Handling vs. Frequency



Estimates based on the following reference conditions:
- Ambient temperature of 40°C or less
- Sea level operation
- Load VSWR of 1.20:1 maximum
- No high-power (hot) switching

Please contact Teledyne Coax Switches for derating factors when applications do not meet the foregoing reference conditions.

GLOSSARY

Actuator
An actuator is the electromechanical mechanism that transfers the RF contacts from one position to another upon DC command.

Arc Suppression Diode
A diode is connected in parallel with the coil. This diode limits the "reverse EMF spike" generated when the coil de-energizes to 0.7 volts. The diode cathode is connected to the positive side of the coil and the anode is connected to the negative side.

Date Code
All switches are marked with either a unique serial number or a date code. Date codes are in accordance with MIL-STD-1285 Paragraph 5.2.5 and consist of four digits. The first two digits define the year and the last two digits define the week of the year (YYWW). Thus, 1032 identifies switches that passed through final inspection during the 32nd week of 2010.

Indicator
Indicators tell the system which position the switch is in. Other names for indicators are telemetry contacts or tellback circuit. Indicators are usually a set of internally mounted DC contacts linked to the actuator. They can be wired to digital input lines, status lights, or interlocks. Unless otherwise specified, the maximum indicator contact rating is 30 Vdc, 50 mA, or 1.5 Watts into a resistive load.

Isolation
Isolation is the measure of the power level at the output connector of an unconnected RF channel as referenced to the power at the input connector. It is specified in dB below the input power level.

Multi-Throw Latching Switch
A multi-throw switch is a switch with one input and three or more output ports. The CCS-19 can switch a microwave signal to any of 2,3,4,5 or 6 output from a single common input.

Switching Time
Switching time is the total interval beginning with the arrival of the leading edge of the command pulse at the switch DC input and ending with the completion of the switch transfer, including contact bounce. It consists of three parts: (1) inductive delay in the coil, (2) transfer time of the physical movement of the contacts, and (3) the bounce time of the RF contacts.

TTL Switch Driver Option
As a special option, switch drivers can be provided for both failsafe and latching switches, which are compatible with industry-standard low-power Schottky TTL circuits.

TD-Option
This option includes a decoder. The 3-bit parallel command is decoded to internally select the appropriate position. See the logic tables. The TD-Option increases the Vsw supply current demand by 50mA max at 28Vdc and +20°C.

Performance Parameters vs Frequency
Generally speaking, the RF performance of coaxial switches is frequency dependent. With increasing frequency, VSWR and insertion loss increase while isolation decreases. All data sheets specify these three parameters as "worst case" at the highest operating frequency. If the switch is to be used over a narrow frequency band, better performance can be achieved.

Actuator Current vs Temperature
The resistance of the actuator coil varies as a function of temperature. There is an inverse relationship between the operating temperature of the switch and the actuator drive current. For switches operating at 28 VDC, the approximate actuator drive current at temperature, T, can be calculated using the equation:

$$I_T = \frac{I_A}{[1 + .00385\ (T-20)]}$$

Where:

I_T = Actuator current at temperature, T

I_A = Room temperature actuator current – see data sheet

T = Temperature of interest in °C

Magnetic Sensitivity
An electro-mechanical switch can be sensitive to ferrous materials and external magnetic fields. Neighboring ferrous materials should be permitted no closer than 0.5 inches and adjacent external magnetic fields should be limited to a flux density of less than 5 Gauss.

LATCHING CCS-19N/CS-19N PART NUMBER LIST

	Part No.		Part No.		Part No.		Part No.
1	CCS-19NX3C	43	CCS-19NX3O-TMS	85	CCS-19NX4O-TDS	127	CCS-19NX5O-TDM
2	CCS-19NX3C-D	44	CCS-19NX3O-TS	86	CCS-19NX4O-TM	128	CCS-19NX5O-TDMS
3	CCS-19NX3C-DM	45	CCS-19NX4C	87	CCS-19NX4O-TMS	129	CCS-19NX5O-TDS
4	CCS-19NX3C-DR	46	CCS-19NX4C-D	88	CCS-19NX4O-TS	130	CCS-19NX5O-TM
5	CCS-19NX3C-DRM	47	CCS-19NX4C-DM	89	CCS-19NX5C	131	CCS-19NX5O-TMS
6	CCS-19NX3C-DRS	48	CCS-19NX4C-DR	90	CCS-19NX5C-D	132	CCS-19NX5O-TS
7	CCS-19NX3C-DS	49	CCS-19NX4C-DRM	91	CCS-19NX5C-DM	133	CCS-19NX6C
8	CCS-19NX3C-M	50	CCS-19NX4C-DRS	92	CCS-19NX5C-DR	134	CCS-19NX6C-D
9	CCS-19NX3C-MS	51	CCS-19NX4C-DS	93	CCS-19NX5C-DRM	135	CCS-19NX6C-DM
10	CCS-19NX3C-R	52	CCS-19NX4C-M	94	CCS-19NX5C-DRS	136	CCS-19NX6C-DR
11	CCS-19NX3C-RM	53	CCS-19NX4C-MS	95	CCS-19NX5C-DS	137	CCS-19NX6C-DRM
12	CCS-19NX3C-RMS	54	CCS-19NX4C-R	96	CCS-19NX5C-M	138	CCS-19NX6C-DRS
13	CCS-19NX3C-RS	55	CCS-19NX4C-RM	97	CCS-19NX5C-MS	139	CCS-19NX6C-DS
14	CCS-19NX3C-S	56	CCS-19NX4C-RMS	98	CCS-19NX5C-R	140	CCS-19NX6C-M
15	CCS-19NX3C-T	57	CCS-19NX4C-RS	99	CCS-19NX5C-RM	141	CCS-19NX6C-MS
16	CCS-19NX3C-TD	58	CCS-19NX4C-S	100	CCS-19NX5C-RMS	142	CCS-19NX6C-R
17	CCS-19NX3C-TDM	39	CCS-19NX4C-T	101	CCS-19NX5C-RS	143	CCS-19NX6C-RM
18	CCS-19NX3C-TDMS	60	CCS-19NX4C-TD	102	CCS-19NX5C-S	144	CCS-19NX6C-RMS
19	CCS-19NX3C-TDS	61	CCS-19NX4C-TDM	103	CCS-19NX5C-T	145	CCS-19NX6C-RS
20	CCS-19NX3C-TM	62	CCS-19NX4C-TDMS	104	CCS-19NX5C-TD	146	CCS-19NX6C-S
21	CCS-19NX3C-TMS	63	CCS-19NX4C-TDS	105	CCS-19NX5C-TDM	147	CCS-19NX6C-T
22	CCS-19NX3C-TS	64	CCS-19NX4C-TM	106	CCS-19NX5C-TDMS	148	CCS-19NX6C-TD
23	CCS-19NX3O	65	CCS-19NX4C-TMS	107	CCS-19NX5C-TDS	149	CCS-19NX6C-TDM
24	CCS-19NX3O-D	66	CCS-19NX4C-TS	108	CCS-19NX5C-TM	150	CCS-19NX6C-TDMS
25	CCS-19NX3O-DM	67	CCS-19NX4O	109	CCS-19NX5C-TMS	151	CCS-19NX6C-TDS
26	CCS-19NX3O-DR	68	CCS-19NX4O-D	110	CCS-19NX5C-TS	152	CCS-19NX6C-TM
27	CCS-19NX3O-DRM	69	CCS-19NX4O-DM	111	CCS-19NX5O	153	CCS-19NX6C-TMS
28	CCS-19NX3O-DRS	70	CCS-19NX4O-DR	112	CCS-19NX5O-D	154	CCS-19NX6C-TS
29	CCS-19NX3O-DS	71	CCS-19NX4O-DRM	113	CCS-19NX5O-DM	155	CCS-19NX6O
30	CCS-19NX3O-M	72	CCS-19NX4O-DRS	114	CCS-19NX5O-DR	156	CCS-19NX6O-D
31	CCS-19NX3O-MS	73	CCS-19NX4O-DS	115	CCS-19NX5O-DRM	157	CCS-19NX6O-DM
32	CCS-19NX3O-R	74	CCS-19NX4O-M	116	CCS-19NX5O-DRS	158	CCS-19NX6O-DR
33	CCS-19NX3O-RM	75	CCS-19NX4O-MS	117	CCS-19NX5O-DS	139	CCS-19NX6O-DRM
34	CCS-19NX3O-RMS	76	CCS-19NX4O-R	118	CCS-19NX5O-M	160	CCS-19NX6O-DRS
35	CCS-19NX3O-RS	77	CCS-19NX4O-RM	119	CCS-19NX5O-MS	161	CCS-19NX6O-DS
36	CCS-19NX3O-S	78	CCS-19NX4O-RMS	120	CCS-19NX5O-R	162	CCS-19NX6O-M
37	CCS-19NX3O-T	79	CCS-19NX4O-RS	121	CCS-19NX5O-RM	163	CCS-19NX6O-MS
38	CCS-19NX3O-TD	80	CCS-19NX4O-S	122	CCS-19NX5O-RMS	164	CCS-19NX6O-R
39	CCS-19NX3O-TDM	81	CCS-19NX4O-T	123	CCS-19NX5O-RS	165	CCS-19NX6O-RM
40	CCS-19NX3O-TDMS	82	CCS-19NX4O-TD	124	CCS-19NX5O-S	166	CCS-19NX6O-RMS
41	CCS-19NX3O-TDS	83	CCS-19NX4O-TDM	125	CCS-19NX5O-T	167	CCS-19NX6O-RS
42	CCS-19NX3O-TM	84	CCS-19NX4O-TDMS	126	CCS-19NX5O-TD	168	CCS-19NX6O-S

* X = 6 (28Vdc), 7 (15Vdc), 8 (12Vdc) and 9 (24Vdc)

LATCHING CCS-19N/CS-19N PART NUMBER LIST

	Part No.		Part No.		Part No.		Part No.
169	CCS-19NX6O-T	**211**	CS-19NX3O-RS	**253**	CS-19NX4O-RM	**295**	CS-19NX5O-MS
170	CCS-19NX6O-TD	**212**	CS-19NX3O-S	**254**	CS-19NX4O-RMS	**296**	CS-19NX5O-R
171	CCS-19NX6O-TDM	**213**	CS-19NX3O-T	**255**	CS-19NX4O-RS	**297**	CS-19NX5O-RM
172	CCS-19NX6O-TDMS	**214**	CS-19NX3O-TD	**256**	CS-19NX4O-S	**298**	CS-19NX5O-RMS
173	CCS-19NX6O-TDS	**215**	CS-19NX3O-TDM	**257**	CS-19NX4O-T	**299**	CS-19NX5O-RS
174	CCS-19NX6O-TM	**216**	CS-19NX3O-TDMS	**258**	CS-19NX4O-TD	**300**	CS-19NX5O-S
175	CCS-19NX6O-TMS	**217**	CS-19NX3O-TDS	**239**	CS-19NX4O-TDM	**301**	CS-19NX5O-T
176	CCS-19NX6O-TS	**218**	CS-19NX3O-TM	**260**	CS-19NX4O-TDMS	**302**	CS-19NX5O-TD
177	CS-19NX3C	**219**	CS-19NX3O-TMS	**261**	CS-19NX4O-TDS	**303**	CS-19NX5O-TDM
178	CS-19NX3C-D	**220**	CS-19NX3O-TS	**262**	CS-19NX4O-TM	**304**	CS-19NX5O-TDMS
179	CS-19NX3C-DM	**221**	CS-19NX4C	**263**	CS-19NX4O-TMS	**305**	CS-19NX5O-TDS
180	CS-19NX3C-DR	**222**	CS-19NX4C-D	**264**	CS-19NX4O-TS	**306**	CS-19NX5O-TM
181	CS-19NX3C-DRM	**223**	CS-19NX4C-DM	**265**	CS-19NX5C	**307**	CS-19NX5O-TMS
182	CS-19NX3C-DRS	**224**	CS-19NX4C-DR	**266**	CS-19NX5C-D	**308**	CS-19NX5O-TS
183	CS-19NX3C-DS	**225**	CS-19NX4C-DRM	**267**	CS-19NX5C-DM	**309**	CS-19NX6C
184	CS-19NX3C-M	**226**	CS-19NX4C-DRS	**268**	CS-19NX5C-DR	**310**	CS-19NX6C-D
185	CS-19NX3C-MS	**227**	CS-19NX4C-DS	**269**	CS-19NX5C-DRM	**311**	CS-19NX6C-DM
186	CS-19NX3C-R	**228**	CS-19NX4C-M	**270**	CS-19NX5C-DRS	**312**	CS-19NX6C-DR
187	CS-19NX3C-RM	**229**	CS-19NX4C-MS	**271**	CS-19NX5C-DS	**313**	CS-19NX6C-DRM
188	CS-19NX3C-RMS	**230**	CS-19NX4C-R	**272**	CS-19NX5C-M	**314**	CS-19NX6C-DRS
189	CS-19NX3C-RS	**231**	CS-19NX4C-RM	**273**	CS-19NX5C-MS	**315**	CS-19NX6C-DS
190	CS-19NX3C-S	**232**	CS-19NX4C-RMS	**274**	CS-19NX5C-R	**316**	CS-19NX6C-M
191	CS-19NX3C-T	**233**	CS-19NX4C-RS	**275**	CS-19NX5C-RM	**317**	CS-19NX6C-MS
192	CS-19NX3C-TD	**234**	CS-19NX4C-S	**276**	CS-19NX5C-RMS	**318**	CS-19NX6C-R
193	CS-19NX3C-TDM	**235**	CS-19NX4C-T	**277**	CS-19NX5C-RS	**319**	CS-19NX6C-RM
194	CS-19NX3C-TDMS	**236**	CS-19NX4C-TD	**278**	CS-19NX5C-S	**320**	CS-19NX6C-RMS
195	CS-19NX3C-TDS	**237**	CS-19NX4C-TDM	**279**	CS-19NX5C-T	**321**	CS-19NX6C-RS
196	CS-19NX3C-TM	**238**	CS-19NX4C-TDMS	**280**	CS-19NX5C-TD	**322**	CS-19NX6C-S
197	CS-19NX3C-TMS	**239**	CS-19NX4C-TDS	**281**	CS-19NX5C-TDM	**323**	CS-19NX6C-T
198	CS-19NX3C-TS	**240**	CS-19NX4C-TM	**282**	CS-19NX5C-TDMS	**324**	CS-19NX6C-TD
199	CS-19NX3O	**241**	CS-19NX4C-TMS	**283**	CS-19NX5C-TDS	**325**	CS-19NX6C-TDM
200	CS-19NX3O-D	**242**	CS-19NX4C-TS	**284**	CS-19NX5C-TM	**326**	CS-19NX6C-TDMS
201	CS-19NX3O-DM	**243**	CS-19NX4O	**285**	CS-19NX5C-TMS	**327**	CS-19NX6C-TDS
202	CS-19NX3O-DR	**244**	CS-19NX4O-D	**286**	CS-19NX5C-TS	**328**	CS-19NX6C-TM
203	CS-19NX3O-DRM	**245**	CS-19NX4O-DM	**287**	CS-19NX5O	**329**	CS-19NX6C-TMS
204	CS-19NX3O-DRS	**246**	CS-19NX4O-DR	**288**	CS-19NX5O-D	**330**	CS-19NX6C-TS
205	CS-19NX3O-DS	**247**	CS-19NX4O-DRM	**289**	CS-19NX5O-DM	**331**	CS-19NX6O
206	CS-19NX3O-M	**248**	CS-19NX4O-DRS	**290**	CS-19NX5O-DR	**332**	CS-19NX6O-D
207	CS-19NX3O-MS	**249**	CS-19NX4O-DS	**291**	CS-19NX5O-DRM	**333**	CS-19NX6O-DM
208	CS-19NX3O-R	**250**	CS-19NX4O-M	**292**	CS-19NX5O-DRS	**334**	CS-19NX6O-DR
209	CS-19NX3O-RM	**251**	CS-19NX4O-MS	**293**	CS-19NX5O-DS	**335**	CS-19NX6O-DRM
210	CS-19NX3O-RMS	**252**	CS-19NX4O-R	**294**	CS-19NX5O-M	**336**	CS-19NX6O-DRS

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LATCHING CCS-19N/CS-19N PART NUMBER LIST

	Part No.
337	CS-19NX6O-DS
338	CS-19NX6O-M
339	CS-19NX6O-MS
340	CS-19NX6O-R
341	CS-19NX6O-RM
342	CS-19NX6O-RMS
343	CS-19NX6O-RS
344	CS-19NX6O-S
345	CS-19NX6O-T
346	CS-19NX6O-TD
347	CS-19NX6O-TDM
348	CS-19NX6O-TDMS
349	CS-19NX6O-TDS
350	CS-19NX6O-TM
351	CS-19NX6O-TMS
352	CS-19NX6O-TS

* X = 6 (28Vdc), 7 (15Vdc), 8 (12Vdc) and 9 (24Vdc)