

BROADBAND SPDT SWITCH REFLECTIVE AND ABSORPTIVE 0.02-18 GHz

SERIES XL/XB-A

GENERAL INFORMATION:

Series XL and XB-A broadband switches are medium power devices that operate over relatively wide frequency ranges. Carefully selected diodes placed in either series, series-shunt, or shunt configurations produce excellent electrical performance from UHF through KU bands.

GENERAL SPECIFICATIONS:

Frequency Coverage:	0.02 to 18.0 GHz.
RF Impedance:	50 OHMS.
RF Power:	+20 dBm operational. Consult factory for high power options.
DC Requirements:	Switches without drivers require +60 mA max per path for the "off" condition and -60 mA for the "on" condition. Switches with drivers require ± 5 volt supply at ± 70 mA. Logic "1" turns J2 "on" and J3 "off". Logic "0" turns J3 "on" and J2 "off". Different supply voltages and logic available if specified when order is placed.
Temperature Information:	Operating temperature from -55°C to $+85^{\circ}\text{C}$.
Switching Speed:	10% to 90% or 90% to 10% of RF. There is an additional 30 nanosec of driver delay.
Environment:	MIL-E-5400, MIL-STD-202, MIL-E-16400 MIL-STD-883 (Special request only).
Connectors:	RF connectors are SMA. Other connectors available (when specified at time of order) include types N, TNC, and BNC.

NOTES:

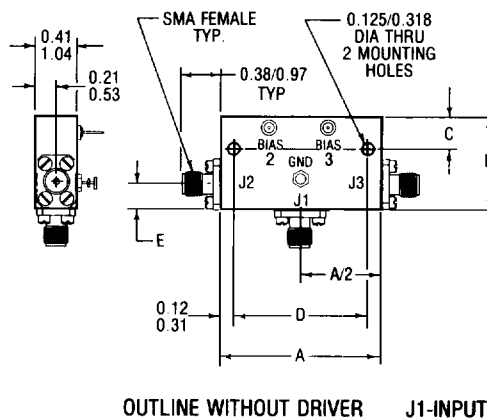
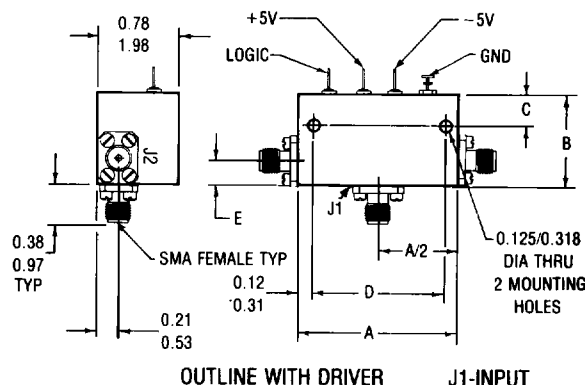
1. Drive connection is normally supplied as a solder feedthrough terminal. Separate inputs for each path are available on request. Other connectors available (when specified at time of order) include SMA and SMC.
2. If driver is required, add "D" to the model number when ordering, i.e. Model XL-24, with driver, becomes XL-24D.
3. When ordering, the complete model number should be given. The model number consists of the model number for a standard switch plus the dash number for any options, i.e. model XL-52D-2 is a SPDT reflective switch, with driver, whose frequency range is 2.0 to 8.0 GHz and a switching speed of 20 nanosecs.
4. Any unit listed can be supplied with pins instead of RF connectors. (Consult factory.)
5. Switches are available with output connectors in line with input. Sizes may change and a special part number may be assigned. (Consult factory.)

MECHANICAL OUTLINES

Outline	A Inches cm.	B Inches cm.	C Inches cm.	D Inches cm.	E Inches cm.
1	1.55 3.56	0.90 2.29	0.30 0.76	1.300 3.327	0.25 0.64
2	1.30 3.30	0.75 1.91	0.20 0.51	1.050 2.692	0.25 0.64
3	1.55 3.56	0.95 2.41	0.30 0.76	1.300 3.327	0.35 0.89
4	2.00 5.08	1.00 2.54	0.35 0.89	1.750 4.470	0.30 0.76
5	1.55 3.94	0.95 2.41	0.30 0.76	1.300 3.327	0.25 0.64
6	1.55 3.94	1.20 3.05	0.50 1.27	1.300 3.327	0.25 0.64
7	1.55 3.94	0.90 2.29	0.30 0.76	1.300 3.327	0.25 0.64

Inches/Centimeters

xx ± 0.3 xxx ± 0.10 / xx ± 0.08 xxx ± 0.025



XL or XB Model Series
XX or XXA Freq Code
- D - Driver Option (Note 2)
- X - Speed Option (Note 3)
Hermetic Seal and Mil STD 883 Screening Available

TYPICAL MODEL NO.

BROADBAND
SPDT SWITCH
 REFLECTIVE AND ABSORPTIVE 0.02-18 GHz

SERIES XL/XB-A

ELECTRICAL PERFORMANCE

Power: 1 watt average, 10 watts peak, survival

STANDARD SWITCH						HIGH SPEED OPTION			
Isolation: 30 dB minimum Speed: 2 microsec. maximum						MODEL-1		MODEL-2	
Reflective Model No.	Absorptive Model No.	Frequency Range GHz	Insertion Loss Max. dB Ref. / Abs.	VSWR† Max.	Outline Ref. / Abs.	Speed Nanosec.	Insertion Loss Max. dB Ref. / Abs.	Speed Nanosec.	Insertion Loss Max. dB Ref. / Abs.
XL-13	XB-10-A	0.02-0.1	0.50 / 0.60	1.60	1 / 4	500	0.55 / 0.65	N/A	N/A
XL-15	XB-14-A	0.1-1.0	0.90 / 1.00	1.60	1 / 4	500	0.95 / 1.05	N/A	N/A
XL-17	XB-18-A	0.1-2.0	1.20 / 1.30	1.60	1 / 4	500	1.25 / 1.35	N/A	N/A
XL-22	XB-21-A	0.25-0.5	0.90 / 1.00	1.60	1 / 4	500	0.95 / 1.05	N/A	N/A
XL-24	XB-25-A	0.25-1.0	0.90 / 1.00	1.60	1 / 4	500	0.95 / 1.05	N/A	N/A
XL-26	XB-29-A	0.5-1.0	0.70 / 0.80	1.60	2 / 5	100	0.80 / 0.90	20	0.90 / 1.00
XL-31	XB-34-A	0.5-2.0	0.90 / 1.00	1.60	2 / 5	100	1.00 / 1.10	20	1.10 / 1.20
XL-35	XB-38-A	1.0-2.0	0.70 / 0.80	1.60	2 / 5	100	0.90 / 0.90	20	1.00 / 1.10
XL-38	XB-43-A	1.0-4.0	1.00 / 1.10	1.60	3 / 5	100	1.20 / 1.20	20	1.35 / 1.30
XL-41	XB-47-A	1.0-6.0	1.00 / 1.10	1.60	3 / 5	100	1.20 / 1.20	20	1.35 / 1.30
XL-44	XB-52-A	1.5-3.0	0.75 / 0.90	1.60	3 / 6	100	1.00 / 1.00	20	1.25 / 1.10
XL-46	XB-56-A	2.0-4.0	1.00 / 1.10	1.60	3 / 5	100	1.20 / 1.20	20	1.35 / 1.30
XL-52	XB-58-A	2.0-8.0	1.10 / 1.25	1.60	3 / 6	100	1.30 / 1.45	20	1.50 / 1.60
XL-54	XB-61-A	3.0-12.0	2.00 / 2.25	2.00	3 / 6	100	2.30 / 2.50	20	2.50 / 2.75
XL-57	XB-65-A	4.0-8.0	1.25 / 1.40	1.60	3 / 6	100	1.40 / 1.55	20	1.60 / 1.75
XL-65	XB-69-A	2.0-18.0	2.50 / 2.75	2.50	3 / 7	100	2.75 / 3.00	20	3.00 / 3.25
XL-67	XB-74-A	5.0-10.0	1.50 / 1.70	1.60	3 / 6	100	1.75 / 1.95	20	2.00 / 2.20
XL-71	XB-78-A	6.0-12.0	1.75 / 1.90	2.00	3 / 7	100	2.00 / 2.15	20	2.25 / 2.40
XL-73	XB-81-A	6.0-18.0	2.50 / 2.75	2.50	2 / 7	100	2.75 / 3.00	20	3.00 / 3.25
XL-82	XB-85-A	7.0-12.4	1.75 / 1.90	1.70	2 / 7	100	2.00 / 2.15	20	2.25 / 2.40
XL-85	XB-89-A	7.0-18.0	2.50 / 2.75	2.50	2 / 7	100	2.75 / 3.00	20	3.00 / 3.25
XL-91	XB-94-A	8.0-18.0	2.50 / 2.75	2.50	2 / 7	100	2.75 / 3.00	20	3.00 / 3.25
XL-94	XB-96-A	12.0-18.0	2.50 / 2.75	2.20	2 / 7	100	2.75 / 3.00	20	3.00 / 3.25

If improvement of any of the electrical specifications listed above is required, consult factory.

† Reflective Switch: VSWR measured in the 'ON' Input and 'ON' Output Position.

Absorptive Switch: VSWR measured in the 'ON' Input and 'ON' Output and 'OFF' Output Position.

Insertion Loss measured with input power less than 100 mW.