

# Xinger®



## Ultra Low Profile 0603 RF Crossover

### Description

The (patent pending) X0066L7575A00 is an ultra-small low profile crossover that enables the transition of two intersecting RF traces in an easy to use industry standard SMT package. The 0603 crossover is ideal for any critical applications where layout and available space are a premium and resorting to addition PWB layers and larger overall footprints are unacceptable. With low insertion loss and high isolation packaged with cost in mind, this novel component delivers.

### Detailed Electrical Specifications\*: Specifications subject to change without notice.

| Features:                                                                                                                                                                                                                                                                                                                                           | Parameter              | ROOM (25°C) |      |      | Unit  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------|------|------|-------|
|                                                                                                                                                                                                                                                                                                                                                     |                        | Min.        | Typ. | Max  |       |
| <ul style="list-style-type: none"> <li>• 0 – 2500 MHz.</li> <li>• 0.7mm Height Profile</li> <li>• 75 Ohm RF-RF Crossover</li> <li>• All Wireless Frequencies</li> <li>• Low Insertion Loss</li> <li>• High Isolation</li> <li>• Surface Mountable</li> <li>• Tape &amp; Reel</li> <li>• Non-conductive Surface</li> <li>• RoHS Compliant</li> </ul> | Frequency              | 0           |      | 2500 | MHz   |
|                                                                                                                                                                                                                                                                                                                                                     | Port Impedance         |             | 75   |      | Ω     |
|                                                                                                                                                                                                                                                                                                                                                     | Return Loss            | 19          | 21   |      | dB    |
|                                                                                                                                                                                                                                                                                                                                                     | Insertion Loss         |             | 0.1  | 0.15 | dB    |
|                                                                                                                                                                                                                                                                                                                                                     | Isolation (cross-talk) |             |      |      |       |
|                                                                                                                                                                                                                                                                                                                                                     | 0 – 700 MHz            | 44          | 52   |      | dB    |
|                                                                                                                                                                                                                                                                                                                                                     | 700 - 1700 MHz         | 40          | 47   |      | dB    |
|                                                                                                                                                                                                                                                                                                                                                     | 1700 - 2500 MHz        | 38          | 43   |      | dB    |
|                                                                                                                                                                                                                                                                                                                                                     | Power Handling         |             |      | 2    | Watts |
|                                                                                                                                                                                                                                                                                                                                                     | Operating Temperature  | -55         |      | +85  | °C    |

### Outline Drawing

Top View (Near-side)

Orientation Marker Denotes Pin Location

Side View

Bottom View (Far-side)

| Pin | Designation |
|-----|-------------|
| 1   | GND         |
| 2   | RF 2 In/Out |
| 3   | GND         |
| 4   | RF 1 In/Out |
| 5   | RF 2 In/Out |
| 6   | RF 1 In/Out |

Dimensions are in Inches [Millimeters]  
Mechanical Outline

Tolerances are Non-Cumulative



## Typical Broadband Performance: 0 GHz. to 3.0 GHz.



USA/Canada: (315) 432-8909  
Toll Free: (800) 411-6596  
Europe: +44 2392-232392

Available on Tape and Reel for Pick and Place Manufacturing.



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### Mounting Configuration:

In order for Xinger surface mount components to work optimally, the proper impedance transmission lines must be used to connect to the RF ports. If this condition is not satisfied, insertion loss, Isolation and VSWR may not meet published specifications.

All of the Xinger components are constructed from ceramic filled PTFE composites which possess excellent electrical and mechanical stability having X and Y thermal coefficient of expansion (CTE) of 17 ppm/°C.

An example of the PCB footprint used in the testing of these parts is shown on below. In specific designs, the transmission line widths need to be adjusted to the unique dielectric coefficients and thicknesses as well as varying pick and place equipment tolerances.



-  Circuit Pattern
-  Footprint Pad (s)
-  Solder Resist

Dimensions are in Inches [Millimeters]  
Mounting Footprint



## Packaging and Ordering Information

Parts are available in reel and are packaged per EIA 481-2. Parts are oriented in tape and reel as shown below. Minimum order quantities are 4000 per reel. See Model Numbers below for further ordering information.



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# BD 2425 J 50 100 A 00

| Function                   | Frequency              | Package Dimensions        | Unbalanced Impedance | Balanced Impedance + Coupling | Plating Finish | Codes |
|----------------------------|------------------------|---------------------------|----------------------|-------------------------------|----------------|-------|
| <b>B = Balun</b>           | 0110 = 100 – 1000 MHz  | <b>A = 150 x 150 mils</b> | 50 = 50 Ohm          | 25 = 25 Ω Balanced            | A = Gold       |       |
| <b>BD = Balun + DC</b>     | 0810 = 800 – 1000 MHz  | (4mm x 4mm)               | 75 = 75 Ohm          | 30 = 30 Ω Balanced            | P = Tin-Lead   |       |
| <b>F = Filter</b>          | 0922 = 950 – 2150 MHz  | <b>C = 120 x 120 mils</b> |                      | 50 = 50 Ω Balanced            |                |       |
| <b>FB = Filter / Balun</b> | 0826 = 800 – 6200 MHz  | (3mm x 3mm)               |                      | 75 = 75 Ω Balanced            |                |       |
| <b>C = 3dB Coupler</b>     | 1222 = 1200 – 2200 MHz | <b>E = 100 x 80 mils</b>  |                      | 100 = 100 Ω Balanced          |                |       |
| <b>DC = Directional</b>    | 1416 = 1400 – 1600 MHz | (2.5mm x 2mm)             |                      | 150 = 150 Ω Balanced          |                |       |
| <b>J = RF Jumper</b>       | 1722 = 1700 – 2200 MHz | <b>J = 80 x 50 mils</b>   |                      | 200 = 200 Ω Balanced          |                |       |
| <b>X = RF cross over</b>   | 2326 = 2300 – 2600 MHz | (2mm x 1.25mm)            |                      | 300 = 300 Ω Balanced          |                |       |
|                            | 2425 = 2400 – 2500 MHz | <b>L = 60 x 30 mils</b>   |                      | 400 = 400 Ω Balanced          |                |       |
|                            | 3150 = 3100 – 5000 MHz | (1.5mm x 0.75mm)          |                      | 03 = 3dB Hybrid               |                |       |
|                            | 3436 = 3400 – 3600 MHz | <b>N = 40 x 40 mils</b>   |                      | 10 = 10dB Directional         |                |       |
|                            | 4859 = 4800 – 5900MHz  | (1mm x 1mm)               |                      | 20 = 20dB Directional         |                |       |
|                            | 5153 = 5100 – 5300 MHz |                           |                      |                               |                |       |
|                            | 5159 = 5100 – 5900 MHz |                           |                      |                               |                |       |
|                            | 5759 = 5700 – 5900 MHz |                           |                      |                               |                |       |

