TELEDYNE
COAX SWITCHES
Everywhereyoulook™

Series CCR-38S/CR-38S

Multi-Throw DC–12 GHz, SP7T & SP8T
Normally Open Coaxial Switch

PART NUMBER	DESCRIPTION
CCR-38S	Commercial Normally Open Multi-throw, DC-12 GHz
CR-38S	Elite Normally Open Multi-throw, DC-12 GHz

The CCR-38S/CR-38S is a broadband, multi-throw, electromechanical coaxial switch designed to switch a microwave signal from a common input to any of 7 or 8 outputs. The characteristic impedance is 50 Ohms. The switches are small using the popular connector spacing on a 1.540" dia. circle. Each position has an individual actuator mechanism allowing random position selection. This also gives the minimum switching time.
With the normally open actuator, all paths are open when the switch is de-energized.

RoHS Compliant

ENVIRONMENTAL AND PHYSICAL CHARACTERISTICS

Operating Temperature Commercial Model, CCR-38S Elite Model, CR-38S	 –25°C to 65°C –40°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	SMA
Humidity (Moisture Seal)	Available
Weight	9 oz. (255.2G) (max.)

ELECTRICAL CHARACTERISTICS

Form Factor	Multi-Throw, break before make				
Frequency Range	DC–12 GHz				
Characteristic Impedance	50 Ohms				
Operate Time	20 ms (max.)				
Release Time	20 ms (max.)				
Actuation Voltage Available	12	15	24	28	V
Actuation Current, max. @ ambient	560	750	345	435	mA

RF SPECIFICATIONS

Frequency	DC–3 GHz	3–6 GHz	6–12 GHz
Insertion Loss, dB, max.	0.20	0.20	0.40
Isolation, dB, min.	70	70	60
VSWR , max.	1.30:1	1.30:1	1.40:1

PART NUMBERING SYSTEM

CCR-38 S 1 8 C - T**

- CCR-38: Series
- S: Connectors
- 1: Actuator Voltage
- 8: Number of Positions
- C: Actuator Type
- T**: Options

CONNECTOR
S: SMA FEMALE

ACTUATOR VOLTAGE
1: 28 VDC NORMALLY OPEN
2: 15 VDC NORMALLY OPEN
3: 12 VDC NORMALLY OPEN
4: 24 VDC NORMALLY OPEN

NUMBER OF POSITIONS
7: SP7T
8: SP8T

ACTUATOR TYPE
0: NO INDICATOR CONTACTS
C: INDICATOR CONTACTS

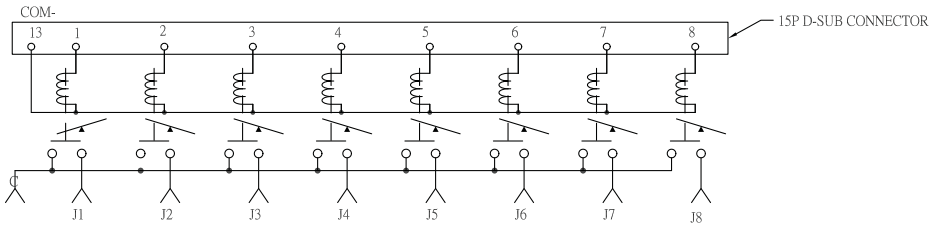
OPTIONS
T: TTL DRIVERS WITH DIODES
D: COIL TRANSIENT SUPPRESSION DIODES
R: POSITIVE + COMMON
S: D-SUB CONNECTOR*
TD: DECODERS AND TTL DRIVERS WITH DIODES
M: MOISTURE SEAL

**SEE PARTS LIST ON PAGE 10-11

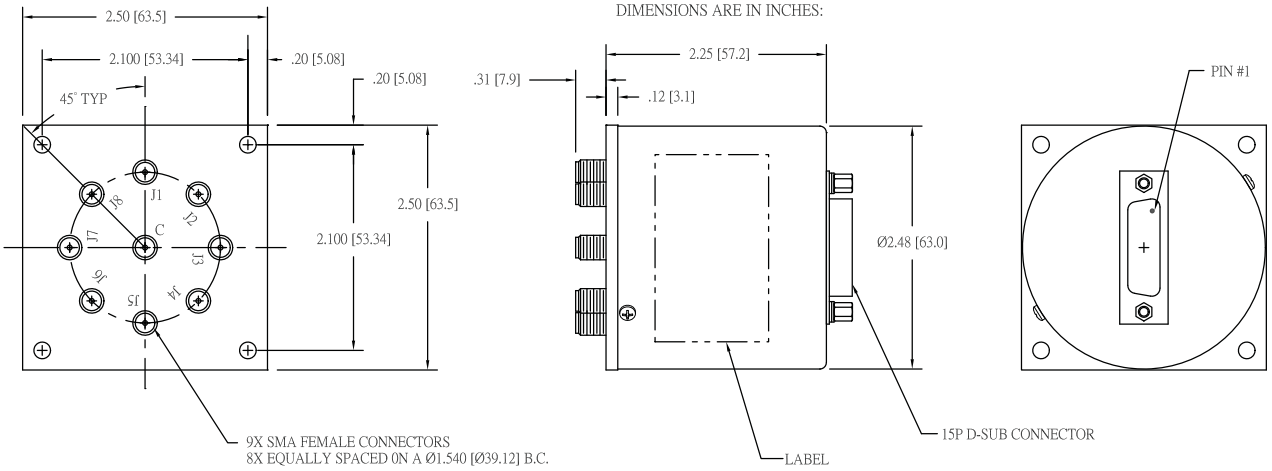
For additional options, please contact factory.

*** D-Sub Connector may be 15 or 25 pin depending on number of throws. (See Connector Pinout page)**

SCHEMATICS AND MECHANICAL OUTLINE

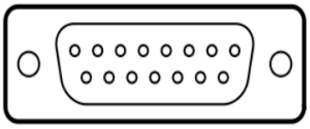


NORMALLY OPEN ON EACH UNUSED POSITION

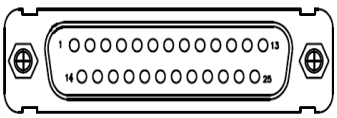


"-S OPTION" 15-PIN D-SUB OR 25-PIN D-SUB CONNECTOR (EXAMPLE: CCR-38S180-S)

CONNECTOR PINOUT FOR NORMALLY OPEN SP7T MULTI-THROW SWITCHES						
EXAMPLE	CCR-38S170-S	CCR-38S17C-S	CCR-38S170-TS	CR-18S17C-TS	CCR-38S170-TDS	CCR-38S17C-TDS
PIN NO	15-PINS	25-PINS	15-PINS	25-PINS	15-PINS	25-PINS
INDICATOR		YES		YES		YES
TTL			YES	YES		
DECODERS & TTL					YES	YES
1	PORT 1	PORT 1	TTL 1	TTL 1	LOGIC 1	LOGIC 1
2	PORT 2	PORT 3	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	PORT 6	PORT 6	TTL 6	TTL 6		
7	PORT 7	PORT 7	TTL 7	TTL 7		
8						
9						
10						
11			Vsw	Vsw	Vsw	Vsw
12						
13	COMMON	COMMON	COMMON	COMMON	COMMON	COMMON
14						
15		D INDICATOR (COM)		D INDICATOR (COM)		D INDICATOR (COM)
16		E INDICATOR		E INDICATOR		E INDICATOR
17		F INDICATOR		F INDICATOR		F INDICATOR
18		G INDICATOR		G INDICATOR		G INDICATOR
19		H INDICATOR		H INDICATOR		H INDICATOR
20		K INDICATOR		K INDICATOR		K INDICATOR
21		L INDICATOR		L INDICATOR		L INDICATOR
22		M INDICATOR		M INDICATOR		M INDICATOR
23						
24						
25						



15-PIN D-SUB CONNECTOR



25-PIN D-SUB CONNECTOR

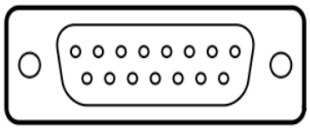
SP7T TRUTH TABLE Normally Open
CCR-38SX7C-T

Logic Input							RF Path							Indicator Switches						
1	2	3	4	5	6	7	J1	J2	J3	J4	J5	J6	J7	E	F	G	H	K	L	M
1	0	0	0	0	0	0	On	Off	Off	Off	Off	Off	Off	C	0	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	0	1	0	0	0	0	Off	Off	On	Off	Off	Off	Off	0	0	C	0	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	0	1	0	0	Off	Off	Off	Off	On	Off	Off	0	0	0	0	C	0	0
0	0	0	0	0	1	0	Off	Off	Off	Off	Off	On	Off	0	0	0	0	0	C	0
0	0	0	0	0	0	1	Off	Off	Off	Off	Off	Off	On	0	0	0	0	0	0	C

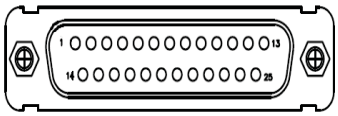
TRUTH TABLE Normally Open
CCR-38SX7C-TD

Logic Input			RF Path							Indicator Switches						
1	2	3	J1	J2	J3	J4	J5	J6	J7	E	F	G	H	K	L	M
0	0	0	On	Off	Off	Off	Off	Off	Off	C	0	0	0	0	0	0
1	0	0	Off	On	Off	Off	Off	Off	Off	0	C	0	0	0	0	0
0	1	0	Off	Off	On	Off	Off	Off	Off	0	0	C	0	0	0	0
1	1	0	Off	Off	Off	On	Off	Off	Off	0	0	0	C	0	0	0
0	0	1	Off	Off	Off	Off	On	Off	Off	0	0	0	0	C	0	0
1	0	1	Off	Off	Off	Off	Off	On	Off	0	0	0	0	0	C	0
0	1	1	Off	Off	Off	Off	Off	Off	On	0	0	0	0	0	0	C
1	1	1	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0

CONNECTOR PINOUT FOR NORMALLY OPEN SP8T MULTI-THROW SWITCHES						
EXAMPLE	CCR-38S180-S	CCR-38S18C-S	CCR-38S180-TS	CCR-38S18C-TS	CCR-38S180-TDS	CCR-38S18C-TDS
PIN NO	15-PINS	25-PINS	15-PINS	25-PINS	15-PINS	25-PINS
INDICATOR		YES		YES		YES
TTL			YES	YES		
DECODERS & TTL					YES	YES
1	PORT 1	PORT 1	TTL 1	TTL 1	LOGIC 1	LOGIC 1
2	PORT 2	PORT 3	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	LOGIC 4	LOGIC 4
5	PORT 5	PORT 5	TTL 5	TTL 5		
6	PORT 6	PORT 6	TTL 6	TTL 6		
7	PORT 7	PORT 7	TTL 7	TTL 7		
8	PORT 8	PORT 8	TTL 8	TTL 8		
9						
10						
11			V_{SW}	V_{SW}	V_{SW}	V_{SW}
12						
13	COMMON	COMMON	COMMON	COMMON	COMMON	COMMON
14						
15		D INDICATOR (COM)		D INDICATOR (COM)		D INDICATOR (COM)
16		E INDICATOR		E INDICATOR		E INDICATOR
17		F INDICATOR		F INDICATOR		F INDICATOR
18		G INDICATOR		G INDICATOR		G INDICATOR
19		H INDICATOR		H INDICATOR		H INDICATOR
20		K INDICATOR		K INDICATOR		K INDICATOR
21		L INDICATOR		L INDICATOR		L INDICATOR
22		M INDICATOR		M INDICATOR		M INDICATOR
23		N INDICATOR		N INDICATOR		N INDICATOR
24						
25						



15-PIN D-SUB CONNECTOR



25-PIN D-SUB CONNECTOR

SP8T TRUTH TABLE Normally Open
CCR-38SX8C-T

Logic Input								RF Path								Indicator Switches							
1	2	3	4	5	6	7	8	J1	J2	J3	J4	J5	J6	J7	J8	E	F	G	H	K	L	M	N
1	0	0	0	0	0	0	0	On	Off	Off	Off	Off	Off	Off	Off	C	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	Off	On	Off	Off	Off	Off	Off	Off	0	C	0	0	0	0	0	0
0	0	1	0	0	0	0	0	Off	Off	On	Off	Off	Off	Off	Off	0	0	C	0	0	0	0	0
0	0	0	1	0	0	0	0	Off	Off	Off	On	Off	Off	Off	Off	0	0	0	C	0	0	0	0
0	0	0	0	1	0	0	0	Off	Off	Off	Off	On	Off	Off	Off	0	0	0	0	C	0	0	0
0	0	0	0	0	1	0	0	Off	Off	Off	Off	Off	On	Off	Off	0	0	0	0	0	C	0	0
0	0	0	0	0	0	1	0	Off	Off	Off	Off	Off	Off	On	Off	0	0	0	0	0	0	C	0
0	0	0	0	0	0	0	1	Off	Off	Off	Off	Off	Off	Off	On	0	0	0	0	0	0	0	C

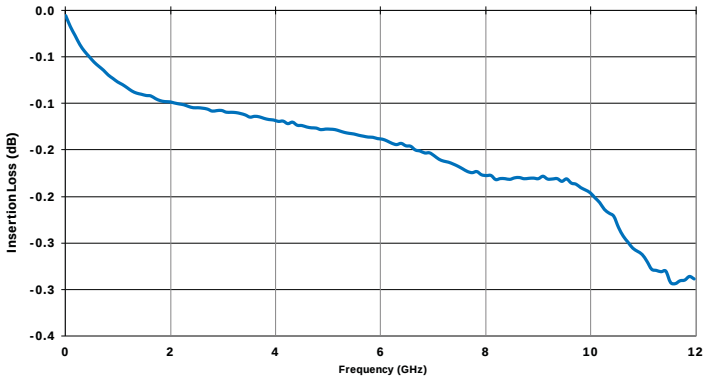
TRUTH TABLE Normally Open
CCR-38SX8C-TD

Logic Input				RF Path								Indicator Switches							
1	2	3	4	J1	J2	J3	J4	J5	J6	J7	J8	E	F	G	H	K	L	M	N
0	0	0	0	On	Off	Off	Off	Off	Off	Off	Off	C	0	0	0	0	0	0	0
1	0	0	0	Off	On	Off	Off	Off	Off	Off	Off	0	C	0	0	0	0	0	0
0	1	0	0	Off	Off	On	Off	Off	Off	Off	Off	0	0	C	0	0	0	0	0
1	1	0	0	Off	Off	Off	On	Off	Off	Off	Off	0	0	0	C	0	0	0	0
0	0	1	0	Off	Off	Off	Off	On	Off	Off	Off	0	0	0	0	C	0	0	0
1	0	1	0	Off	Off	Off	Off	Off	On	Off	Off	0	0	0	0	0	C	0	0
0	1	1	0	Off	Off	Off	Off	Off	Off	On	Off	0	0	0	0	0	0	C	0
1	1	1	0	Off	Off	Off	Off	Off	Off	Off	On	0	0	0	0	0	0	0	C
0	0	0	1	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0

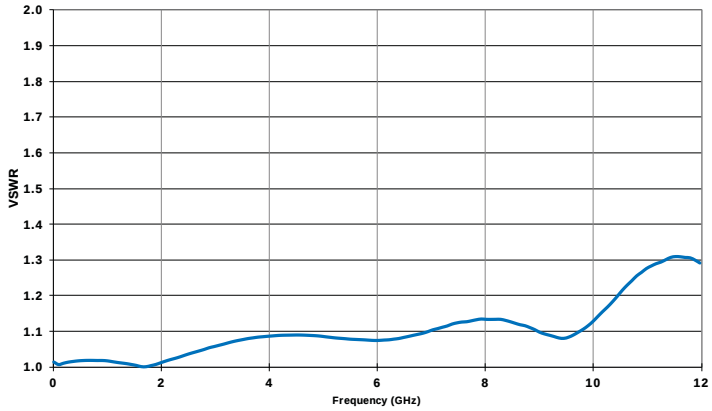
RF NOTES

TYPICAL RF PERFORMANCE CURVES

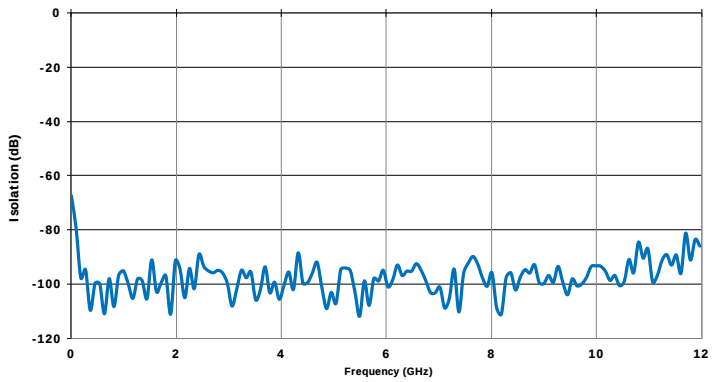
Insertion Loss (DC-12GHz)



VSWR (DC-12GHz)

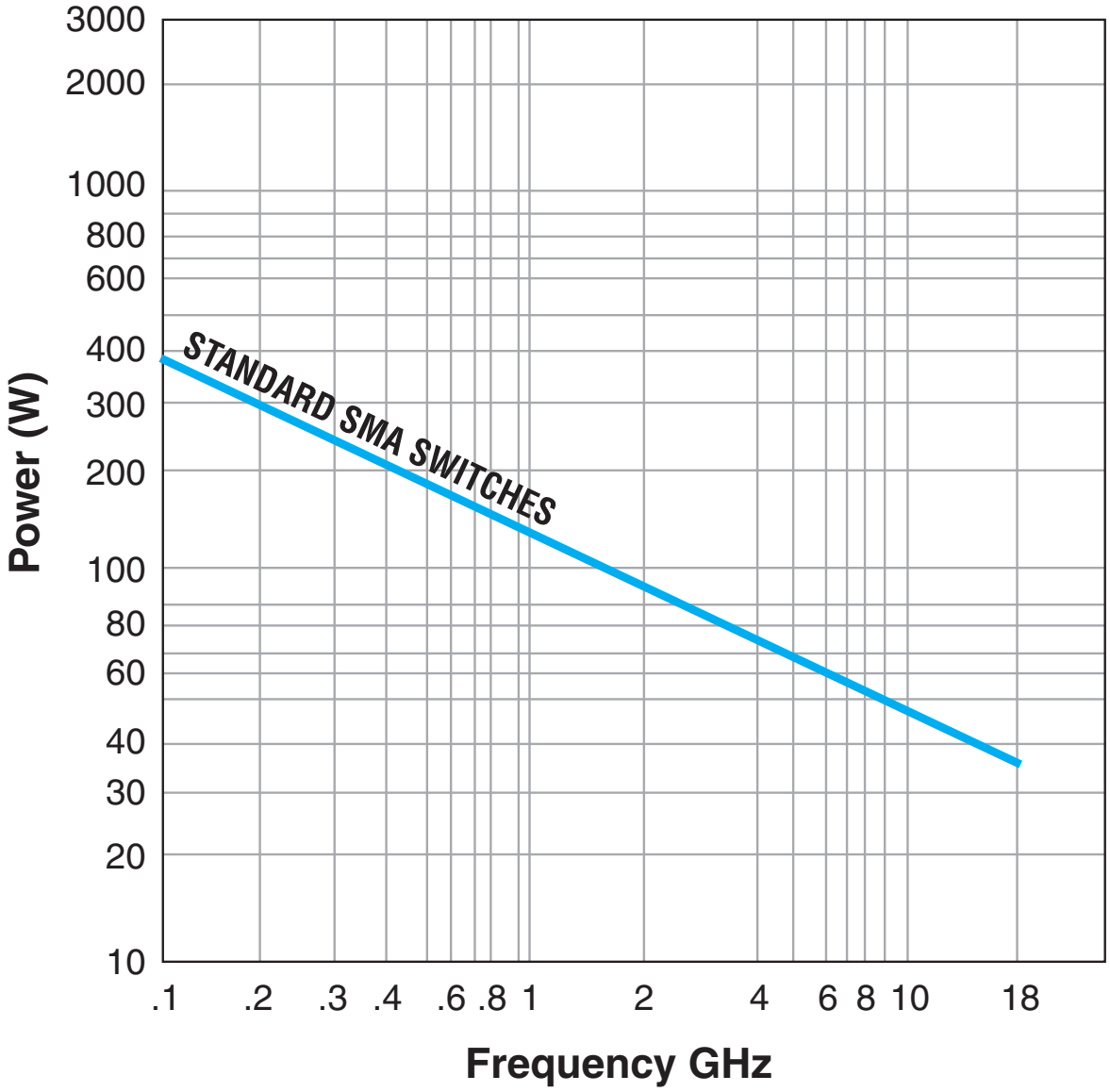


Isolation (DC-12GHz)



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 Switch
A multi-throw switch is a switch with one input and three or more output ports. The CCR-38 can switch a microwave signal to any of 8 outputs 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 4-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.

NORMALLY OPEN CCR-38S PART NUMBER LIST

	Part No.		Part No.		Part No.
1	CCR-38SX7C	43	CCR-38SX70	85	CCR-38SX8C
2	CCR-38SX7C-D	44	CCR-38SX70-D	86	CCR-38SX8C-D
3	CCR-38SX7C-DM	45	CCR-38SX70-DM	87	CCR-38SX8C-DM
4	CCR-38SX7C-M	46	CCR-38SX70-M	88	CCR-38SX8C-M
5	CCR-38SX7C-MS	47	CCR-38SX70-MS	89	CCR-38SX8C-MS
6	CCR-38SX7C-S	48	CCR-38SX70-S	90	CCR-38SX8C-S
7	CCR-38SX7C-T	49	CCR-38SX70-T	91	CCR-38SX8C-T
8	CCR-38SX7C-TD	50	CCR-38SX70-TD	92	CCR-38SX8C-TD
9	CCR-38SX7C-TDM	51	CCR-38SX70-TDM	93	CCR-38SX8C-TDM
10	CCR-38SX7C-TDMS	52	CCR-38SX70-TDMS	94	CCR-38SX8C-TDMS
11	CCR-38SX7C-TDS	53	CCR-38SX70-TDS	95	CCR-38SX8C-TDS
12	CCR-38SX7C-TM	54	CCR-38SX70-TM	96	CCR-38SX8C-TM
13	CCR-38SX7C-TMS	55	CCR-38SX70-TMS	97	CCR-38SX8C-TMS
14	CCR-38SX7C-TS	56	CCR-38SX70-TS	98	CCR-38SX8C-TS
15	CCR-38SX70	57	CCR-38SX8C	99	CCR-38SX80
16	CCR-38SX70-D	58	CCR-38SX8C-D	100	CCR-38SX80-D
17	CCR-38SX70-DM	59	CCR-38SX8C-DM	101	CCR-38SX80-DM
18	CCR-38SX70-M	60	CCR-38SX8C-M	102	CCR-38SX80-M
19	CCR-38SX70-MS	61	CCR-38SX8C-MS	103	CCR-38SX80-MS
20	CCR-38SX70-S	62	CCR-38SX8C-S	104	CCR-38SX80-S
21	CCR-38SX70-T	63	CCR-38SX8C-T	105	CCR-38SX80-T
22	CCR-38SX70-TD	64	CCR-38SX8C-TD	106	CCR-38SX80-TD
23	CCR-38SX70-TDM	65	CCR-38SX8C-TDM	107	CCR-38SX80-TDM
24	CCR-38SX70-TDMS	66	CCR-38SX8C-TDMS	108	CCR-38SX80-TDMS
25	CCR-38SX70-TDS	67	CCR-38SX8C-TDS	109	CCR-38SX80-TDS
26	CCR-38SX70-TM	68	CCR-38SX8C-TM	110	CCR-38SX80-TM
27	CCR-38SX70-TMS	69	CCR-38SX8C-TMS	111	CCR-38SX80-TMS
28	CCR-38SX70-TS	70	CCR-38SX8C-TS	112	CCR-38SX80-TS
29	CCR-38SX7C	71	CCR-38SX80		
30	CCR-38SX7C-D	72	CCR-38SX80-D		
31	CCR-38SX7C-DM	73	CCR-38SX80-DM		
32	CCR-38SX7C-M	74	CCR-38SX80-M		
33	CCR-38SX7C-MS	75	CCR-38SX80-MS		
34	CCR-38SX7C-S	76	CCR-38SX80-S		
35	CCR-38SX7C-T	77	CCR-38SX80-T		
36	CCR-38SX7C-TD	78	CCR-38SX80-TD		
37	CCR-38SX7C-TDM	79	CCR-38SX80-TDM		
38	CCR-38SX7C-TDMS	80	CCR-38SX80-TDMS		
39	CCR-38SX7C-TDS	81	CCR-38SX80-TDS		
40	CCR-38SX7C-TM	82	CCR-38SX80-TM		
41	CCR-38SX7C-TMS	83	CCR-38SX80-TMS		
42	CCR-38SX7C-TS	84	CCR-38SX80-TS		

* X = 1 (28Vdc), 2 (15Vdc), 3 (12Vdc) and 4 (24Vdc)

NORMALLY OPEN CR-38S PART NUMBER LIST

	Part No.		Part No.		Part No.
1	CR-38SX7C	43	CR-38SX70	85	CR-38SX8C
2	CR-38SX7C-D	44	CR-38SX70-D	86	CR-38SX8C-D
3	CR-38SX7C-DM	45	CR-38SX70-DM	87	CR-38SX8C-DM
4	CR-38SX7C-M	46	CR-38SX70-M	88	CR-38SX8C-M
5	CR-38SX7C-MS	47	CR-38SX70-MS	89	CR-38SX8C-MS
6	CR-38SX7C-S	48	CR-38SX70-S	90	CR-38SX8C-S
7	CR-38SX7C-T	49	CR-38SX70-T	91	CR-38SX8C-T
8	CR-38SX7C-TD	50	CR-38SX70-TD	92	CR-38SX8C-TD
9	CR-38SX7C-TDM	51	CR-38SX70-TDM	93	CR-38SX8C-TDM
10	CR-38SX7C-TDMS	52	CR-38SX70-TDMS	94	CR-38SX8C-TDMS
11	CR-38SX7C-TDS	53	CR-38SX70-TDS	95	CR-38SX8C-TDS
12	CR-38SX7C-TM	54	CR-38SX70-TM	96	CR-38SX8C-TM
13	CR-38SX7C-TMS	55	CR-38SX70-TMS	97	CR-38SX8C-TMS
14	CR-38SX7C-TS	56	CR-38SX70-TS	98	CR-38SX8C-TS
15	CR-38SX70	57	CR-38SX8C	99	CR-38SX80
16	CR-38SX70-D	58	CR-38SX8C-D	100	CR-38SX80-D
17	CR-38SX70-DM	59	CR-38SX8C-DM	101	CR-38SX80-DM
18	CR-38SX70-M	60	CR-38SX8C-M	102	CR-38SX80-M
19	CR-38SX70-MS	61	CR-38SX8C-MS	103	CR-38SX80-MS
20	CR-38SX70-S	62	CR-38SX8C-S	104	CR-38SX80-S
21	CR-38SX70-T	63	CR-38SX8C-T	105	CR-38SX80-T
22	CR-38SX70-TD	64	CR-38SX8C-TD	106	CR-38SX80-TD
23	CR-38SX70-TDM	65	CR-38SX8C-TDM	107	CR-38SX80-TDM
24	CR-38SX70-TDMS	66	CR-38SX8C-TDMS	108	CR-38SX80-TDMS
25	CR-38SX70-TDS	67	CR-38SX8C-TDS	109	CR-38SX80-TDS
26	CR-38SX70-TM	68	CR-38SX8C-TM	110	CR-38SX80-TM
27	CR-38SX70-TMS	69	CR-38SX8C-TMS	111	CR-38SX80-TMS
28	CR-38SX70-TS	70	CR-38SX8C-TS	112	CR-38SX80-TS
29	CR-38SX7C	71	CR-38SX80		
30	CR-38SX7C-D	72	CR-38SX80-D		
31	CR-38SX7C-DM	73	CR-38SX80-DM		
32	CR-38SX7C-M	74	CR-38SX80-M		
33	CR-38SX7C-MS	75	CR-38SX80-MS		
34	CR-38SX7C-S	76	CR-38SX80-S		
35	CR-38SX7C-T	77	CR-38SX80-T		
36	CR-38SX7C-TD	78	CR-38SX80-TD		
37	CR-38SX7C-TDM	79	CR-38SX80-TDM		
38	CR-38SX7C-TDMS	80	CR-38SX80-TDMS		
39	CR-38SX7C-TDS	81	CR-38SX80-TDS		
40	CR-38SX7C-TM	82	CR-38SX80-TM		
41	CR-38SX7C-TMS	83	CR-38SX80-TMS		
42	CR-38SX7C-TS	84	CR-38SX80-TS		

* X = 1 (28Vdc), 2 (15Vdc), 3 (12Vdc) and 4 (24Vdc)

LifeElectronics
Живое партнерство

ООО «ЛайфЭлектроникс» **“LifeElectronics” LLC**

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- *Конкурентоспособные цены и скидки постоянным клиентам.*
- *Специальные условия для постоянных клиентов.*
- *Подбор аналогов.*
- *Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.*

- *Приемлемые сроки поставки, возможна ускоренная поставка.*
- *Доставку товара в любую точку России и стран СНГ.*
- *Комплексную поставку.*
- *Работу по проектам и поставку образцов.*
- *Формирование склада под заказчика.*

- *Сертификаты соответствия на поставляемую продукцию (по желанию клиента).*
- *Тестирование поставляемой продукции.*
- *Поставку компонентов, требующих военную и космическую приемку.*
- *Входной контроль качества.*
- *Наличие сертификата ISO.*

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- *Регистрацию проекта у производителя компонентов.*
- *Техническую поддержку проекта.*
- *Защиту от снятия компонента с производства.*
- *Оценку стоимости проекта по компонентам.*
- *Изготовление тестовой платы монтаж и пусконаладочные работы.*

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