TZA Series High Performance Passive 5-Tap Delay Modules

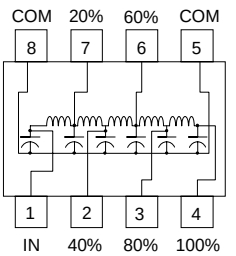
- *Fast Rise Time, Low DCR*
- *High Bandwidth ≈ 0.35 / t_r*
- *Low Distortion LC Network*
- *5 Equal Delay Taps*
- *Standard Impedances: 50 - 75 - 100 - 200 Ω*
- *Stable Delay vs. Temperature: 100 ppm/°C*
- *Operating Temperature Range -55°C to +125°C*

Part Number Description **T *X* A *XX* - *XX***

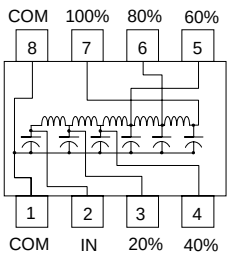
- 8-Pin 5-Tap Delay Line
- Pin Out (Z , Y)
- Family Code No. (*See Table for Delay*)
- Line Impedance, Zo (Ohms, ± 5%)
  5 = 50 Ω, 7 = 75 Ω, 10 = 100 Ω, 20 = 200 Ω

Examples: TZA11-5 = Z Style 75ns (15ns per tap) 50 Ω
TYA4-10 = Y Style 20ns (4ns per tap) 100 Ω

T**Z**A Style Schematic
Most Popular Footprint



T**Y**A Style Schematic
Substitute TYA for TZA in P/N



Electrical Specifications at 25°C

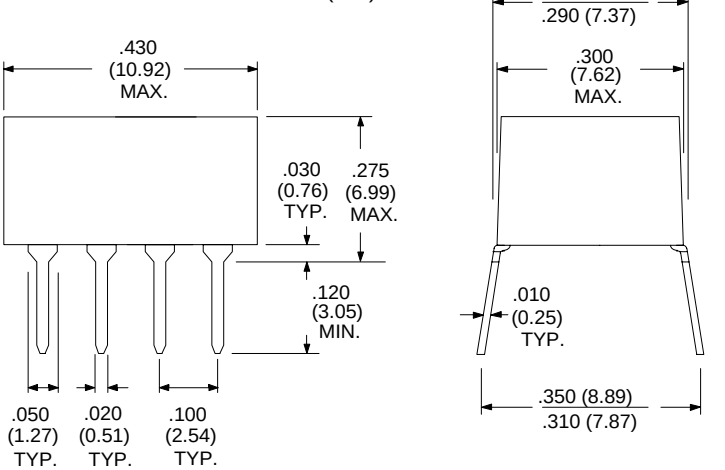
Delay Tolerances Total (ns)	Delay Tolerances Tap-to-Tap (ns)	50 Ohm Part Number	Rise Time (ns)	DCR max. (Ohms)	75 Ohm Part Number	Rise Time (ns)	DCR max. (Ohms)	100 Ohm Part Number	Rise Time (ns)	DCR max. (Ohms)	200 Ohm Part Number	Rise Time (ns)	DCR max. (Ohms)
5 ± 0.5	1.0 ± 0.4	TZA1-5	2.0	0.7	TZA1-7	2.7	0.8	TZA1-10	3.0	0.8	TZA1-20	3.0	0.9
10 ± 1.0	2.0 ± 0.5	TZA2-5	4.0	0.7	TZA2-7	4.4	1.3	TZA2-10	4.6	1.3	TZA2-20	6.3	1.5
15 ± 1.0	3.0 ± 0.6	TZA3-5	5.5	1.0	TZA3-7	5.8	1.6	TZA3-10	5.8	1.6	TZA3-20	7.7	2.0
20 ± 1.0	4.0 ± 0.8	TZA4-5	6.4	1.2	TZA4-7	7.3	1.7	TZA4-10	7.5	1.7	TZA4-20	9.8	2.2
25 ± 1.25	5.0 ± 1.0	TZA5-5	8.0	1.3	TZA5-7	8.0	1.9	TZA5-10	8.0	1.9	TZA5-20	15.5	2.4
30 ± 1.5	6.0 ± 1.2	TZA6-5	9.0	1.6	TZA6-7	8.5	2.2	TZA6-10	8.5	2.2	TZA6-20	16.0	2.8
35 ± 1.75	7.0 ± 1.5	TZA7-5	10.0	1.7	TZA7-7	12.3	2.5	TZA7-10	12.7	2.5	TZA7-20	17.0	3.1
40 ± 2.0	8.0 ± 2.0	TZA8-5	11.0	1.9	TZA8-7	15.5	2.8	TZA8-10	15.5	2.8	TZA8-20	17.0	3.4
45 ± 2.25	9.0 ± 2.0	TZA9-5	12.0	2.0	TZA9-7	16.2	3.0	TZA9-10	16.5	3.0	TZA9-20	18.0	3.7
50 ± 2.5	10.0 ± 2.0	TZA10-5	14.0	2.1	TZA10-7	17.8	3.1	TZA10-10	18.0	3.1	TZA10-20	19.0	4.0
75 ± 3.75	15.0 ± 3.5	TZA11-5	23.0	2.2	TZA11-7	25.7	3.4	TZA11-10	26.0	3.4	–	–	–
100 ± 5.0	20.0 ± 4.0	TZA12-5	33.0	2.4	TZA12-7	34.0	3.7	TZA12-10	34.0	3.7	–	–	–
125 ± 6.25	25.0 ± 5.0	TZA13-5	35.0	2.6	TZA13-7	41.5	4.0	TZA13-10	42.0	4.0	–	–	–

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 $R_L=Z_O$

OPERATING SPECIFICATIONS - *Passive Delays*

Pulse Overshoot (Pos) ..... 5% to 10%, typical
Pulse Distortion (S) ..... 3% typical
Working Voltage ..... 25 VDC maximum
Dielectric Strength ..... 100VDC minimum
Insulation Resistance ..... 1,000 Megohms min. @ 100VDC
Temperature Coefficient ..... 100 ppm/°C, typical
Band Width (f_c) ..... .35/tr approx.
Operating Temperature Range ..... -55° to +125°C
Storage Temperature Range ..... -65° to +150°C

Dimensions in inches (mm)



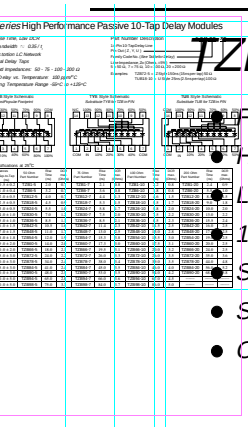
Specifications subject to change without notice.

For other values & Custom Designs, contact factory.

TZB_TZA 1/98

15801 Chemical Lane, Huntington Beach, CA 92649-1595
Tel: (714) 898-0960 • Fax: (714) 896-0971

TZB Series High Performance Passive 10-Tap Delay Modules



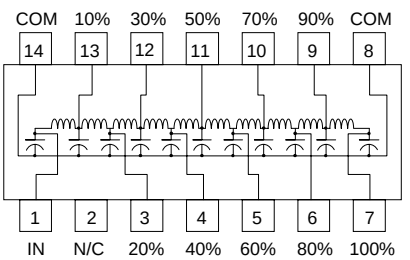
- *Fast Rise Time, Low DCR*
- *High Bandwidth ≈ 0.35 / t_r*
- *Low Distortion LC Network*
- *10 Equal Delay Taps*
- *Standard Impedances: 50 - 75 - 100 - 200 Ω*
- *Stable Delay vs. Temperature: 100 ppm/°C*
- *Operating Temperature Range -55°C to +125°C*

Part Number Description **T *X* B *XX* - *XX***

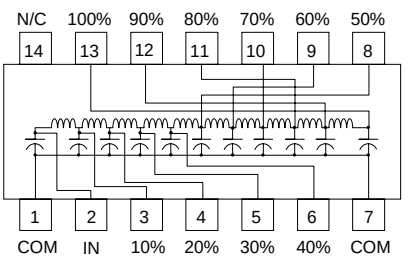
14-Pin 10-Tap Delay Line
Pin Out (Z , Y, U)
Family Code No. (*See Table for Delay*)
Line Impedance, Zo (Ohms, ± 5%)
5 = 50 Ω, 7 = 75 Ω, 10 = 100 Ω, 20 = 200 Ω

Examples: TZB72-5 = Z Style 150ns (15ns per tap) 50 Ω
TUB18-10 = U Style 25ns (2.5ns per tap) 100 Ω

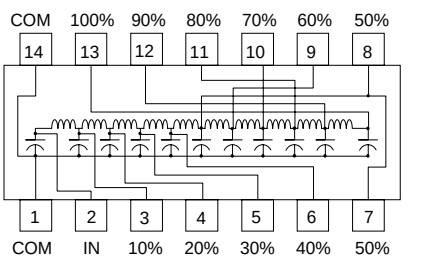
TZB Style Schematic
Most Popular Footprint



TYB Style Schematic
Substitute TYB for TZB in P/N



TUB Style Schematic
Substitute TUB for TZB in P/N

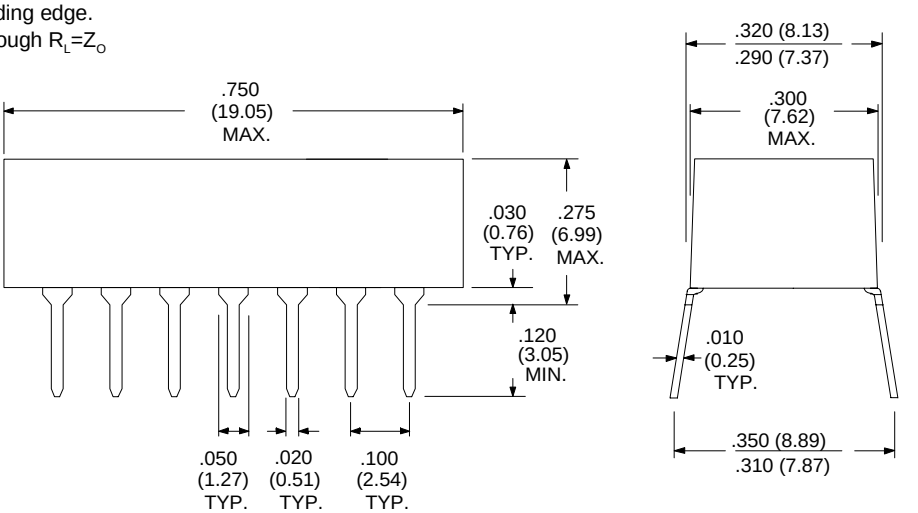


Electrical Specifications at 25°C

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	TZB1-5	2.0	0.7	TZB1-7	2.1	0.8	TZB1-10	2.2	0.8	TZB1-20	2.4	0.9
10 ± 0.7	1.0 ± 0.4	TZB6-5	3.2	0.7	TZB6-7	3.6	0.8	TZB6-10	3.8	0.8	TZB6-20	5.5	1.0
20 ± 1.0	2.0 ± 0.5	TZB12-5	4.0	0.7	TZB12-7	4.4	1.3	TZB12-10	4.6	1.5	TZB12-20	8.5	1.5
25 ± 1.25	2.5 ± 0.5	TZB18-5	4.5	0.9	TZB18-7	5.3	1.5	TZB18-10	5.5	1.7	TZB18-20	9.0	1.8
30 ± 1.5	3.0 ± 0.5	TZB24-5	5.5	1.0	TZB24-7	5.8	1.7	TZB24-10	5.8	2.0	TZB24-20	10.0	2.0
40 ± 2.0	4.0 ± 1.0	TZB30-5	7.0	1.2	TZB30-7	7.5	2.0	TZB30-10	7.5	2.2	TZB30-20	13.0	2.2
50 ± 2.5	5.0 ± 1.0	TZB36-5	8.5	1.3	TZB36-7	8.5	2.1	TZB36-10	8.5	2.3	TZB36-20	15.5	2.4
60 ± 3.0	6.0 ± 1.5	TZB42-5	10.5	1.6	TZB42-7	11.4	2.3	TZB42-10	11.5	2.5	TZB42-20	16.0	2.5
70 ± 3.5	7.0 ± 1.5	TZB48-5	11.0	1.7	TZB48-7	13.0	2.5	TZB48-10	13.0	2.8	TZB48-20	17.0	2.5
80 ± 4.0	8.0 ± 1.8	TZB54-5	12.0	1.9	TZB54-7	15.3	3.8	TZB54-10	15.5	3.0	TZB54-20	19.0	2.5
90 ± 4.5	9.0 ± 2.0	TZB60-5	14.0	2.0	TZB60-7	17.3	3.0	TZB60-10	17.5	3.1	TZB60-20	20.0	2.5
100 ± 5.0	10.0 ± 2.0	TZB66-5	18.0	2.1	TZB66-7	19.5	3.1	TZB66-10	20.0	3.2	TZB66-20	24.0	2.5
150 ± 7.50	15.0 ± 3.0	TZB72-5	24.0	2.2	TZB72-7	26.0	3.3	TZB72-10	26.0	3.5	TZB72-20	35.0	3.6
200 ± 10.0	20.0 ± 3.0	TZB78-5	34.0	2.4	TZB78-7	38.0	3.4	TZB78-10	39.0	3.5	TZB78-20	44.0	4.8
250 ± 12.5	25.0 ± 3.0	TZB84-5	41.0	2.4	TZB84-7	45.0	3.5	TZB84-10	46.0	4.0	TZB84-20	56.0	5.2
300 ± 15.0	30.0 ± 3.0	TZB90-5	48.0	2.5	TZB90-7	53.0	3.5	TZB90-10	54.0	4.2	TZB90-20	68.0	5.8
400 ± 20.0	40.0 ± 5.0	TZB94-5	65.0	2.8	TZB94-7	66.0	3.6	TZB94-10	67.0	4.5	———	———	———
500 ± 25.0	50.0 ± 5.0	TZB98-5	75.0	3.3	TZB98-7	84.0	3.7	TZB98-10	86.0	5.0	———	———	———

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)



For other values & Custom Designs, contact factory.

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Rhombus Industries Inc.
15801 Chemical Lane, Huntington Beach, CA 92649-1595
Tel: (714) 898-0960 • Fax: (714) 896-0971