

Series CCT-59S/CT-59S Multi-Throw DC-26.5 GHz

Latching Coaxial Switch

BoHS Cor

PART NUMBER DESCRIPTION

| CCT-59S | Commercial Latching Multi-throw, DC-26.5GHz |
|---------|---------------------------------------------|
| CT-59S | Elite Latching Multi-throw, DC-26.5GHz |

The CCT-59S/CT-59S is an Internally Terminated 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. Internal terminations provide an impedence match for the unselected ports. The switches are small using the popular connector spacing on a 1.062" dia. circle. Each position has an individual actuator mechanism allowing random position selection. This also minimizes switching time.

The CCT-59S/CT-59S 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.

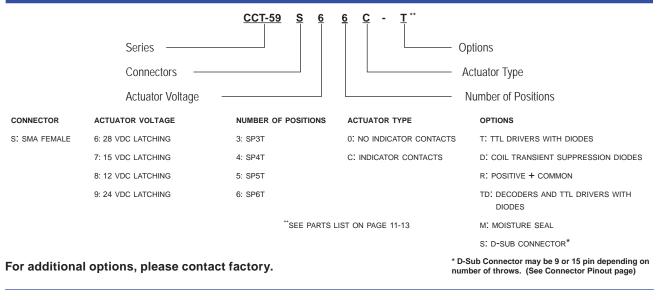


| ENVIRONMENTAL AND PHYSICAL CH | IARACTERISTICS |
|---------------------------------------------------------------------------|--------------------------------------|
| Operating Temperature Commercial Model, CCT-59S Elite Model, CT-59S | −40°C to 65°C −55°C to 85°C |
| Vibration (MIL-STD-202 Method 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 | 5,000,000 cycles 1,000,000 cycles |
| Connector Type | SMA |
| Humidity (Moisture Seal) | Available |
| Weight | 6 oz. (170.1g) (max.) |

| ELECTRICAL CHARACTER | RISTICS | | | | | |
|--------------------------------------|---------|-----------------|-------|-----|-----|----|
| Form Factor | | Multi- break | | | 9 | |
| Frequency Range CCT-59S CT-59S | | DC-2 DC-2 | | | | |
| Characteristic Impedance | | 50 Oh | ms | | | |
| 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 |

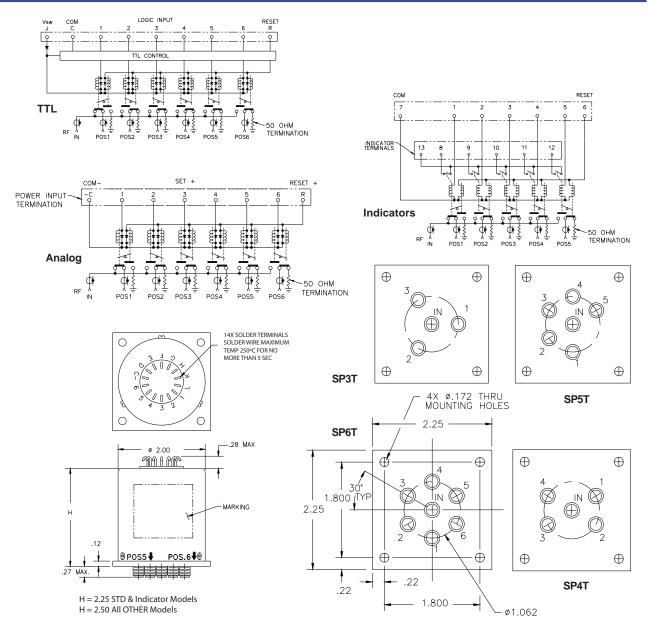
| PERFORMANCE CHA | RACTERISTICS | | | | | | |
|--------------------------|--------------|---------|----------|-----------|-----------|-----------|-------------|
| Frequency | DC-4 GHz | 4–8 GHz | 8–12 GHz | 12–16 GHz | 16-20 GHz | 20-24 GHz | 24-26.5 GHz |
| Insertion Loss, dB, max. | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.8 |
| Isolation, dB, min. | 80 | 80 | 80 | 80 | 75 | 70 | 70 |
| VSWR , max. | 1.05:1 | 1.1:1 | 1.2:1 | 1.2:1 | 1.2:1 | 1.2:1 | 1.7:1 |

PART NUMBERING SYSTEM





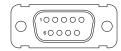
SCHEMATICS AND MECHANICAL OUTLINE



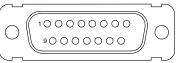
"-S OPTION" 9-PIN D-SUB OR 15-PIN D-MICRO CONNECTOR (EXAMPLE: CCT-598660-S)



| EXAMPLE | CT-59S630-S | CT-59S63C-S | CT-59S630-TS | CT-59S63C-TS | CT-59S630-TDS | CT-59S63C-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 | | | | D INDICATOR (COM) | | | |
| 11 | | | | E INDICATOR | | | |
| 12 | N/A | N/A | | F INDICATOR | | | |
| 13 | N/A | N/A | N/A | G INDICATOR | N/A | N/A | |
| 14 | | | | | | | |
| 15 | | | | | | | |



9-PIN D-SUB CONNECTOR



15-PIN D-SUB CONNECTOR

| CONNECTOR | | R LATCHING SP4 | T MULTI-THROV | SWITCHES | | |
|----------------|-------------|-------------------|---------------|-------------------|---------------|-------------------|
| Example | CT-59S640-S | CT-59S64C-S | CT-59S640-TS | CT-59S64C-TS | CT-59S640-TDS | CT-59S64C-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 | | D INDICATOR (COM) | | D INDICATOR (COM) | | D INDICATOR (COM) |
| 11 | | E INDICATOR | | E INDICATOR | | E INDICATOR |
| 12 | N/A | F INDICATOR | N/A | F INDICATOR | N/A | F INDICATOR |
| 13 | N/A | G INDICATOR | N/A | G INDICATOR | N/A | G INDICATOR |
| 14 | | H INDICATOR | | H INDICATOR | | H INDICATOR |
| 15 | | | | | | |

| CONNECTOR | | R LATCHING SP5 | T MULTI-THROW | SWITCHES | | |
|----------------|-------------|-------------------|---------------|-------------------|---------------|------------------|
| EXAMPLE | CT-59S650-S | CT-59S65C-S | CT-59S650-TS | CT-59S65C-TS | CT-59S650-TDS | CT-59S65C-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 | | D INDICATOR (COM) | | D INDICATOR (COM) | | D INDICATOR (COM |
| 11 | | E INDICATOR | | E INDICATOR | | E INDICATOR |
| 12 | N/A | F INDICATOR | N/A | F INDICATOR | N/A | F INDICATOR |
| 13 | N/A | G INDICATOR | N/A | G INDICATOR | N/A | G INDICATOR |
| 14 | | H INDICATOR | | H INDICATOR | | H INDICATOR |
| 15 | | K INDICATOR | | K INDICATOR | | K INDICATOR |

| CONNECTOR | | R LATCHING SPE | T MULTI-THROW | SWITCHES | | | | |
|----------------|-------------|-------------------|---------------|-----------------|---------------|-------------------|--|--|
| Example | CT-59S660-S | CT-59S66C-S | CT-59S660-TS | CT-59S66C-TS | CT-59S660-TDS | CT-59S66C-TDS | | |
| INDICATOR | | Yes | | | | 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 | CONFIGURATION | | | | |
| 6 | Port 6 | Port 6 | TTL 6 | NOT AVAILABLE | NOT AVAILABLE | NOT AVAILABLE | | |
| 7 | COMMON | COMMON | COMMON | CONTACT FACTORY | COMMON | COMMON | | |
| 8 | Reset | Reset | Reset | | | Vsw | | |
| 9 | | D INDICATOR (COM) | Vsw | | Vsw | D INDICATOR (COM) | | |
| 10 | | E INDICATOR | | | | E INDICATOR | | |
| 11 | | F INDICATOR | | | | F INDICATOR | | |
| 12 | N/A | G INDICATOR | N/A | | N/A | G INDICATOR | | |
| 13 | N/A | H INDICATOR | N/A | | N/A | H INDICATOR | | |
| 14 | | K INDICATOR | | | | K INDICATOR | | |
| 15 | | L INDICATOR | | | | L INDICATOR | | |

Series CCT-59S/CT-59S

Multi-Throw DC-26.5 GHz Latching Coaxial Switch



| TRUTH TABLE Latching CCT-59SX3C-T | | | | | | | | | | | | |
|-------------------------------------------|---|---|---|--|-----|-----|-----|-------|--|---|---|---|
| Logic RF Path Indicator Input Switches | | | | | | | | | | | | |
| 1 | 2 | 3 | R | | J1 | J2 | J3 | Reset | | Е | F | G |
| 1 | 0 | 0 | 0 | | On | Off | Off | Off | | С | 0 | 0 |
| 0 | 1 | 0 | 0 | | Off | On | Off | Off | | 0 | С | 0 |
| 0 | 0 | 1 | 0 | | Off | Off | On | Off | | 0 | 0 | С |

| | TH TAE | BLE Lat BC-TD | ching | | | | | | |
|------------|--------|------------------|-------|--------|------|-------|-------------------|---|---|
| Lo: Inp | | | I | RF Pat | h | | ndicato witche | | |
| 1 | 2 | 3 | J1 | J2 | J3 | Reset | Е | F | G |
| 0 | 0 | 0 | On | Off | Off | Off | С | 0 | 0 |
| 1 | 0 | 0 | Off | On | Off | Off | 0 | С | 0 |
| 0 | 1 | 0 | Off | Off | On | Off | 0 | 0 | С |
| | | | | | | | | | |
| 0 | 1 | 1 | Off | Off | Off | Reset | 0 | 0 | 0 |
| 1 | 1 | 1 | | CO | LOFF | - | 0 | 0 | 0 |
| | | | | | | | | | |

| | TH TAE 59SX4 | | tching | | | | | | | | | | | |
|----|-----------------|-----|--------|---|---|-----|-----|------|-----|-------|---|---|---------------|---|
| Lo | gic Inp | out | | | | | RFI | Path | | | | | cator ches | |
| 1 | 2 | 3 | 4 | R | | J1 | J2 | J3 | J4 | Reset | Е | F | G | Н |
| 1 | 0 | 0 | 0 | 0 | | On | Off | Off | Off | Off | С | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 0 | - | Off | On | Off | Off | Off | 0 | С | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | - | Off | Off | On | Off | Off | 0 | 0 | С | 0 |
| 0 | 0 | 0 | 1 | 0 | - | Off | Off | Off | On | Off | 0 | 0 | 0 | С |

| Logic Input 1 2 3 0 0 0 1 0 0 | .atching) | | | | | |
|-------------------------------------|-----------------|-------|---|---|--------------|---|
| 0 0 0 | RF Path | | | | ator ches | |
| | J1 J2 J3 J4 | Reset | Е | F | G | Н |
| 1 0 0 | On Off Off Off | Off | С | 0 | 0 | 0 |
| | Off On Off Off | Off | 0 | С | 0 | 0 |
| 0 1 0 | Off Off On Off | Off | 0 | 0 | С | 0 |
| 1 1 0 | Off Off Off On | Off | 0 | 0 | 0 | С |
| | | | | | | |
| 0 1 1 | Off Off Off Off | Reset | 0 | 0 | 0 | 0 |
| 1 1 1 | COIL OFF | | 0 | 0 | 0 | 0 |



| | TH TAE | BLE La iC-T | Itching | | | | | | | | | | | | | |
|---|-----------|----------------|---------|---|---|-----|-----|---------|-----|-----|-------|---|--------|---------|---------|---|
| L | ogic Inpu | ut | | | | | | RF Path | ı | | | | Indica | ator Sw | vitches | |
| 1 | 2 | 3 | 4 | 5 | R | J1 | J2 | J3 | J4 | J5 | Reset | Е | F | G | н | К |
| 1 | 0 | 0 | 0 | 0 | 0 | On | Off | Off | Off | Off | Off | С | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 0 | 0 | Off | On | Off | Off | Off | Off | 0 | С | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 | Off | Off | On | Off | Off | Off | 0 | 0 | С | 0 | 0 |
| 0 | 0 | 0 | 1 | 0 | 0 | Off | Off | Off | On | Off | Off | 0 | 0 | 0 | С | 0 |
| 0 | 0 | 0 | 0 | 1 | 0 | Off | Off | Off | Off | On | Off | 0 | 0 | 0 | 0 | С |

| | TH TAE | BLE Lat iC-TD | ching | | | | | | | | | | | | | |
|-------------|--------|------------------|-------|----------|---------|-----|-----|-------|-----|--------------------|---|---|---|---|--|--|
| Logic Input | | | | | RF Path | ı | | | | Indicator Switches | | | | | | |
| 1 | 2 | 3 | J1 | J2 | J3 | J4 | J5 | Reset | | Е | F | G | н | К | | |
| 0 | 0 | 0 | On | Off | Off | Off | Off | Off | | С | 0 | 0 | 0 | 0 | | |
| 1 | 0 | 0 | Off | On | Off | Off | Off | Off | | 0 | С | 0 | 0 | 0 | | |
| 0 | 1 | 0 | Off | Off | On | Off | Off | Off | | 0 | 0 | С | 0 | 0 | | |
| 1 | 1 | 0 | Off | Off | Off | On | Off | Off | | 0 | 0 | 0 | С | 0 | | |
| 0 | 0 | 1 | Off | Off | Off | Off | On | Off | | 0 | 0 | 0 | 0 | С | | |
| | | | | | | | | | | | | | | | | |
| 0 | 1 | 1 | Off | Off | Off | Off | Off | Reset | | 0 | 0 | 0 | 0 | 0 | | |
| 1 | 1 | 1 | | COIL OFF | | | | | | 0 | 0 | 0 | 0 | 0 | | |
| | | | | | | | | | - 1 | | | | | | | |

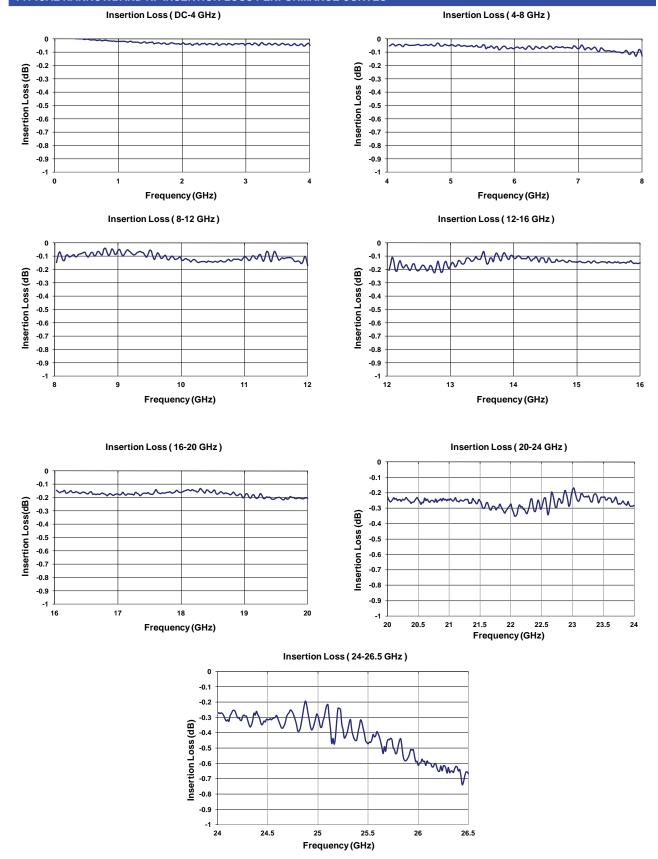
| L | ogic Inpu | ut | | | | | | | RF | Path | | | | | Ind | icator | Switcl | hes | |
|---|-----------|----|---|---|---|---|-----|-----|-----|------|-----|-----|-------|---|-----|--------|--------|-----|---|
| 1 | 2 | 3 | 4 | 5 | 6 | R | J1 | J2 | J3 | J4 | J5 | J6 | Reset | Е | F | G | н | К | L |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | On | Off | Off | Off | Off | Off | Off | С | 0 | 0 | 0 | 0 | C |
| 0 | 1 | 0 | 0 | 0 | 0 | 0 | Off | On | Off | Off | Off | Off | Off | 0 | С | 0 | 0 | 0 | C |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 | Off | Off | On | Off | Off | Off | Off | 0 | 0 | С | 0 | 0 | C |
| 0 | 0 | 0 | 1 | 0 | 0 | 0 | Off | Off | Off | On | Off | Off | Off | 0 | 0 | 0 | С | 0 | C |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | Off | Off | Off | Off | On | Off | Off | 0 | 0 | 0 | 0 | С | C |
| 0 | 0 | 0 | 0 | 0 | 1 | 0 | Off | Off | Off | Off | Off | On | Off | 0 | 0 | 0 | 0 | 0 | (|

| | TH TAE 59SX6 | BLE Lat 6C-TD | ching | | | | | | | | | | | | |
|---|-----------------|------------------|-------|-----|-----|------|-----|-----|-------|---|-----|---------|-------|-----|---|
| L | ogic Inpi | ut | | | RF | Path | | | | | Ind | licator | Switc | hes | |
| 1 | 2 | 3 | J1 | J2 | J3 | J4 | J5 | J6 | Reset | Е | F | G | Н | К | L |
| 0 | 0 | 0 | On | Off | Off | Off | Off | Off | Off | С | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | Off | On | Off | Off | Off | Off | Off | 0 | С | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | Off | Off | On | Off | Off | Off | Off | 0 | 0 | С | 0 | 0 | 0 |
| 1 | 1 | 0 | Off | Off | Off | On | Off | Off | Off | 0 | 0 | 0 | С | 0 | 0 |
| 0 | 0 | 1 | Off | Off | Off | Off | On | Off | Off | 0 | 0 | 0 | 0 | С | 0 |
| 1 | 0 | 1 | Off | Off | Off | Off | Off | On | Off | 0 | 0 | 0 | 0 | 0 | С |
| | | | | | | | | | | | | | | | |
| 0 | 1 | 1 | Off | Off | Off | Off | Off | Off | Reset | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | | | | COIL | DFF | | | 0 | 0 | 0 | 0 | 0 | 0 |

Series CCT-59S/CT-59S Multi-Throw DC-26.5 GHz Latching Coaxial Switch



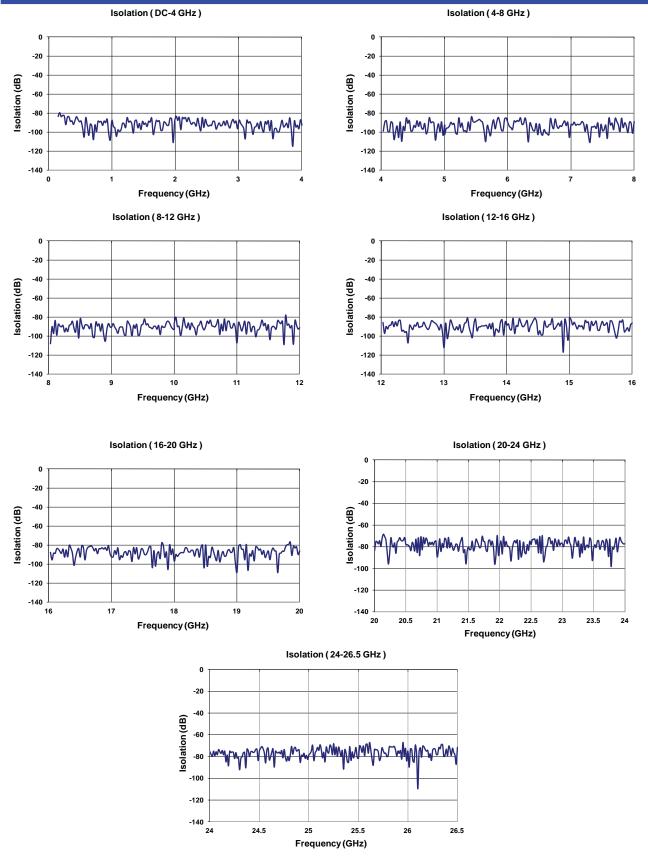
TYPICAL NARROWBAND RF INSERTION LOSS PERFORMANCE CURVES





Series CCT-59S/CT-59S Multi-Throw DC-26.5 GHz Latching Coaxial Switch

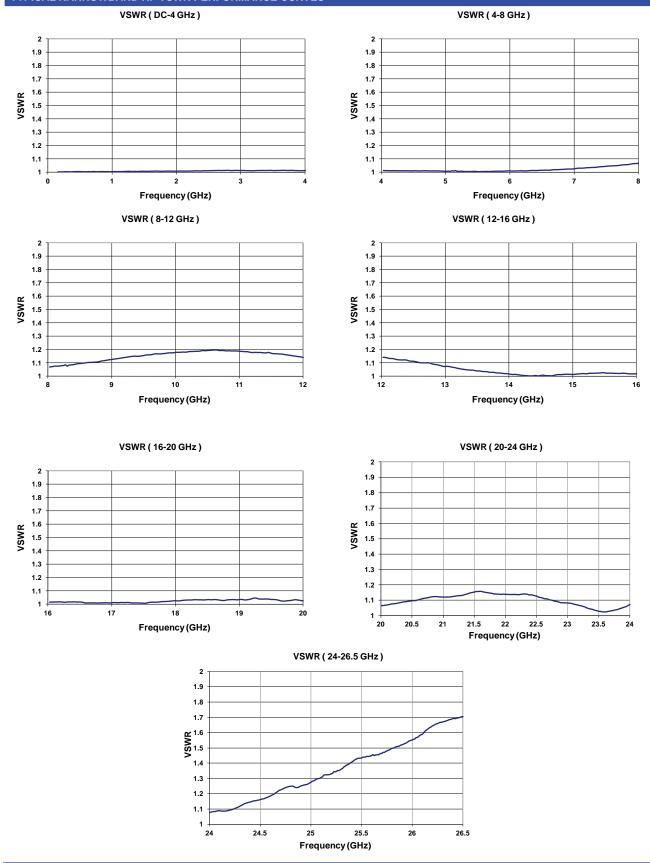
TYPICAL NARROWBAND RF ISOLATION PERFORMANCE CURVES



Series CCT-59S/CT-59S Multi-Throw DC-26.5 GHz Latching Coaxial Switch



TYPICAL NARROWBAND RF VSWR PERFORMANCE CURVES

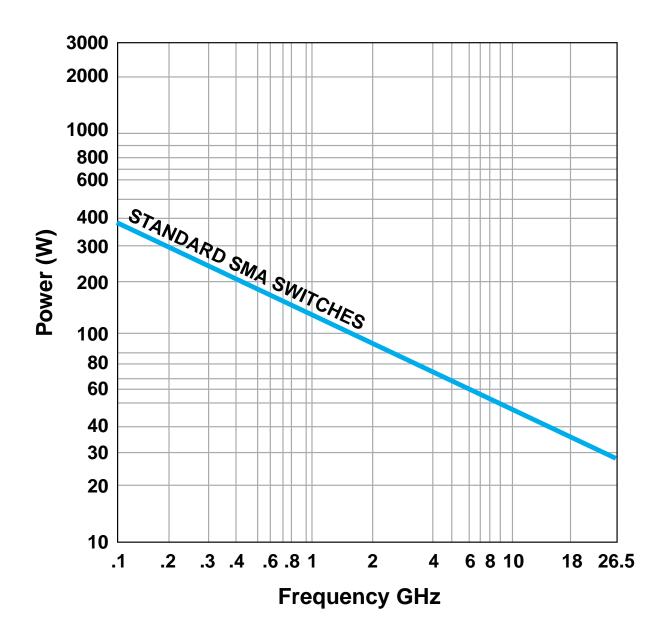


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TYPICAL POWER PERFORMANCE CURVE

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

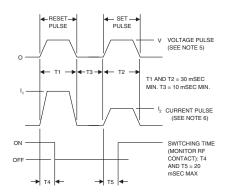
Isolation is the measure of the power level at the output connector of an unconnected RF channel as referenced to the power at the input connector. It is specified in dB below the input power level.

Multi-Throw Latching Switch

A multi-throw switch is a switch with one input and three or more output ports. The CCT-59 can switch a microwave signal to any of 2,3,4,5 or 6 output from a single common input.



- SWITCH ONLY.
- 2. MUST APPLY RESET PULSE FIRST (BREAK-BEFORE-MAKE). 3. RESET AND SET DEFINITIONS
- RESET: OPEN ALL RF PATHS (POSITIONS). SET: CLOSE THE SELECTED RF PATH (POSITION). 4. COMMAND PULSE TIMING:



5. COMMAND SWITCHING VOLTAGE V = 26-32 VDC PULSE

6. SWITCHING CURRENT:

| SWITCHING CURRENT | | | | | | | |
|--------------------|------------|----------|--|--|--|--|--|
| AT 28 VDC AND 20°C | | | | | | | |
| NO. OF POS. | RESET (I1) | SET (12) | | | | | |
| 3 POS. | 270 mA | 90 mA | | | | | |
| 4 POS. | 360 mA | 90 mA | | | | | |
| 5 POS. | 450 mA | 90 mA | | | | | |
| 6 POS. | 540 mA | 90 mA | | | | | |

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:

$$I_{-}$$
 = Actuator current at temperature, T

۱_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.

SPECIAL FEATURE

Switching High-Power or Highly Sensitive Signals

Ensure the most linear response with the best galvanically matched contact system in the industry. Extremely low passive intermodulation is standard on all of our switches.

| Carrier Frequency 1 | Carrier Frequency 2 | PIM 3rd Freque | | PIM 5th Order Frequency | | |
|------------------------|------------------------|-------------------|------------------------------|----------------------------|--|--|
| 870 MHz | 893 MHz | 847 N | /IHz | 824 MHz | | |
| | 3rd Or Intermod | | 5th Order Intermodulation | | | |
| Multiple | –96 d | Bm | –115 dBm | | | |
| Positions | –139 d | dBc | –158 dBc | | | |



LATCHING CCT-59S/CT-59S PART NUMBER LIST

| | PART NO. | | PART NO. | | PART NO. | | PART NO. |
|----|-----------------|----|-----------------|-----|-----------------|-----|-----------------|
| 1 | CCT-59SX3C | 43 | CCT-59SX30-TMS | 85 | | 127 | CCT-59SX50-TDM |
| | | - | | | CCT-59SX40-TDS | | |
| 2 | CCT-59SX3C-D | 44 | CCT-59SX30-TS | 86 | CCT-59SX40-TM | 128 | CCT-59SX50-TDMS |
| 3 | CCT-59SX3C-DM | 45 | CCT-59SX4C | 87 | CCT-59SX40-TMS | 129 | CCT-59SX50-TDS |
| 4 | CCT-59SX3C-DR | 46 | CCT-59SX4C-D | 88 | CCT-59SX40-TS | 130 | CCT-59SX50-TM |
| 5 | CCT-59SX3C-DRM | 47 | CCT-59SX4C-DM | 89 | CCT-59SX5C | 131 | CCT-59SX50-TMS |
| 6 | CCT-59SX3C-DRS | 48 | CCT-59SX4C-DR | 90 | CCT-59SX5C-D | 132 | CCT-59SX50-TS |
| 7 | CCT-59SX3C-DS | 49 | CCT-59SX4C-DRM | 91 | CCT-59SX5C-DM | 133 | CCT-59SX6C |
| 8 | CCT-59SX3C-M | 50 | CCT-59SX4C-DRS | 92 | CCT-59SX5C-DR | 134 | CCT-59SX6C-D |
| 9 | CCT-59SX3C-MS | 51 | CCT-59SX4C-DS | 93 | CCT-59SX5C-DRM | 135 | CCT-59SX6C-DM |
| 10 | CCT-59SX3C-R | 52 | CCT-59SX4C-M | 94 | CCT-59SX5C-DRS | 136 | CCT-59SX6C-DR |
| 11 | CCT-59SX3C-RM | 53 | CCT-59SX4C-MS | 95 | CCT-59SX5C-DS | 137 | CCT-59SX6C-DRM |
| 12 | CCT-59SX3C-RMS | 54 | CCT-59SX4C-R | 96 | CCT-59SX5C-M | 138 | CCT-59SX6C-DRS |
| 13 | CCT-59SX3C-RS | 55 | CCT-59SX4C-RM | 97 | CCT-59SX5C-MS | 139 | CCT-59SX6C-DS |
| 14 | CCT-59SX3C-S | 56 | CCT-59SX4C-RMS | 98 | CCT-59SX5C-R | 140 | CCT-59SX6C-M |
| 15 | CCT-59SX3C-T | 57 | CCT-59SX4C-RS | 99 | CCT-59SX5C-RM | 141 | CCT-59SX6C-MS |
| 16 | CCT-59SX3C-TD | 58 | CCT-59SX4C-S | 100 | CCT-59SX5C-RMS | 142 | CCT-59SX6C-R |
| 17 | CCT-59SX3C-TDM | 39 | CCT-59SX4C-T | 101 | CCT-59SX5C-RS | 143 | CCT-59SX6C-RM |
| 18 | CCT-59SX3C-TDMS | 60 | CCT-59SX4C-TD | 102 | CCT-59SX5C-S | 144 | CCT-59SX6C-RMS |
| 19 | CCT-59SX3C-TDS | 61 | CCT-59SX4C-TDM | 103 | CCT-59SX5C-T | 145 | CCT-59SX6C-RS |
| 20 | CCT-59SX3C-TM | 62 | CCT-59SX4C-TDMS | 104 | CCT-59SX5C-TD | 146 | CCT-59SX6C-S |
| 21 | CCT-59SX3C-TMS | 63 | CCT-59SX4C-TDS | 105 | CCT-59SX5C-TDM | 147 | CCT-59SX6C-T |
| 22 | CCT-59SX3C-TS | 64 | CCT-59SX4C-TM | 106 | CCT-59SX5C-TDMS | 148 | CCT-59SX6C-TD |
| 23 | CCT-59SX30 | 65 | CCT-59SX4C-TMS | 107 | CCT-59SX5C-TDS | 149 | CCT-59SX6C-TDM |
| 24 | CCT-59SX30-D | 66 | CCT-59SX4C-TS | 108 | CCT-59SX5C-TM | 150 | CCT-59SX6C-TDMS |
| 25 | CCT-59SX30-DM | 67 | CCT-59SX40 | 109 | CCT-59SX5C-TMS | 151 | CCT-59SX6C-TDS |
| 26 | CCT-59SX30-DR | 68 | CCT-59SX40-D | 110 | CCT-59SX5C-TS | 152 | CCT-59SX6C-TM |
| 27 | CCT-59SX30-DRM | 69 | CCT-59SX40-DM | 111 | CCT-59SX50 | 153 | CCT-59SX6C-TMS |
| 28 | CCT-59SX30-DRS | 70 | CCT-59SX40-DR | 112 | CCT-59SX50-D | 154 | CCT-59SX6C-TS |
| 29 | CCT-59SX30-DS | 71 | CCT-59SX40-DRM | 113 | CCT-59SX50-DM | 155 | CCT-59SX60 |
| 30 | CCT-59SX30-M | 72 | CCT-59SX40-DRS | 114 | CCT-59SX50-DR | 156 | CCT-59SX60-D |
| 31 | CCT-59SX30-MS | 73 | CCT-59SX40-DS | 115 | CCT-59SX50-DRM | 157 | CCT-59SX60-DM |
| 32 | CCT-59SX30-R | 74 | CCT-59SX40-M | 116 | CCT-59SX50-DRS | 158 | CCT-59SX60-DR |
| 33 | CCT-59SX30-RM | 75 | CCT-59SX40-MS | 117 | CCT-59SX50-DS | 139 | CCT-59SX60-DRM |
| 34 | CCT-59SX30-RMS | 76 | CCT-59SX40-R | 118 | CCT-59SX50-M | 160 | CCT-59SX60-DRS |
| 35 | CCT-59SX30-RS | 77 | CCT-59SX40-RM | 119 | CCT-59SX50-MS | 161 | CCT-59SX60-DS |
| 36 | CCT-59SX30-S | 78 | CCT-59SX40-RMS | 120 | CCT-59SX50-R | 162 | CCT-59SX60-M |
| 37 | CCT-59SX30-T | 79 | CCT-59SX40-RS | 121 | CCT-59SX50-RM | 163 | CCT-59SX60-MS |
| 38 | CCT-59SX30-TD | 80 | CCT-59SX40-S | 122 | CCT-59SX50-RMS | 164 | CCT-59SX60-R |
| 39 | CCT-59SX30-TDM | 81 | CCT-59SX40-T | 123 | CCT-59SX50-RS | 165 | CCT-59SX60-RM |
| 40 | CCT-59SX30-TDMS | 82 | CCT-59SX40-TD | 124 | CCT-59SX50-S | 166 | CCT-59SX60-RMS |
| 41 | CCT-59SX30-TDS | 83 | CCT-59SX40-TDM | 125 | CCT-59SX50-T | 167 | CCT-59SX60-RS |
| 42 | CCT-59SX30-TM | 84 | CCT-59SX40-TDMS | 126 | CCT-59SX50-TD | 168 | CCT-59SX60-S |

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

Series CCT-59S/CT-59S Multi-Throw DC-26.5 GHz

Latching Coaxial Switch



LATCHING CCT-59S/CT-59S PART NUMBER LIST

| | D N | | D N | | D N | | D N |
|-----|-----------------|-----|----------------|-----|----------------|-----|----------------|
| | PART No. | | PART NO. | | PART NO. | | PART No. |
| 169 | CCT-59SX60-T | 211 | CT-59SX30-RS | 253 | CT-59SX40-RM | 295 | CT-59SX50-MS |
| 170 | CCT-59SX60-TD | 212 | CT-59SX30-S | 254 | CT-59SX40-RMS | 296 | CT-59SX50-R |
| 171 | CCT-59SX60-TDM | 213 | CT-59SX30-T | 255 | CT-59SX40-RS | 297 | CT-59SX50-RM |
| 172 | CCT-59SX60-TDMS | 214 | CT-59SX30-TD | 256 | CT-59SX40-S | 298 | CT-59SX50-RMS |
| 173 | CCT-59SX60-TDS | 215 | CT-59SX30-TDM | 257 | CT-59SX40-T | 299 | CT-59SX50-RS |
| 174 | CCT-59SX60-TM | 216 | CT-59SX30-TDMS | 258 | CT-59SX40-TD | 300 | CT-59SX50-S |
| 175 | CCT-59SX60-TMS | 217 | CT-59SX30-TDS | 239 | CT-59SX40-TDM | 301 | CT-59SX50-T |
| 176 | CCT-59SX60-TS | 218 | CT-59SX30-TM | 260 | CT-59SX40-TDMS | 302 | CT-59SX50-TD |
| 177 | CT-59SX3C | 219 | CT-59SX30-TMS | 261 | CT-59SX40-TDS | 303 | CT-59SX50-TDM |
| 178 | CT-59SX3C-D | 220 | CT-59SX30-TS | 262 | CT-59SX40-TM | 304 | CT-59SX50-TDMS |
| 179 | CT-59SX3C-DM | 221 | CT-59SX4C | 263 | CT-59SX40-TMS | 305 | CT-59SX50-TDS |
| 180 | CT-59SX3C-DR | 222 | CT-59SX4C-D | 264 | CT-59SX40-TS | 306 | CT-59SX50-TM |
| 181 | CT-59SX3C-DRM | 223 | CT-59SX4C-DM | 265 | CT-59SX5C | 307 | CT-59SX50-TMS |
| 182 | CT-59SX3C-DRS | 224 | CT-59SX4C-DR | 266 | CT-59SX5C-D | 308 | CT-59SX50-TS |
| 183 | CT-59SX3C-DS | 225 | CT-59SX4C-DRM | 267 | CT-59SX5C-DM | 309 | CT-59SX6C |
| 184 | CT-59SX3C-M | 226 | CT-59SX4C-DRS | 268 | CT-59SX5C-DR | 310 | CT-59SX6C-D |
| 185 | CT-59SX3C-MS | 227 | CT-59SX4C-DS | 269 | CT-59SX5C-DRM | 311 | CT-59SX6C-DM |
| 186 | CT-59SX3C-R | 228 | CT-59SX4C-M | 270 | CT-59SX5C-DRS | 312 | CT-59SX6C-DR |
| 187 | CT-59SX3C-RM | 229 | CT-59SX4C-MS | 271 | CT-59SX5C-DS | 313 | CT-59SX6C-DRM |
| 188 | CT-59SX3C-RMS | 230 | CT-59SX4C-R | 272 | CT-59SX5C-M | 314 | CT-59SX6C-DRS |
| 189 | CT-59SX3C-RS | 231 | CT-59SX4C-RM | 273 | CT-59SX5C-MS | 315 | CT-59SX6C-DS |
| 190 | CT-59SX3C-S | 232 | CT-59SX4C-RMS | 274 | CT-59SX5C-R | 316 | CT-59SX6C-M |
| 191 | CT-59SX3C-T | 233 | CT-59SX4C-RS | 275 | CT-59SX5C-RM | 317 | CT-59SX6C-MS |
| 192 | CT-59SX3C-TD | 234 | CT-59SX4C-S | 276 | CT-59SX5C-RMS | 318 | CT-59SX6C-R |
| 193 | CT-59SX3C-TDM | 235 | CT-59SX4C-T | 277 | CT-59SX5C-RS | 319 | CT-59SX6C-RM |
| 194 | CT-59SX3C-TDMS | 236 | CT-59SX4C-TD | 278 | CT-59SX5C-S | 320 | CT-59SX6C-RMS |
| 195 | CT-59SX3C-TDS | 237 | CT-59SX4C-TDM | 279 | CT-59SX5C-T | 321 | CT-59SX6C-RS |
| 196 | CT-59SX3C-TM | 238 | CT-59SX4C-TDMS | 280 | CT-59SX5C-TD | 322 | CT-59SX6C-S |
| 197 | CT-59SX3C-TMS | 239 | CT-59SX4C-TDS | 281 | CT-59SX5C-TDM | 323 | CT-59SX6C-T |
| 198 | CT-59SX3C-TS | 240 | CT-59SX4C-TM | 282 | CT-59SX5C-TDMS | 324 | CT-59SX6C-TD |
| 199 | CT-59SX30 | 241 | CT-59SX4C-TMS | 283 | CT-59SX5C-TDS | 325 | CT-59SX6C-TDM |
| 200 | CT-59SX30-D | 242 | CT-59SX4C-TS | 284 | CT-59SX5C-TM | 326 | CT-59SX6C-TDMS |
| 201 | CT-59SX30-DM | 243 | CT-59SX40 | 285 | CT-59SX5C-TMS | 327 | CT-59SX6C-TDS |
| 202 | CT-59SX30-DR | 244 | CT-59SX40-D | 286 | CT-59SX5C-TS | 328 | CT-59SX6C-TM |
| 203 | CT-59SX30-DRM | 245 | CT-59SX40-DM | 287 | CT-59SX50 | 329 | CT-59SX6C-TMS |
| 204 | CT-59SX30-DRS | 246 | CT-59SX40-DR | 288 | CT-59SX50-D | 330 | CT-59SX6C-TS |
| 205 | CT-59SX30-DS | 247 | CT-59SX40-DRM | 289 | CT-59SX50-DM | 331 | CT-59SX60 |
| 206 | CT-59SX30-M | 248 | CT-59SX40-DRS | 290 | CT-59SX50-DR | 332 | CT-59SX60-D |
| 207 | CT-59SX30-MS | 249 | CT-59SX40-DS | 291 | CT-59SX50-DRM | 333 | CT-59SX60-DM |
| 208 | CT-59SX30-R | 250 | CT-59SX40-M | 292 | CT-59SX50-DRS | 334 | CT-59SX60-DR |
| 209 | CT-59SX30-RM | 251 | CT-59SX40-MS | 293 | CT-59SX50-DS | 335 | CT-59SX60-DRM |
| 210 | CT-59SX30-RMS | 252 | CT-59SX40-R | 294 | CT-59SX50-M | 336 | CT-59SX60-DRS |

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



LATCHING CCT-59S/CT-59S PART NUMBER LIST

| | Part No. |
|-----|----------------|
| 337 | CT-59SX60-DS |
| 338 | CT-59SX60-M |
| 339 | CT-59SX60-MS |
| 340 | CT-59SX60-R |
| 341 | CT-59SX60-RM |
| 342 | CT-59SX60-RMS |
| 343 | CT-59SX60-RS |
| 344 | CT-59SX60-S |
| 345 | CT-59SX60-T |
| 346 | CT-59SX60-TD |
| 347 | CT-59SX60-TDM |
| 348 | CT-59SX60-TDMS |
| 349 | CT-59SX60-TDS |
| 350 | CT-59SX60-TM |
| 351 | CT-59SX60-TMS |
| 352 | CT-59SX60-TS |

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