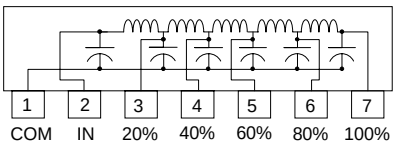
SIP4 Series High Performance Passive 5-Tap Delay Modules

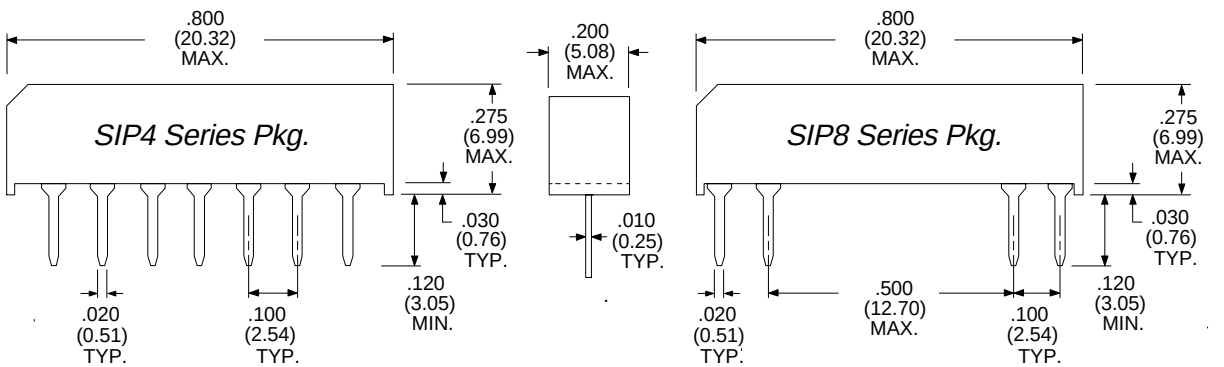
- *Fast Rise Time, Low DCR*
- *High Bandwidth* $\approx 0.35 / t_r$
- *Low Distortion LC Network*
- *SIP4: 5 Equal Delay Taps*
- *Standard Impedances: 50 - 75 - 100 - 200 Ω*
- *Stable Delay vs. Temperature: 100 ppm/°C*
- *Operating Temperature Range -55°C to +125°C*

5-Tap *SIP4* Style Schematic



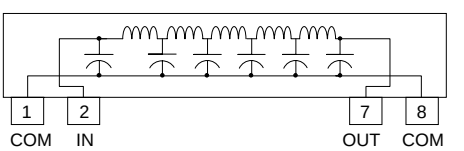
Electrical Specifications [1, 2, 3] at 25°C (Refer to Operating Specifications for Passive Delay Lines page 2.)

Delay Tolerances Total (ns)	Delay Tolerances Tap-to-Tap (ns)	50 Ohm Part Number	Rise Time (ns)	DCR max. (Ohms)	75 Ohm Part Number	Rise Time (ns)	DCR max. (Ohms)	100 Ohm Part Number	Rise Time (ns)	DCR max. (Ohms)	200 Ohm Part Number	Rise Time (ns)	DCR max. (Ohms)
5 ± 0.5	1.0 ± 0.4	SIP4-55	2.0	0.7	SIP4-57	2.7	0.8	SIP4-51	3.0	0.8	SIP4-52	3.0	0.9
10 ± 1.0	2.0 ± 0.5	SIP4-105	4.0	0.7	SIP4-107	4.4	1.3	SIP4-101	4.6	1.3	SIP4-102	6.3	1.5
15 ± 1.0	3.0 ± 0.6	SIP4-155	5.5	1.0	SIP4-157	5.8	1.6	SIP4-151	5.8	1.6	SIP4-152	7.7	2.0
20 ± 1.0	4.0 ± 0.8	SIP4-205	6.4	1.2	SIP4-207	7.3	1.7	SIP4-201	7.5	1.7	SIP4-202	9.8	2.2
25 ± 1.25	5.0 ± 1.0	SIP4-255	8.0	1.3	SIP4-257	8.0	1.9	SIP4-251	8.0	1.9	SIP4-252	15.5	2.4
30 ± 1.5	6.0 ± 1.5	SIP4-305	9.0	1.6	SIP4-307	8.5	2.2	SIP4-301	8.5	2.2	SIP4-302	16.0	2.8
35 ± 1.75	7.0 ± 1.5	SIP4-355	10.0	1.7	SIP4-357	12.3	2.5	SIP4-351	12.7	2.5	SIP4-352	17.0	3.1
40 ± 2.0	8.0 ± 2.0	SIP4-405	11.0	1.9	SIP4-407	15.5	2.7	SIP4-401	15.5	2.8	SIP4-402	17.0	3.4
45 ± 2.25	9.0 ± 2.0	SIP4-455	12.0	2.0	SIP4-457	16.2	2.8	SIP4-451	16.5	3.0	SIP4-452	18.0	3.7
50 ± 2.5	10.0 ± 2.0	SIP4-505	14.0	2.1	SIP4-507	17.8	2.9	SIP4-501	18.0	3.1	SIP4-502	19.0	4.0
75 ± 3.75	15.0 ± 3.5	SIP4-755	23.0	2.2	SIP4-757	25.7	3.3	SIP4-751	26.0	3.4	–	–	–
100 ± 5.0	20.0 ± 4.0	SIP4-1005	33.0	2.4	SIP4-1007	34.0	3.6	SIP4-1001	34.0	3.7	–	–	–



SIP8 Series Tight Tolerance & Fast t_r Passive Delay Lines

Single *SIP8* Style Schematic



Electrical Specifications [1, 2, 3] at 25°C (Refer to Operating Specifications for Passive Delay Lines page 2.)

Delay (ns)	Rise Time max. (ns)	DCR max. (Ohms)	50 Ohm Part Number	75 Ohm Part Number	100 Ohm Part Number	200 Ohm Part Number
1.0 ± .20	0.8	0.8	SIP8-15	SIP8-17	SIP8-11	SIP8-12
1.5 ± .20	0.9	1.1	SIP8-1.55	SIP8-1.57	SIP8-1.51	SIP8-1.52
2.0 ± .25	1.1	1.2	SIP8-25	SIP8-27	SIP8-21	SIP8-22
2.5 ± .30	1.1	1.3	SIP8-2.55	SIP8-2.57	SIP8-2.51	SIP8-2.52
3.0 ± .30	1.3	1.4	SIP8-35	SIP8-37	SIP8-31	SIP8-32
4.0 ± .30	1.6	1.5	SIP8-45	SIP8-47	SIP8-41	SIP8-42
5.0 ± .30	1.8	1.5	SIP8-55	SIP8-57	SIP8-51	SIP8-52
6.0 ± .40	1.9	1.6	SIP8-65	SIP8-67	SIP8-61	SIP8-62
7.0 ± .40	2.1	1.6	SIP8-75	SIP8-77	SIP8-71	SIP8-72
8.0 ± .45	2.2	1.6	SIP8-85	SIP8-87	SIP8-81	SIP8-82
9.0 ± .45	2.4	1.7	SIP8-95	SIP8-97	SIP8-91	SIP8-92

Delay (ns)	Rise Time max. (ns)	DCR max. (Ohms)	50 Ohm Part Number	75 Ohm Part Number	100 Ohm Part Number	200 Ohm Part Number
10 ± 0.5	2.5	1.7	SIP8-105	SIP8-107	SIP8-101	SIP8-102
15 ± 0.7	3.7	2.1	SIP8-155	SIP8-157	SIP8-151	SIP8-152
20 ± 0.7	4.6	2.4	SIP8-205	SIP8-207	SIP8-201	SIP8-202
25 ± 1.0	5.4	3.1	SIP8-255	SIP8-257	SIP8-251	SIP8-252
30 ± 1.0	6.5	4.5	SIP8-305	SIP8-307	SIP8-301	----------
40 ± 1.2	8.5	4.5	SIP8-405	SIP8-407	SIP8-401	----------
50 ± 2.0	10.0	4.5	SIP8-505	SIP8-507	SIP8-501	----------
75 ± 3.0	16.0	6.2	SIP8-755	SIP8-757	SIP8-751	----------
100 ± 4.0	20.0	6.2	SIP8-1005	SIP8-1007	SIP8-1001	----------
150 ± 5.0	32.0	6.8	SIP8-1505	SIP8-1507	SIP8-1501	----------
200 ± 8.0	44.0	7.6	SIP8-2005	SIP8-2007	SIP8-2001	----------

1. Rise Times are measured from 10% to 90% points.
2. Delay Times measured at 50% points of leading edge.
3. Output (100% Tap) terminated to ground through $R_L = Z_O$

Specifications subject to change without notice. *For other values & Custom Designs, contact factory.* SIP4_5 5/98

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SIP5 Series High Performance Passive 10-Tap Delay Modules

- *Fast Rise Time, Low DCR*
- *High Bandwidth ≈ 0.35 / t_r*
- *Low Distortion LC Network*
- *SIP5: 10 Equal Delay Taps*
- *Standard Impedances: 50 - 75 - 100 - 200 Ω*
- *Stable Delay vs. Temperature: 100 ppm/°C*
- *Operating Temperature Range -55°C to +125°C*

Part Number Description **SIP*X* - *XX* *X***

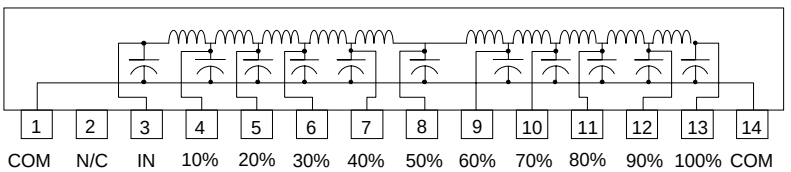
SIP Passive Delay: *SIP4* = 5-Tap 7-Pin, *SIP5* = 10-Tap 14-Pin, *SIP8* = Single 8-Pin

Total Delay in nanoseconds (ns)

Line Impedance, Zo (Ohms, ± 5%)
5 = 50 Ω, 7 = 75 Ω, 10 = 100 Ω, 20 = 200 Ω

Examples: SIP4-51 = 7-Pin 5 ns (1 ns per tap) 100 Ω
SIP5-757 = 14-Pin 75 ns (7.5 ns per tap) 75 Ω
SIP8-302 = 8-Pin 30 ns 200 Ω

SIP5 Style Schematic

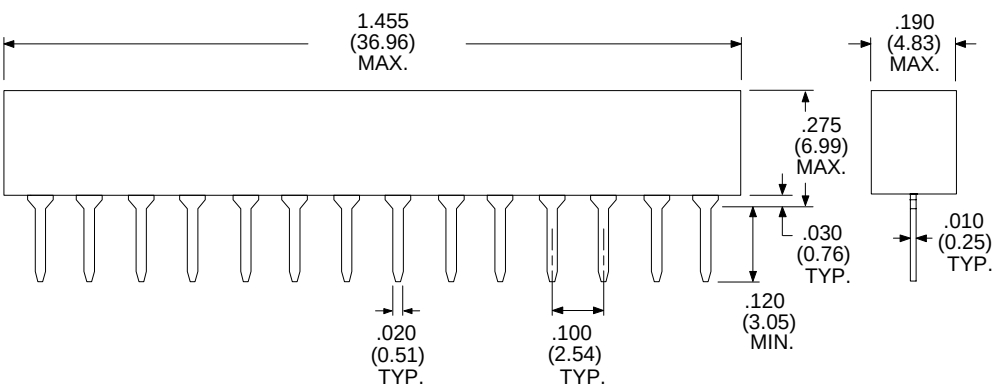


Electrical Specifications [1, 2, 3] at 25°C (Refer to Operating Specifications for Passive Delay Lines page 2.)

Delay Tolerances Total (ns)	Delay Tolerances Tap-to-Tap (ns)	50 Ohm Part Number	Rise Time (ns)	DCR max. (Ohms)	75 Ohm Part Number	Rise Time (ns)	DCR max. (Ohms)	100 Ohm Part Number	Rise Time (ns)	DCR max. (Ohms)	200 Ohm Part Number	Rise Time (ns)	DCR max. (Ohms)
5 ± 0.5	0.5 ± 0.2	SIP5-55	2.0	0.7	SIP5-57	2.1	0.8	SIP5-51	2.2	0.8	SIP5-52	2.4	0.9
10 ± 0.7	1.0 ± 0.4	SIP5-105	3.2	0.7	SIP5-107	3.6	0.8	SIP5-101	3.8	0.8	SIP5-102	5.5	1.0
15 ± 1.0	1.5 ± 0.5	SIP5-155	3.4	0.8	SIP5-157	4.1	1.2	SIP5-151	4.1	1.3	SIP5-152	6.3	1.5
20 ± 1.0	2.0 ± 0.5	SIP5-205	4.0	0.8	SIP5-207	4.4	1.3	SIP5-201	4.6	1.5	SIP5-202	8.5	1.5
25 ± 1.25	2.5 ± 0.5	SIP5-255	4.5	0.9	SIP5-257	5.3	1.5	SIP5-251	5.5	1.7	SIP5-252	9.0	2.2
30 ± 1.5	3.0 ± 0.6	SIP5-305	5.5	1.0	SIP5-307	5.8	1.7	SIP5-301	5.8	2.0	SIP5-302	10.0	2.4
35 ± 1.75	3.5 ± 0.8	SIP5-355	6.6	1.2	SIP5-357	7.2	2.0	SIP5-351	7.3	2.2	SIP5-352	13.0	2.5
40 ± 2.0	4.0 ± 1.0	SIP5-405	7.0	1.2	SIP5-407	7.5	2.0	SIP5-401	7.5	2.2	SIP5-402	13.4	3.0
45 ± 2.25	4.5 ± 1.0	SIP5-455	8.2	1.3	SIP5-457	8.2	2.1	SIP5-451	8.3	2.3	SIP5-452	15.2	3.1
50 ± 2.5	5.0 ± 1.0	SIP5-505	8.5	1.3	SIP5-507	8.5	2.1	SIP5-501	8.5	2.3	SIP5-502	15.5	3.3
55 ± 2.75	5.5 ± 1.0	SIP5-555	10.2	1.6	SIP5-557	11.2	2.2	SIP5-551	11.4	2.4	SIP5-552	16.0	3.5
60 ± 3.0	6.0 ± 1.5	SIP5-605	10.5	1.6	SIP5-607	11.4	2.3	SIP5-601	11.5	2.5	SIP5-602	16.2	3.6
70 ± 3.5	7.0 ± 1.5	SIP5-705	11.0	1.7	SIP5-707	13.0	2.6	SIP5-701	13.0	2.8	SIP5-702	17.0	3.7
75 ± 3.75	7.5 ± 1.5	SIP5-755	11.6	1.9	SIP5-757	15.0	2.8	SIP5-751	15.3	3.0	SIP5-752	19.1	3.8
80 ± 4.0	8.0 ± 1.8	SIP5-805	12.0	1.9	SIP5-807	15.3	2.9	SIP5-801	15.5	3.0	SIP5-802	19.5	4.0
90 ± 4.5	9.0 ± 2.0	SIP5-905	14.0	2.0	SIP5-907	17.3	3.0	SIP5-901	17.5	3.1	SIP5-902	20.0	4.2
100 ± 5.0	10.0 ± 2.0	SIP5-1005	18.0	2.1	SIP5-1007	19.5	3.1	SIP5-1001	20.0	3.2	SIP5-1002	24.0	4.4

1. Rise Times are measured from 10% to 90% points.
2. Delay Times measured at 50% points of leading edge.
3. Output (100% Tap) terminated to ground through $R_L=Z_O$

Dimensions in inches (mm)



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