



Series		CCT-39	CCR-59	CCT-59	CCS-18
Configuration		SP3T to SP6T	SP3T to SP6T	SP3T to SP6T	SP3T to SP8T
Switch Function		Latching	Latching	Latching	Normally Open
Frequency		DC to 18 GHz DC to 22 GHz	DC to 26.5 GHz	DC to 26.5 GHz	DC to 12 GHz
Coil Voltage		12, 15, 28	12, 15, 28	12, 15, 28	12, 15, 28
Connector		SMA	SMA	SMA	N, TNC
Temperature Range	Commercial Model Elite Model	-25°C to +65°C -54°C to +85°C	-25°C to +65°C -54°C to +85°C	-25°C to +65° -54°C to +85°	-25°C to +65° -54°C to +85°
Special Feature		50-Ohm Termination, Multi-throw	High Frequency Multi-throw	High Frequency Terminated Multi-throw	High Power Multi-throw
Typical Contact Life		5,000,000 cycles	5,000,000 cycles	5,000,000 cycles	5,000,000 cycles
Typical RF Performance	VSWR (max)	DC-6 GHz to 1.25:1 6-12 GHz to 1.40:1 12-18 GHz to 1.50:1 See Figure 20	DC-6 GHz to 1.25:1 6-12 GHz to 1.40:1 12-18 GHz to 1.50:1 18-26.5 GHz to 1.80:1 See Figure 21	DC-6 GHz to 1.25:1 6-12 GHz to 1.40:1 12-18 GHz to 1.50:1 18-26.5 GHz to 1.80:1 See Figure 21	DC-1 GHz to 1.25:1 1-4 GHz to 1.40:1 4-12 GHz to 1.70:1 See Figure 17
	Insertion Loss (max)	DC-6 GHz to 0.20 dB 6-12 GHz to 0.40 dB 12-18 GHz to 0.50 dB See Figure 20	DC-6 GHz to 0.20 dB 6-12 GHz to 0.40 dB 12-18 GHz to 0.50 dB 18-26.5 GHz to 0.80 dB See Figure 21	DC-6 GHz to 0.20 dB 6-12 GHz to 0.40 dB 12-18 GHz to 0.50 dB 18-26.5 GHz to 0.80 dB See Figure 21	DC-1 GHz to 0.30 dB 1-4 GHz to 0.40 dB 4-12 GHz to 0.50 dB See Figure 17
	Isolation (min)	DC-6 GHz to 70.0 dB 6-12 GHz to 60.0 dB 12-18 GHz to 60.0 dB See Figure 20	DC-6 GHz to 70.0 dB 6-12 GHz to 60.0 dB 12-18 GHz to 60.0 dB 18-26.5 GHz to 50.0 dB See Figure 21	DC-6 GHz to 70.0 dB 6-12 GHz to 60.0 dB 12-18 GHz to 60.0 dB 18-26.5 GHz to 50.0 dB See Figure 21	DC-1 GHz to 70.0 dB 1-4 GHz to 60.0 dB 4-12 GHz to 60.0 dB See Figure 17
Options	Self Cutoff (Latching Only)	✓	✓	✓	
	Indicator Contacts	✓	✓	✓	
	Self Cutoff and Indicator Contacts (Latching Only)	✓	✓	✓	
	TTL Interface	✓	✓	✓	✓
	TTL Interface with Decoder	✓	✓	✓	✓
	Moisture Seal	✓	✓	✓	✓
Narrow Body					
Typical Mechanical Outline		2.25 x 2.4 x 2.25 in. 57.2 x 61 x 57.2 mm See Figure 10	2.25 x 2.4 x 2.25 in. 57.2 x 61 x 57.2 mm See Figure 10	2.25 x 2.4 x 2.25 in. 57.2 x 61 x 57.2 mm See Figure 10	2.62 x 3.08 x 2.62 in. 66.5 x 78.2 x 66.5 mm See Figure 11
Shock		MIL-STD-202 Method 213, Condition D (500G Non Operating)	MIL-STD-202 Method 213, Condition D (500G Non Operating)	MIL-STD-202 Method 213, Condition D (500G Non Operating)	MIL-STD-202 Method 213, Condition D (500G Non Operating)
Vibration		MIL-STD-202 Method 214, Condition D (10G RMS Non Operating)	MIL-STD-202 Method 214, Condition D (10G RMS Non Operating)	MIL-STD-202 Method 214, Condition D (10G RMS Non Operating)	MIL-STD-202 Method 214, Condition D (10G RMS Non Operating)

CCT-38, CCT-58, CCR-39, CCT-39, CCR-59, CCT-59

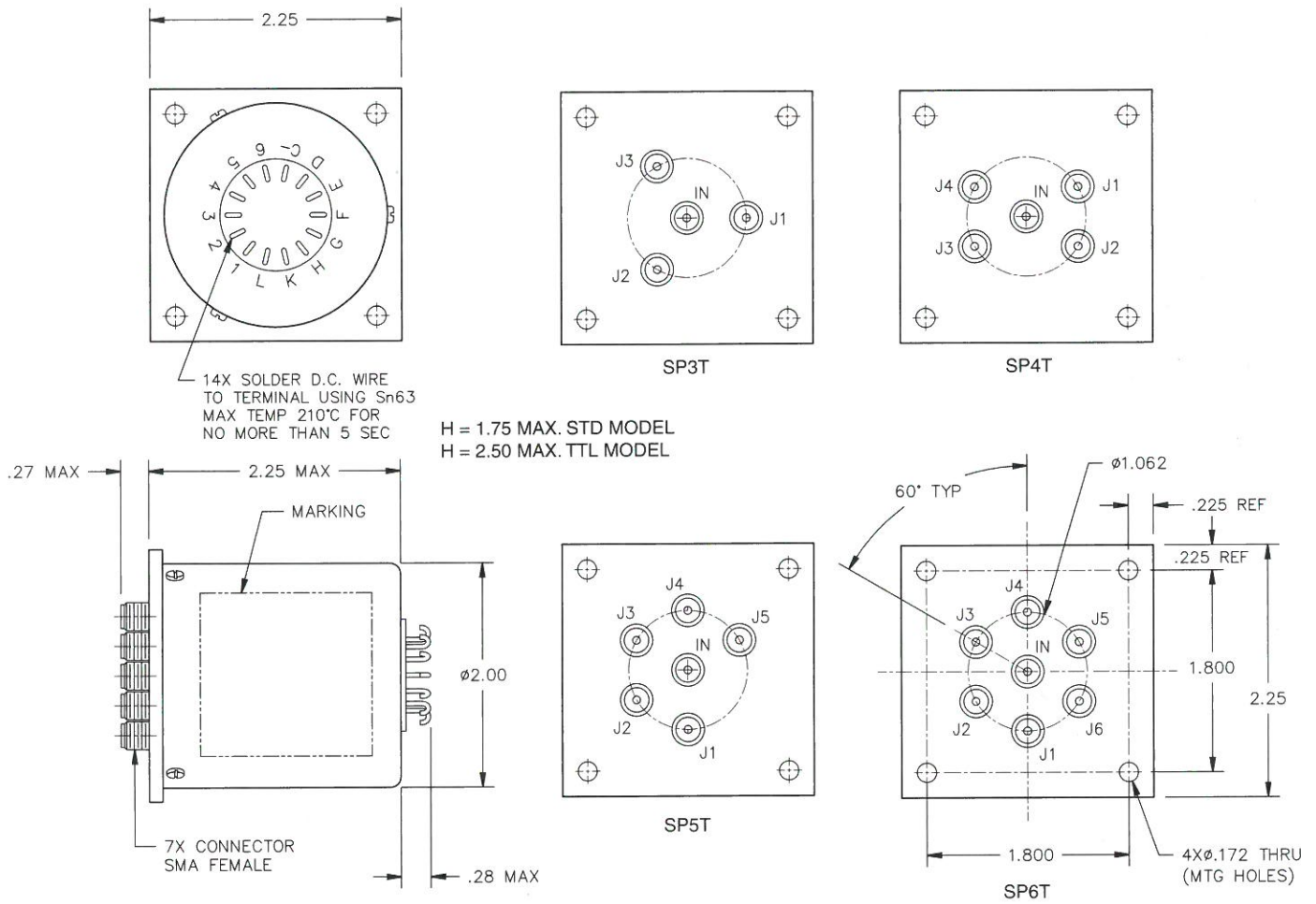


Figure 10

CCS-18

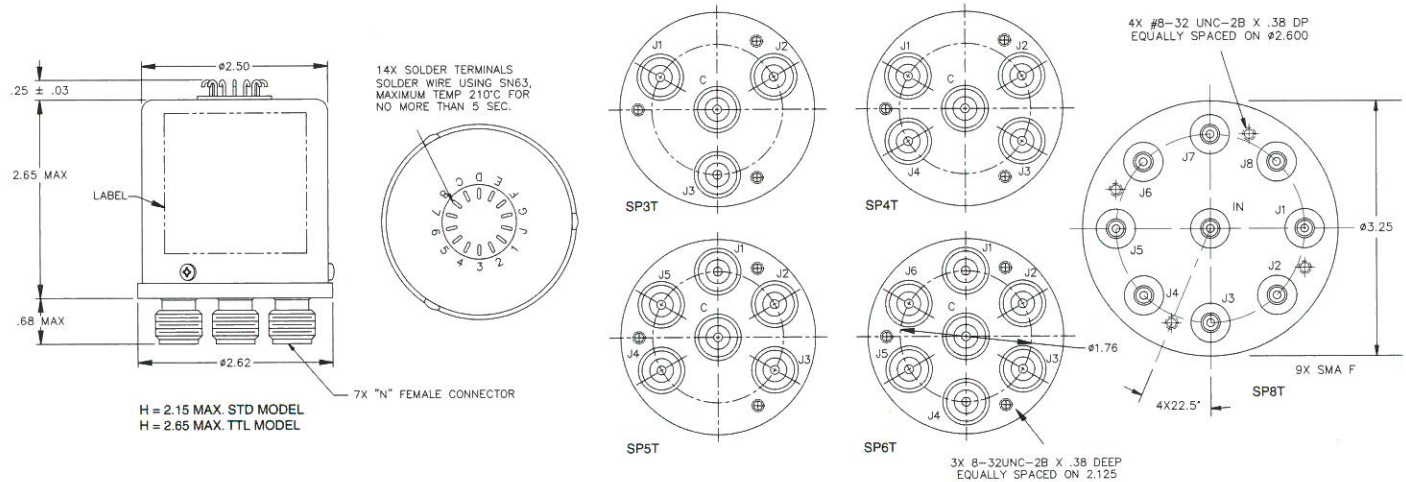
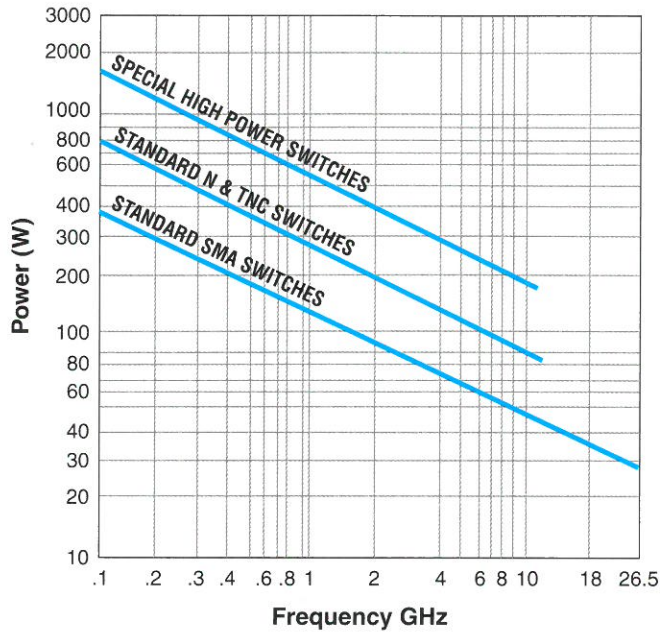


Figure 11

Coaxial Switches

Power Handling vs. Frequency



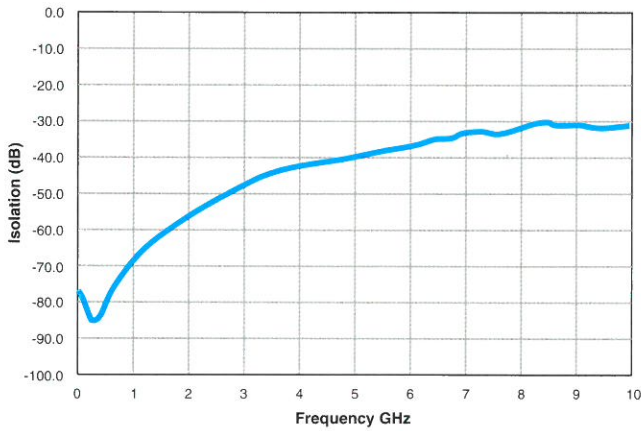
Estimates based on the following reference conditions:

- Ambient temperature of 40°C or less
- Sea level operation
- Load VSWR of 1.20:1 maximum
- No high-power (hot) switching

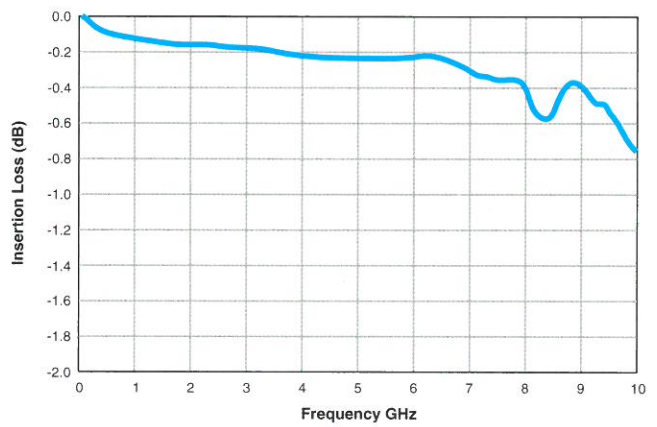
Please contact Teledyne Relays for derating factors when applications do not meet the foregoing reference conditions.

Figure 12

RF522 Across Contact Isolation



RF522 Insertion Loss



RF522 Power Capability Carry Only

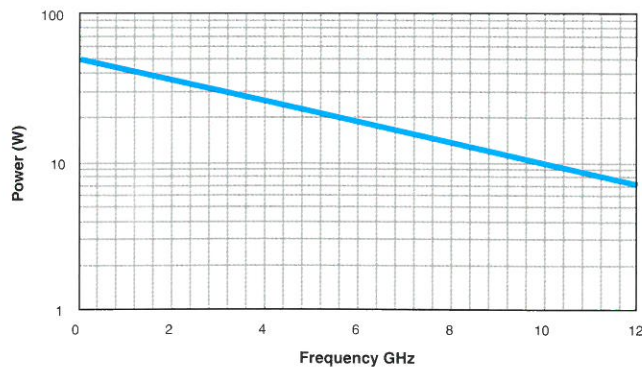


Figure 13

Model Number

This guide shows the model numbers for Teledyne Relays switches. For technical support or custom switches for specific applications, call (800) 284-7007.

XXX-XX **X** **X** **X** **X - X** **X** **X - X**
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
 Multi-throw
 Only

Example: CCR-33S10-T (Commercial SPDT, S=SMA, 28 Vdc, Failsafe, TTL)

①	Switch Model Series Type and Description						
	See tables on pages 1–5 for series name.						
②	Connector Type						
	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">M Mini SMB</td> <td style="width: 50%; border: none;">S SMA Female</td> </tr> <tr> <td style="border: none;">N N Female</td> <td style="border: none;">T TCN Female</td> </tr> </table>	M Mini SMB	S SMA Female	N N Female	T TCN Female		
M Mini SMB	S SMA Female						
N N Female	T TCN Female						
③	Actuator Voltage						
	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">1 28 Vdc – Failsafe (Normally Open if single-pole multi-throw)</td> <td style="width: 50%; border: none;">6 28 Vdc – Latching*</td> </tr> <tr> <td style="border: none;">2 15 Vdc – Failsafe (Normally Open if single-pole multi-throw)</td> <td style="border: none;">7 15 Vdc – Latching*</td> </tr> <tr> <td style="border: none;">3 12 Vdc – Failsafe (Normally Open if single-pole multi-throw)</td> <td style="border: none;">8 12 Vdc – Latching*</td> </tr> </table>	1 28 Vdc – Failsafe (Normally Open if single-pole multi-throw)	6 28 Vdc – Latching*	2 15 Vdc – Failsafe (Normally Open if single-pole multi-throw)	7 15 Vdc – Latching*	3 12 Vdc – Failsafe (Normally Open if single-pole multi-throw)	8 12 Vdc – Latching*
1 28 Vdc – Failsafe (Normally Open if single-pole multi-throw)	6 28 Vdc – Latching*						
2 15 Vdc – Failsafe (Normally Open if single-pole multi-throw)	7 15 Vdc – Latching*						
3 12 Vdc – Failsafe (Normally Open if single-pole multi-throw)	8 12 Vdc – Latching*						
④	Number Positions for Multi-throw						
	3–8 Indicates number of positions on multi-throw switches (skip this number if not single-pole multi-throw)						
⑤	Actuator Type						
	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">O No cutoff or indicator contacts</td> <td style="width: 50%; border: none;">D Self cutoff only</td> </tr> <tr> <td style="border: none;">C Indicator contacts only</td> <td style="border: none;">E Self cutoff and indicator contacts</td> </tr> </table>	O No cutoff or indicator contacts	D Self cutoff only	C Indicator contacts only	E Self cutoff and indicator contacts		
O No cutoff or indicator contacts	D Self cutoff only						
C Indicator contacts only	E Self cutoff and indicator contacts						
⑥	TTL Driver*						
	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">T TTL driver with diodes</td> <td style="width: 50%; border: none;">TD Decoders and TTL driver with diodes</td> </tr> </table>	T TTL driver with diodes	TD Decoders and TTL driver with diodes				
T TTL driver with diodes	TD Decoders and TTL driver with diodes						
⑦	Polarity						
	R Positive + Common						
⑧	Narrow Body						
	N SP2T switch only						
⑨	Custom Part Number						
	Assigned by Engineering						

* Polarity sensitive – contact factory

Note: Normally Open terminated switches are polarity sensitive

CCR-33M

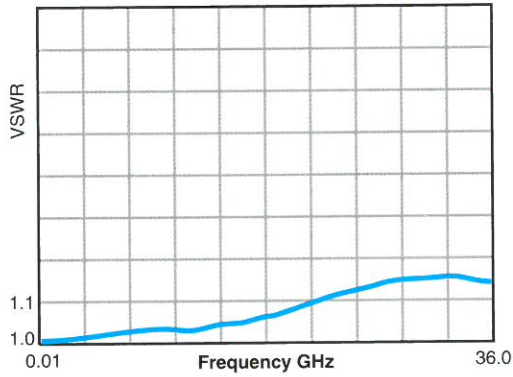
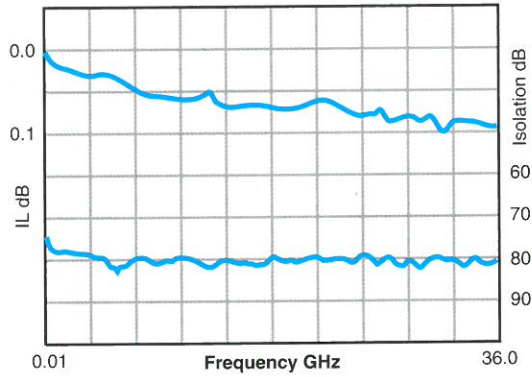


Figure 14

CCR-33, CCRT-33, CCRS-33

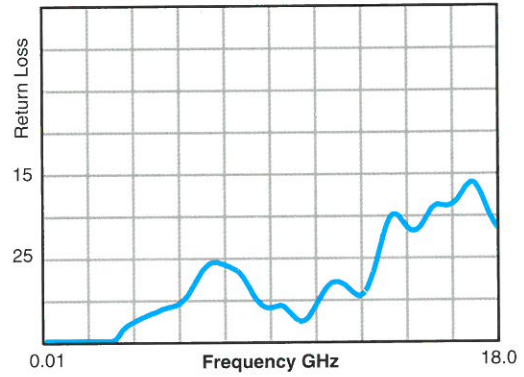
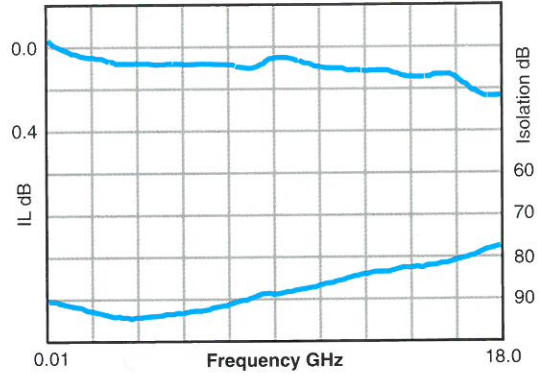


Figure 15

CCR-53, CCRT-53, CCRS-53

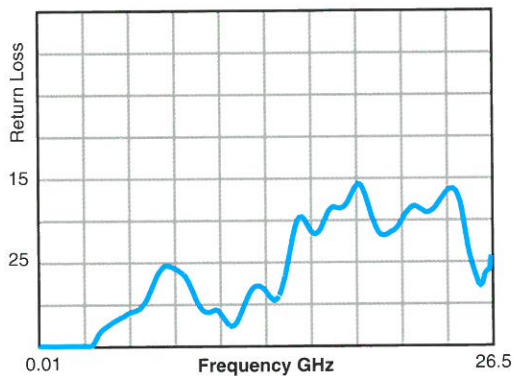
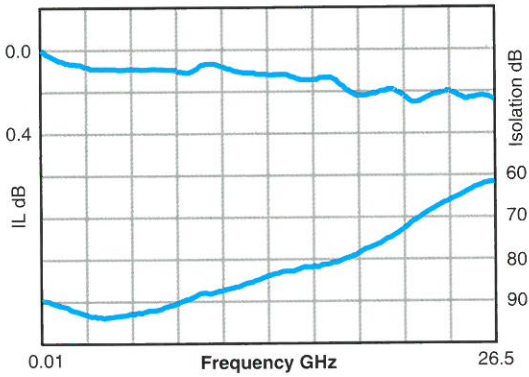


Figure 16

CCS-32, CCS-18

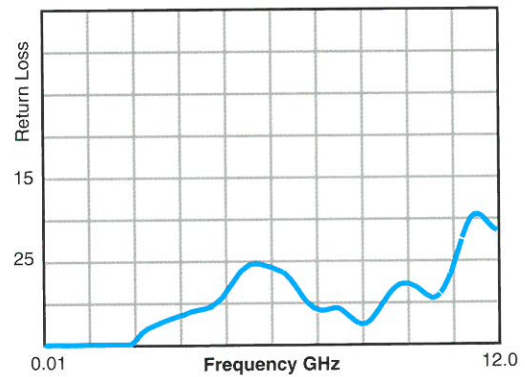
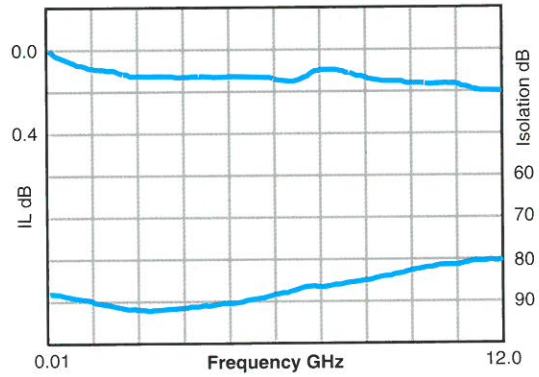


Figure 17