Coaxial Switch GaAs

50Ω SP4T, TTL Driver, Absorptive  DC¹ to 3 GHz

Maximum Ratings
Operating Temperature  -30°C to 85°C
Storage Temperature  -55°C to 100°C
Input Power  see Table
Vcontrol  (V+) +0.4V

Features
- wideband, DC to 3 GHz
- low video leakage, 30 mVp-p typ.
- high isolation, 37 dB typ. @ 2 GHz
- integral TTL driver

Applications
- transmitter/receiver isolation
- automated switching networks
- cellular
- PCN

Coaxial/Pin Connections
- RF IN
- RF OUT 1 2
- RF OUT 2 3
- RF OUT 3 4
- RF OUT 4 5
- CONTROL 1 C5
- CONTROL 2 C3
- CONTROL 3 C4
- CONTROL 4 C6
- +SV (V+) C2
- -SV (V-) C1

Electrical Specifications

<table>
<thead>
<tr>
<th>FREQ, (GHz)</th>
<th>INSERTION LOSS (dB)</th>
<th>1dB COMPR. (dBm)</th>
<th>IN-OUT ISOLATION (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC</td>
<td>3</td>
<td>1.0</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Additional Specifications
- **TTL Control Voltage**
  - Low Threshold, V
  - High Threshold, V
- **TTL Control Current, mA**
  - High, mA
  - Low, mA
- **Positive Supply V. (V+)**
- **Negative Supply V. (V-)**
- **Positive Supply Current, mA**
- **Negative Supply Current, mA**
- **VSWR:** 1.28 typ., ON 1.24 typ., OFF DC-2GHz
- **Rise/Fall time (10%-90%), ns**
  - Switching time, 50% of Control to 90% RF (Turn-on), ns
  - 10% RF (Turn-off), ns
- **Video Leakage, mVp-p**
  - 0/+5V Control
- **MTBF, hrs @85°C case**
  - 30X10⁶

Notes
- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit’s applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuit’s standard limited warranty and terms and conditions (collectively, “Standard Terms”); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuit’s website at www.minicircuits.com/MCLStore/terms.jsp

+RoHS Compliant
The Suffix identifies RoHS Compliance. See our website for RoHS Compliance methodologies and qualifications

www.minicircuits.com  P.O. Box 350166, Brooklyn, NY 11235-0003  (718) 934-4500  sales@minicircuits.com
### Typical Performance Data

<table>
<thead>
<tr>
<th>FREQ (MHz)</th>
<th>ON INSERTION LOSS (dB)</th>
<th>OFF ISOLATION (dB)</th>
<th>VSWR IN</th>
<th>VSWR OUT-ON</th>
<th>VSWR OUT-OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>0.59</td>
<td>0.007</td>
<td>94.53</td>
<td>1.85</td>
<td>1.70</td>
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<tr>
<td>125.75</td>
<td>0.07</td>
<td>0.008</td>
<td>62.61</td>
<td>0.49</td>
<td>1.14</td>
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<tr>
<td>250.50</td>
<td>0.07</td>
<td>0.007</td>
<td>57.54</td>
<td>0.31</td>
<td>1.10</td>
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<tr>
<td>375.25</td>
<td>1.02</td>
<td>0.011</td>
<td>54.64</td>
<td>0.24</td>
<td>1.22</td>
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<tr>
<td>500.00</td>
<td>1.00</td>
<td>0.012</td>
<td>52.17</td>
<td>0.23</td>
<td>1.26</td>
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<tr>
<td>625.00</td>
<td>1.20</td>
<td>0.011</td>
<td>49.37</td>
<td>0.19</td>
<td>1.46</td>
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<tr>
<td>750.00</td>
<td>1.20</td>
<td>0.010</td>
<td>47.33</td>
<td>0.26</td>
<td>1.53</td>
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<tr>
<td>1000.00</td>
<td>1.47</td>
<td>0.013</td>
<td>45.96</td>
<td>0.26</td>
<td>1.49</td>
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<tr>
<td>1250.00</td>
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<td>0.017</td>
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<td>1500.00</td>
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<td>44.41</td>
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<td>1.37</td>
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<tr>
<td>1625.00</td>
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<td>0.022</td>
<td>44.27</td>
<td>0.24</td>
<td>1.34</td>
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<tr>
<td>1875.00</td>
<td>1.53</td>
<td>0.026</td>
<td>43.69</td>
<td>0.29</td>
<td>1.36</td>
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<tr>
<td>2000.00</td>
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<td>0.040</td>
<td>44.05</td>
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<tr>
<td>2250.00</td>
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<td>42.78</td>
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<td>1.66</td>
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<tr>
<td>2500.00</td>
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<td>0.058</td>
<td>43.76</td>
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<td>2625.50</td>
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<td>42.68</td>
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<td>1.54</td>
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<tr>
<td>2750.00</td>
<td>2.03</td>
<td>0.062</td>
<td>41.94</td>
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<td>1.60</td>
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<tr>
<td>2875.75</td>
<td>2.07</td>
<td>0.069</td>
<td>42.93</td>
<td>0.42</td>
<td>1.27</td>
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<tr>
<td>2888.89</td>
<td>2.18</td>
<td>0.072</td>
<td>41.51</td>
<td>0.36</td>
<td>1.51</td>
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<tr>
<td>3000.00</td>
<td>2.28</td>
<td>0.078</td>
<td>41.43</td>
<td>0.38</td>
<td>1.65</td>
</tr>
</tbody>
</table>

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**ZSWA-4-30DR+**

**INSERTION LOSS**

- **FREQUENCY (MHz)**
  - 0.00 to 3000 MHz
  - **IN**: 0 dBm
- **INSERTION LOSS**: 0.0 to 3.0 dB

**ISOLATION**

- **FREQUENCY (MHz)**
  - 0.00 to 3000 MHz
  - **IN**: 0 dBm
- **ISOLATION**: 0.0 to 90 dB

**VSWR**

- **FREQUENCY (MHz)**
  - 0.00 to 3000 MHz
  - **IN**: 0 dBm
- **VSWR**: 1.0 to 2.0

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**ZSWA-4-30DR+**

**INSERTION LOSS**

- **FREQUENCY (MHz)**
  - 0.00 to 3000 MHz
  - **IN**: 0 dBm
  - **OUT**: 0 dBm
- **INSERTION LOSS**: 0.0 to 3.0 dB

**ISOLATION**

- **FREQUENCY (MHz)**
  - 0.00 to 3000 MHz
  - **IN**: 0 dBm
  - **OUT**: 0 dBm
- **ISOLATION**: 0.0 to 90 dB

**VSWR**

- **FREQUENCY (MHz)**
  - 0.00 to 3000 MHz
  - **IN**: 0 dBm
  - **OUT**: 0 dBm
- **VSWR**: 1.0 to 2.0

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**Mini-Circuits**

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