FIXED DIP DELAY LINE

T_D/T_R = 10
(SERIES 2211)

FEATURES

• High bandwidth (T_D/T_R = 10)
• Low profile
• Epoxy encapsulated
• Meets or exceeds MIL-D-23859C

PACKAGES

N/C  IN  OUT  N/C  N/C  N/C  N/C  N/C  N/C  N/C  N/C  N/C  N/C  N/C  N/C  N/C
1  2  3  4  5  6  7  8  9 10 11 12

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FUNCTIONAL DESCRIPTION

The 2211-series device is a fixed, single-input, single-output, passive delay line. The signal input (IN) is reproduced at the output (OUT) with a delay (T_D) 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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>T_D (ns)</th>
<th>T_R (ns)</th>
<th>Imped. (Ω)</th>
<th>R_DC (Ω)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2211-50A</td>
<td>50.0 ± 2.5</td>
<td>5.0</td>
<td>50</td>
<td>3.2</td>
</tr>
<tr>
<td>2211-60A</td>
<td>60.0 ± 3.0</td>
<td>6.0</td>
<td>50</td>
<td>3.6</td>
</tr>
<tr>
<td>2211-80A</td>
<td>80.0 ± 4.0</td>
<td>8.0</td>
<td>50</td>
<td>5.0</td>
</tr>
<tr>
<td>2211-100A</td>
<td>100 ± 5.0</td>
<td>10.0</td>
<td>50</td>
<td>6.0</td>
</tr>
<tr>
<td>2211-150A</td>
<td>150 ± 7.5</td>
<td>15.0</td>
<td>50</td>
<td>6.0</td>
</tr>
<tr>
<td>2211-200A</td>
<td>200 ± 10.0</td>
<td>20.0</td>
<td>50</td>
<td>7.0</td>
</tr>
<tr>
<td>2211-50B</td>
<td>50.0 ± 2.5</td>
<td>5.0</td>
<td>100</td>
<td>6.0</td>
</tr>
<tr>
<td>2211-60B</td>
<td>60.0 ± 3.0</td>
<td>6.0</td>
<td>100</td>
<td>6.0</td>
</tr>
<tr>
<td>2211-80B</td>
<td>80.0 ± 4.0</td>
<td>8.0</td>
<td>100</td>
<td>6.5</td>
</tr>
<tr>
<td>2211-100B</td>
<td>100 ± 5.0</td>
<td>10.0</td>
<td>100</td>
<td>7.0</td>
</tr>
<tr>
<td>2211-150B</td>
<td>150 ± 7.5</td>
<td>15.0</td>
<td>100</td>
<td>8.0</td>
</tr>
<tr>
<td>2211-200B</td>
<td>200 ± 10.0</td>
<td>20.0</td>
<td>100</td>
<td>8.5</td>
</tr>
<tr>
<td>2211-300B</td>
<td>300 ± 15.0</td>
<td>30.0</td>
<td>100</td>
<td>11.0</td>
</tr>
<tr>
<td>2211-400B</td>
<td>400 ± 20.0</td>
<td>40.0</td>
<td>100</td>
<td>12.0</td>
</tr>
</tbody>
</table>

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FUNCTIONAL DIAGRAM

IN - OUT

GND

PACKAGE DIMENSIONS

DIP (2214-xxz)

Gull-Wing (2214-xxxC4)

Lead Material:
Nickel-Iron alloy 42
TIN PLATE

Non-Accumulative
PASSIVE DELAY LINE TEST SPECIFICATIONS

TEST CONDITIONS

INPUT:
- Ambient Temperature: 25°C ± 3°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 <= 75ns): PW_IN = 100ns
- Period (T_D <= 75ns): PER_IN = 1000ns
- Pulse Width (T_D > 75ns): PW_IN = 2 x T_D
- Period (T_D > 75ns): PER_IN = 10 x 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