

NARROWBAND SPST SWITCH REFLECTIVE AND ABSORPTIVE 0.02-18 GHz

GENERAL INFORMATION:

Series LY and QN-A broadband switches are medium power devices that operate over commonly used narrowband frequency ranges. Carefully selected diodes placed in either series, series-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 +50 mA max for the "off" condition. For the "on" condition models LY-17 through LY-43 and QN-10A through QN-95A require -5 volts at -60 mA max and models LY-47 through LY-99 require -5 volts at 0 mA.
Temperature Information:	Switches with drivers require a ± 5 volt supply at ± 70 mA. Logic is TTL "0" when "on" and "1" when "off". Different supply voltages and logic available when specified at time order is placed.
Switching Speed:	Operating temperature from -55°C to $+85^{\circ}\text{C}$.
Environment:	10% to 90% or 90% to 10% of RF. There is an additional 30 nanosec of driver delay.
Connectors:	MIL-E-5400, MIL-STD-202, MIL-E-16400 MIL-STD-883 (Special request only).
	RF connectors are SMA. Other connectors available (if specified when order is placed) include types N, TNC, and BNC.

NOTES:

1. Drive connection is normally supplied as a solder feedthrough terminal. Other connectors available (if specified when order is placed) include SMA and SMC.
2. If driver is required, add "D" to the model number when ordering, i.e. Model LY-17, with driver, becomes LY-17D.
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 LY-41D-1 is a SPST reflective switch, with driver, whose frequency range is 1.7 to 2.4 GHz and a switching speed of 100 nanosecs.
4. Any unit listed can be supplied with pins instead of RF connectors. (Consult factory.)
5. Any of the switches listed are available with absorptive input and output on request.

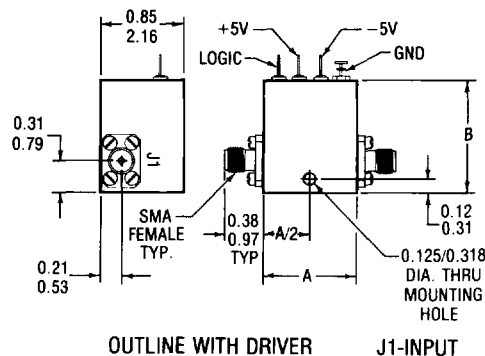
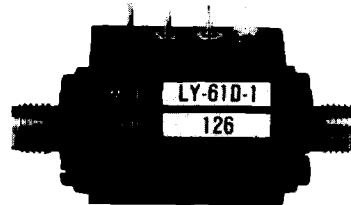
MECHANICAL OUTLINES

Outline	A Inches cm.	B Inches cm.
1	0.91 2.31	0.76 1.93
2	1.10 2.79	1.26 3.20
3	1.10 2.79	0.71 1.80
4	1.00 2.54	1.06 2.69
5	0.91 2.31	0.81 2.06
6	0.90 2.29	1.11 2.82
7	1.10 2.79	1.16 2.95

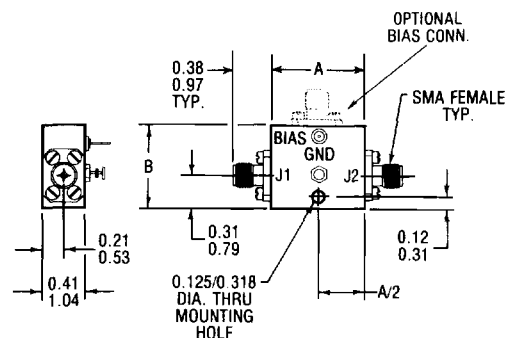
Inches/Centimeters

xx $\pm$ 0.3 xxx $\pm$.010/ xx $\pm$.08 xxx $\pm$.025

SERIES LY/QN-A



OUTLINE WITH DRIVER J1-INPUT



OUTLINE WITHOUT DRIVER J1-INPUT
TYPICAL MODEL NO.

LY or QN - XX or XXA - D - X
Model Series Freq Code Driver Option Speed Option
(Note 2) (Note 3)

Hermetic Seal
and Mil STD 883
Screening Available

**KDI/triangle
ELECTRONICS**

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NARROWBAND

SPST SWITCH

REFLECTIVE AND ABSORPTIVE 0.02-18 GHz

SERIES LY/QN-A

ELECTRICAL PERFORMANCE

STANDARD SWITCH						HIGH SPEED OPTION			
Isolation: 30 dB minimum Power: 1 watt average, 10 watts peak, survival 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. Ref. / Abs.	Insertion Loss Max. dB Ref. / Abs.
LY-17	QN-10-A	0.02-0.07	0.20 / 0.30	1.30	4 / 5	500	0.25 / 0.35	N/A	N/A
LY-19	QN-13-A	0.2-0.25	0.25 / 0.30	1.30	1 / 5	500	0.30 / 0.35	N/A	N/A
LY-22	QN-16-A	0.4-0.45	0.30 / 0.40	1.30	1 / 5	200	0.35 / 0.45	N/A	N/A
LY-26	QN-19-A	0.7-0.8	0.35 / 0.50	1.30	1 / 5	100	0.40 / 0.55	10 / 20	0.45 / 0.60
LY-29	QN-20-A	0.95-1.22	0.35 / 0.60	1.30	1 / 6	100	0.40 / 0.65	10 / 20	0.45 / 0.70
LY-31	QN-22-A	1.02-1.10	0.40 / 0.60	1.30	1 / 6	100	0.45 / 0.65	10 / 20	0.50 / 0.70
LY-35	QN-25-A	1.2-1.4	0.40 / 0.60	1.30	1 / 6	100	0.45 / 0.65	10 / 20	0.50 / 0.70
LY-38	QN-28-A	1.5-1.6	0.50 / 0.60	1.30	1 / 6	100	0.55 / 0.65	10 / 20	0.60 / 0.70
LY-41	QN-31-A	1.7-2.4	0.60 / 0.70	1.30	1 / 6	100	0.65 / 0.75	10 / 20	0.70 / 0.80
LY-43	QN-32-A	2.2-2.3	0.60 / 0.70	1.30	1 / 6	100	0.65 / 0.75	10 / 20	0.70 / 0.80
LY-47	QN-34-A	2.9-3.1	0.60 / 0.70	1.30	2 / 7	100	0.65 / 0.75	10 / 20	0.70 / 0.80
LY-52	QN-37-A	3.1-3.5	0.60 / 0.70	1.30	2 / 7	100	0.65 / 0.75	10 / 20	0.70 / 0.80
LY-54	QN-41-A	3.3-3.7	0.60 / 0.70	1.30	2 / 7	100	0.65 / 0.75	10 / 20	0.70 / 0.80
LY-56	QN-43-A	3.7-4.2	0.60 / 0.70	1.30	2 / 7	100	0.65 / 0.75	10 / 20	0.70 / 0.80
LY-57	QN-44-A	4.2-4.4	0.70 / 0.80	1.30	2 / 7	100	0.75 / 0.85	10 / 20	0.80 / 0.90
LY-61	QN-47-A	4.4-5.0	0.75 / 0.90	1.30	3 / 7	100	0.80 / 0.95	10 / 20	0.85 / 1.00
LY-62	QN-50-A	5.0-5.25	0.75 / 0.90	1.30	3 / 7	100	0.80 / 0.95	10 / 20	0.85 / 1.00
LY-64	QN-51-A	5.4-5.9	0.75 / 0.90	1.30	3 / 7	100	0.80 / 0.95	10 / 20	0.85 / 1.00
LY-67	QN-55-A	5.9-6.4	0.80 / 0.90	1.30	3 / 7	100	0.85 / 0.95	10 / 20	0.90 / 1.00
LY-69	QN-58-A	6.7-7.4	0.85 / 1.00	1.30	3 / 7	100	0.90 / 1.10	10 / 20	0.95 / 1.20
LY-71	QN-62-A	7.1-7.7	0.90 / 1.00	1.30	3 / 7	100	0.95 / 1.10	10 / 20	1.00 / 1.20
LY-75	QN-65-A	8.5-9.6	1.00 / 1.10	1.30	3 / 7	100	1.10 / 1.20	10 / 20	1.20 / 1.30
LY-77	QN-68-A	9.0-9.2	1.00 / 1.10	1.30	1 / 7	100	1.10 / 1.20	10 / 20	1.20 / 1.30
LY-79	QN-71-A	9.3-9.7	1.00 / 1.10	1.30	1 / 7	100	1.10 / 1.20	10 / 20	1.20 / 1.30
LY-81	QN-74-A	9.8-10.4	1.10 / 1.20	1.30	1 / 7	100	1.20 / 1.30	10 / 20	1.30 / 1.40
LY-83	QN-78-A	10.0-10.5	1.10 / 1.20	1.30	1 / 7	100	1.20 / 1.30	10 / 20	1.30 / 1.40
LY-86	QN-82-A	12.0-12.4	1.20 / 1.30	1.30	1 / 7	100	1.30 / 1.40	10 / 20	1.40 / 1.50
LY-89	QN-85-A	13.1-13.5	1.30 / 1.40	1.40	1 / 7	100	1.40 / 1.50	10 / 20	1.50 / 1.60
LY-92	QN-89-A	14.5-15.5	1.30 / 1.40	1.40	1 / 7	100	1.40 / 1.50	10 / 20	1.50 / 1.60
LY-95	QN-92-A	15.0-17.0	1.30 / 1.40	1.40	1 / 7	100	1.40 / 1.50	10 / 20	1.50 / 1.60
LY-99	QN-95-A	16.0-18.0	1.30 / 1.40	1.40	1 / 7	100	1.40 / 1.50	10 / 20	1.50 / 1.60

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' Input Position.

Insertion Loss measured with input power less than 100 mW.