Equalizer (40 Gb/s)  

EQ6-40

Features
- 40 Gb/s Equalizer
- Matched 50 Ohm Impedance on Input and Output Ports
- Applications: Digital Communications, Signal Integrity
- EQ6-40.s2p

Electrical Specifications - Specifications guaranteed from -55 to +100°C, measured in a 50Ω system.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Operating Frequency</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss (dB)</td>
<td>10 MHz</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 GHz</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>40 GHz</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VSWR (Input)</td>
<td></td>
<td></td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>VSWR (Output)</td>
<td></td>
<td></td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Risetime /Falltime (ps)</td>
<td>DC – 40 GHz</td>
<td>11</td>
<td></td>
<td>0.25</td>
</tr>
<tr>
<td>Total Input Power (W)</td>
<td></td>
<td></td>
<td></td>
<td>0.25</td>
</tr>
<tr>
<td>Weight (g)</td>
<td></td>
<td></td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

1Specified as 20%/80%.
Amplitude- and phase-matched pairs available; contact factory.

Model Number | Description
--- | ---
EQ6-40 | 40 Gb/s Equalizer with 2.92 mm connectors

1Default is 2.92 mm female connectors. Consult factory for other connector options.
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Typical Performance

![Figure 1: Insertion loss](image1.png)

![Figure 2: Insertion loss with lossy cable](image2.png)

![Figure 3: Return loss](image3.png)

![Figure 4: Group delay](image4.png)
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Oscilloscope measurements of the EQ6-40 with a 40 Gb/s PRBS pattern. Bit pattern is measured with a $2^7-1$ PRBS input. Eye diagrams are taken with a $2^{31}-1$ PRBS input. Figure 6, "Input data pattern", is uncorrelated with the other patterns due to the additional cable length.
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DC Schematic

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