

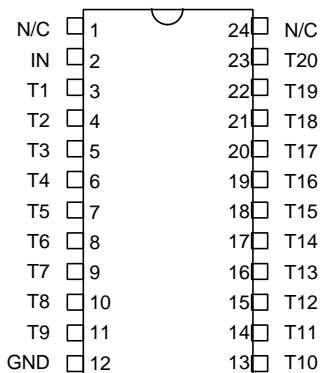
20-TAP DIP DELAY LINE

$T_D/T_R = 10$
(SERIES 2214)

**data
delay
devices, inc.** 

FEATURES

- 20 taps of equal delay increment
- High bandwidth ($T_D/T_R = 10$)
- Low profile
- Epoxy encapsulated
- Meets or exceeds MIL-D-23859C

PACKAGES

2214-xxz (DIP)
2214-xxzC4 (Gull-Wing)
xx = Delay (T_D)
z = Impedance Code

PIN DESCRIPTIONS

IN Signal Input
T1-T20 Tap Outputs
GND Ground

FUNCTIONAL DESCRIPTION

The 2214-series device is a fixed, single-input, twenty-output, passive delay line. The signal input (IN) is reproduced at the outputs (T1-T20) in equal increments. The delay from IN to T20 (T_D) is given by the device dash number. The characteristic impedance of the line is given by the letter code that follows the dash number (See Table). The rise time (T_R) of the line is 10% of T_D , and the 3dB bandwidth is given by $3.5 / T_D$.

SERIES SPECIFICATIONS

- Dielectric breakdown: 50 Vdc
- Distortion @ output: 10% max.
- Operating temperature: -55°C to +125°C
- Storage temperature: -55°C to +125°C
- Temperature coefficient: 100 PPM/°C

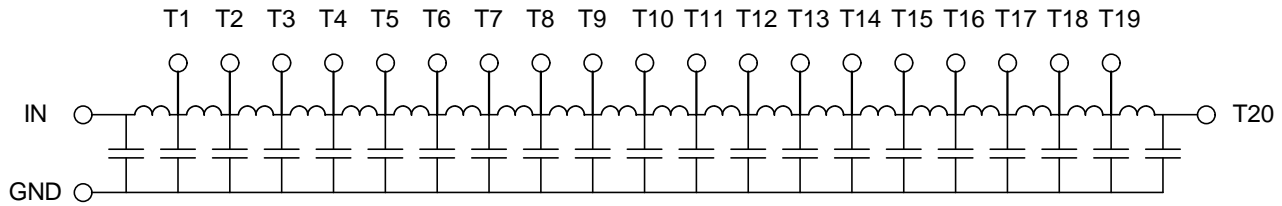
DASH NUMBER SPECIFICATIONS**DASH NUMBER SPECIFICATIONS**

Part Number	T_D (ns)	Delay per Tap (ns)	T_R (ns)	Imped. (Ω)	R_{DC} (Ω)
2214-50A	50.0 ± 2.5	2.5 ± 1.0	5.0	50	3.2
2214-60A	60.0 ± 3.0	3.0 ± 1.0	6.0	50	3.6
2214-80A	80.0 ± 4.0	4.0 ± 1.0	8.0	50	5.0
2214-100A	100 ± 5.0	5.0 ± 1.0	10.0	50	6.0
2214-150A	150 ± 7.5	7.5 ± 1.0	15.0	50	6.0
2214-200A	200 ± 10.0	10.0 ± 1.0	20.0	50	7.0
2214-50B	50.0 ± 2.5	2.5 ± 1.0	5.0	100	6.0
2214-60B	60.0 ± 3.0	3.0 ± 1.0	6.0	100	6.0
2214-80B	80.0 ± 4.0	4.0 ± 1.0	8.0	100	6.5
2214-100B	100 ± 5.0	5.0 ± 1.0	10.0	100	7.0
2214-150B	150 ± 7.5	7.5 ± 1.0	15.0	100	8.0
2214-200B	200 ± 10.0	10.0 ± 1.0	20.0	100	8.5
2214-300B	300 ± 15.0	15.0 ± 1.0	30.0	100	11.0
2214-400B	400 ± 20.0	20.0 ± 1.0	40.0	100	12.0

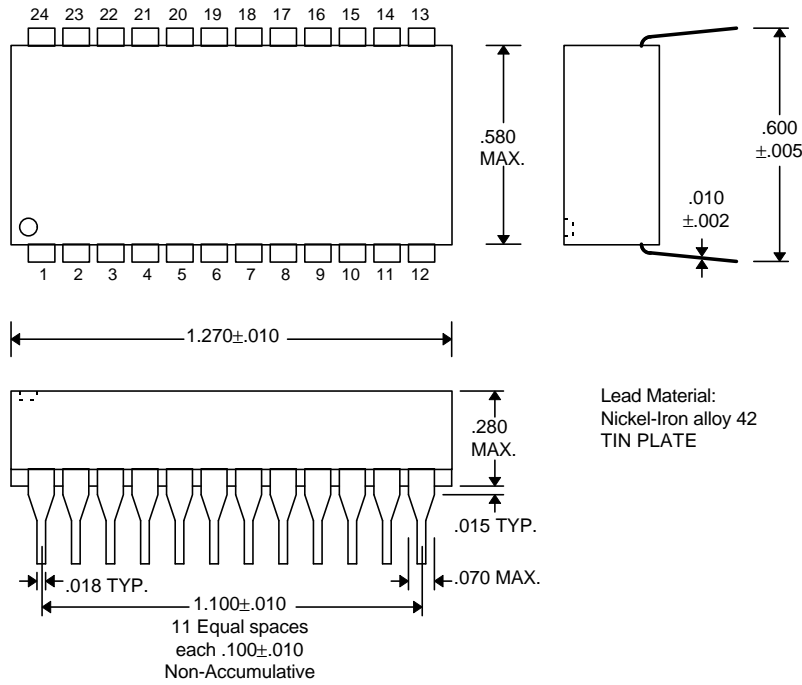
Part Number	T_D (ns)	Delay per Tap (ns)	T_R (ns)	Imped. (Ω)	R_{DC} (Ω)
2214-40C	40.0 ± 2.0	2.0 ± 1.0	4.0	200	7.0
2214-80C	80.0 ± 4.0	4.0 ± 1.0	8.0	200	8.0
2214-120C	120 ± 6.0	6.0 ± 1.0	12.0	200	10.0
2214-200C	200 ± 10.0	10.0 ± 1.0	20.0	200	13.0
2214-300C	300 ± 15.0	15.0 ± 1.0	30.0	200	12.0
2214-400C	400 ± 20.0	20.0 ± 1.0	40.0	200	15.0
2214-500C	500 ± 25.0	25.0 ± 1.3	50.0	200	17.0
2214-600C	600 ± 30.0	30.0 ± 1.5	60.0	200	23.0
2214-800C	800 ± 40.0	40.0 ± 2.0	80.0	200	38.0
2214-50D	50.0 ± 2.5	2.5 ± 1.0	5.0	250	7.0
2214-100D	100 ± 5.0	5.0 ± 1.0	10.0	250	10.0
2214-150D	150 ± 7.5	7.5 ± 1.0	15.0	250	12.0
2214-200D	200 ± 10.0	10.0 ± 1.0	20.0	250	22.0
2214-250D	250 ± 12.5	12.5 ± 1.0	25.0	250	21.0
2214-300D	300 ± 15.0	15.0 ± 1.0	30.0	250	23.0
2214-400D	400 ± 20.0	20.0 ± 1.0	40.0	250	26.0
2214-500D	500 ± 25.0	25.0 ± 1.3	50.0	250	30.0
2214-600D	600 ± 30.0	30.0 ± 1.5	60.0	250	37.0
2214-800D	800 ± 40.0	40.0 ± 2.0	80.0	250	41.0
2214-1000D	1000 ± 50.0	50.0 ± 2.5	100	250	47.0
2214-200G	200 ± 10.0	10.0 ± 1.0	20.0	500	20.0
2214-300G	300 ± 15.0	15.0 ± 1.0	30.0	500	37.0
2214-400G	400 ± 20.0	20.0 ± 1.0	40.0	500	40.0
2214-500G	500 ± 25.0	25.0 ± 1.3	50.0	500	45.0
2214-600G	600 ± 30.0	30.0 ± 1.5	60.0	500	52.0
2214-800G	800 ± 40.0	40.0 ± 2.0	80.0	500	80.0
2214-1000G	1000 ± 50.0	50.0 ± 2.5	100	500	100
2214-1200G	1200 ± 60.0	60.0 ± 3.0	120	500	110
2214-1500G	1500 ± 75.0	75.0 ± 3.8	150	500	130
2214-2000G	2000 ± 100	100 ± 5.0	200	500	156

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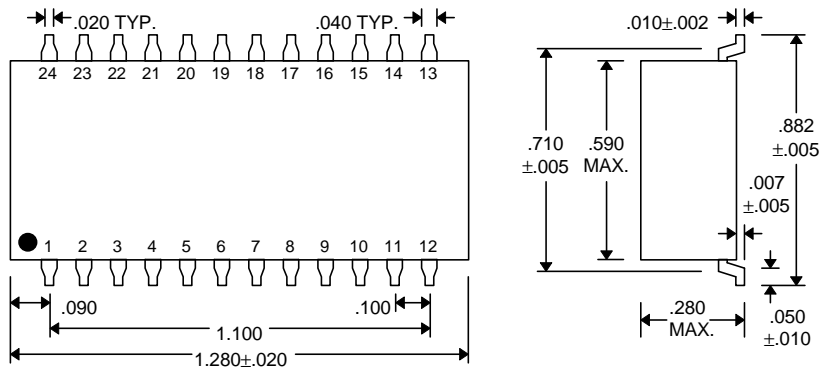
FUNCTIONAL DIAGRAM



PACKAGE DIMENSIONS



DIP (2214-xxz)



Gull-Wing (2214-xxzC4)

PASSIVE DELAY LINE TEST SPECIFICATIONS

TEST CONDITIONS

INPUT:

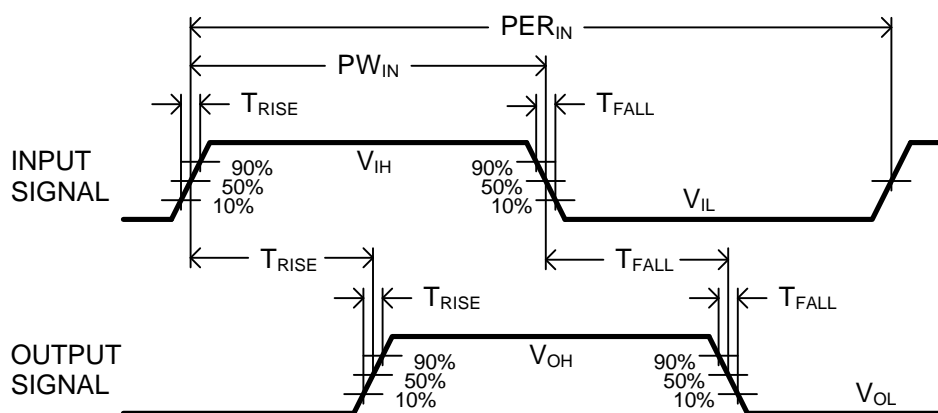
Ambient Temperature: $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$
Input Pulse: High = 3.0V typical
 Low = 0.0V typical
Source Impedance: 50Ω Max.
Rise/Fall Time: 3.0 ns Max. (measured at 10% and 90% levels)

Pulse Width ($T_D \leq 75\text{ns}$): $PW_{IN} = 100\text{ns}$
Period ($T_D \leq 75\text{ns}$): $PER_{IN} = 1000\text{ns}$
Pulse Width ($T_D > 75\text{ns}$): $PW_{IN} = 2 \times T_D$
Period ($T_D > 75\text{ns}$): $PER_{IN} = 10 \times T_D$

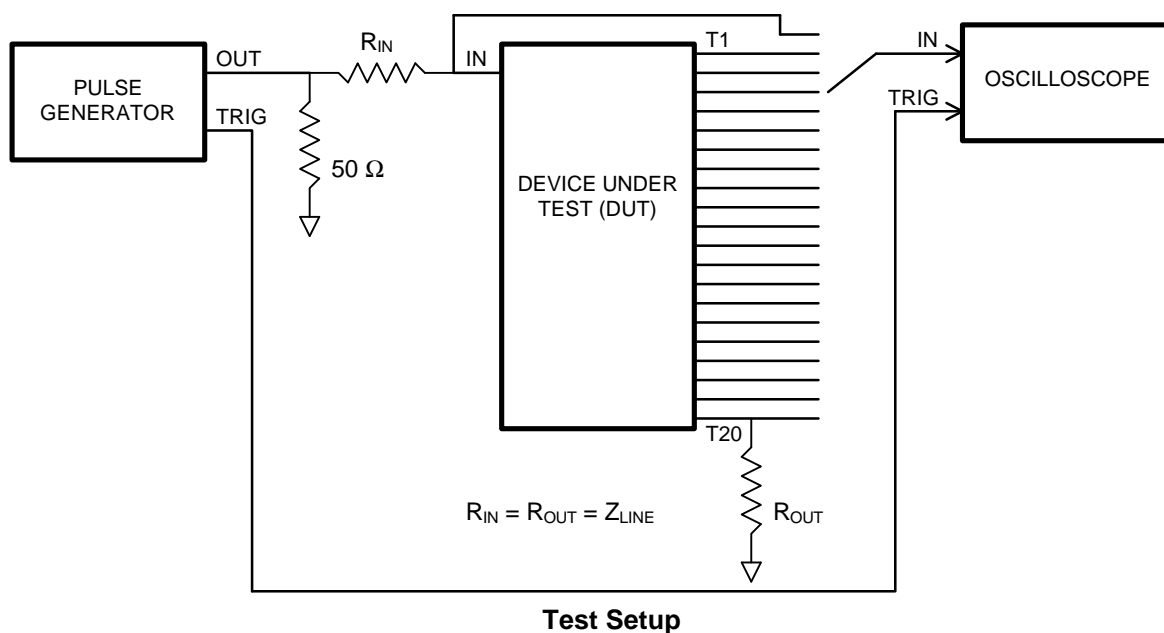
OUTPUT:

R_{load} : 10MΩ
 C_{load} : 10pf
Threshold: 50% (Rising & Falling)

NOTE: The above conditions are for test only and do not in any way restrict the operation of the device.



Timing Diagram For Testing



Test Setup

This datasheet has been downloaded from:

www.DatasheetCatalog.com

Datasheets for electronic components.