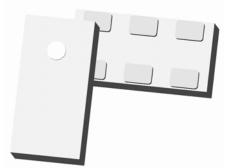
dB

Watts

 $^{\circ}C$







Ultra Small Low Profile 0603 Balun 50Ω to 100Ω Balanced

ROOM (25°C)

27

-55

0.5

+85

Description

The B4859A53 is an ultra-small low profile balanced to unbalanced transformer designed for differential inputs and output locations on next generation wireless chipsets in an easy to use surface mount package covering 802.11a Uni-Band II and Uni-Band III and the Japanese ISM band (4.9GHz). The B4859A53 is ideal for high volume manufacturing and is higher performance than traditional ceramic baluns. The B4859A53 has an unbalanced port impedance of 50Ω and a 100Ω balanced port impedance. This transformation enables single ended signals to be applied to differential ports on modern integrated chipsets. The output ports have equal amplitude (-3dB) with 180 degree phase differential. The B4859A53 is available on tape and reel for pick and place high volume manufacturing.

Detailed Electrical Specifications: Specifications subject to change without notice.

Features:	Parameter	Min.	Тур.	Max	Unit
• 4800 – 5900 MHz	Frequency	4800		5900	MHz
0.7mm Height Profile Class to Class	Unbalanced Port Impedance		50		Ω
 50 Ohm to 2 x 50 Ohm Covers 802.11a Uni-Band II & III 	Balanced Port Impedance		100		Ω
Low Insertion Loss	Return Loss	12	15		dB
Input to Output DC Isolation	Insertion Loss*		0.7	0.9	dB
Surface Mountable	Amplitude Balance		0.5	1.0	dB
Tape & Reel	Phase Balance		5	7	Degrees

CMRR

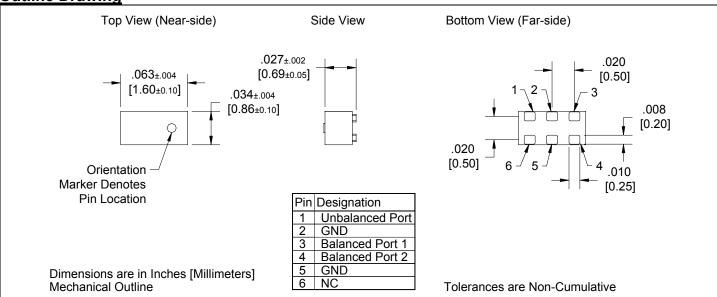
Power Handling

Operating Temperature

Outline Drawing

RoHS Compliant

Non-conductive Surface







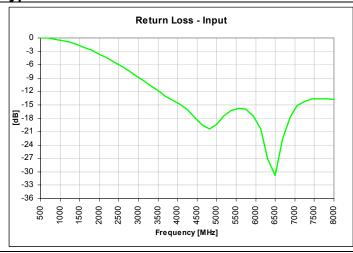
Available on Tape and Reel for Pick and Place Manufacturing.

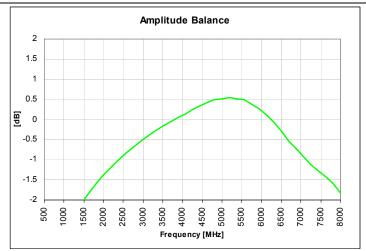
USA/Canada: (315) 432-8909 Toll Free: (800) 411-6596 Europe: +44 2392-232392

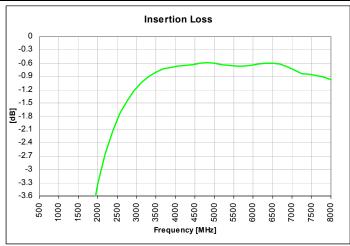
^{*} Insertion Loss stated at room temperature (Insertion Loss is approximately 0.1 dB higher at +85 °C)

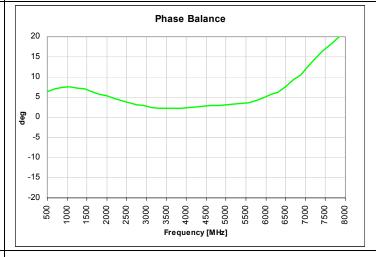


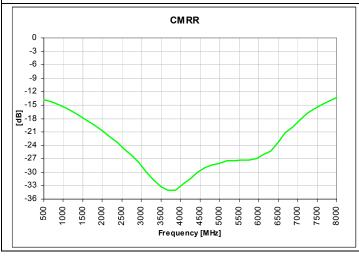
Typical Broadband Performance: 500 MHz. to 8000 MHz.









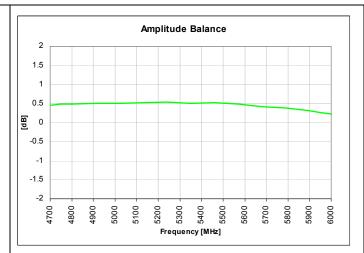


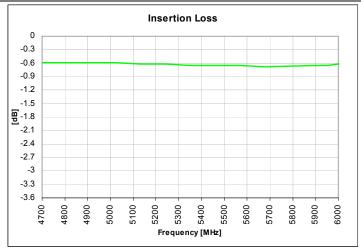


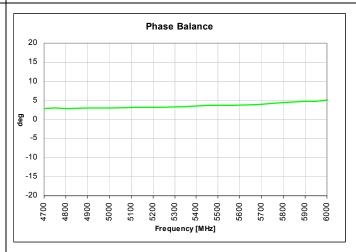


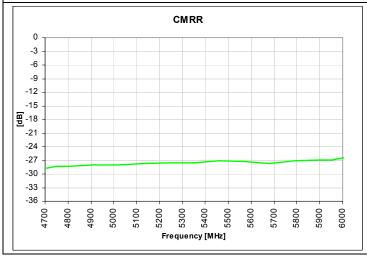
Typical Performance: 4700 MHz. to 6000 MHz.













USA/Canada: Toll Free: Europe:

(315) 432-8909 (800) 411-6596 +44 2392-232392

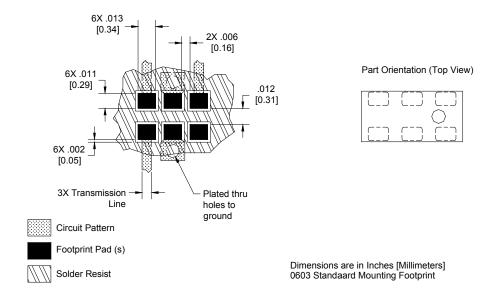


Mounting Configuration:

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.

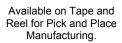
All of the Xinger components are constructed from ceramic filled PTFE composites which possess excellent electrical and mechanical stability having X and Y thermal coefficient of expansion (CTE) of 17 ppm/°C.

An example of the PCB footprint used in the testing of these parts is shown 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.





(315) 432-8909 (800) 411-6596 +44 2392-232392

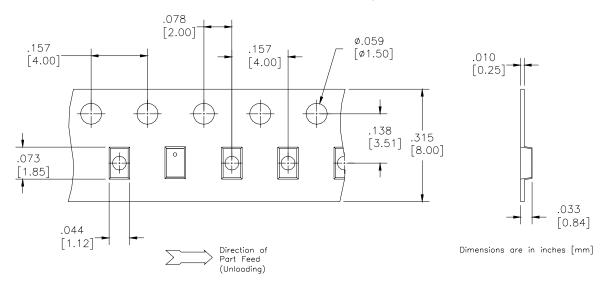


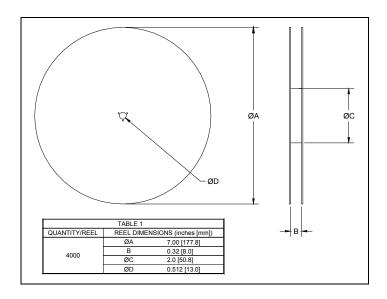




Packaging and Ordering Information

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.







USA/Canada: (31 Toll Free: (80 Europe: +44

(315) 432-8909 (800) 411-6596 +44 2392-232392



BD 2425 J 50 100 A 00

		_				
Function	n Frequency	Package Dimensions	Unbalanced Impedance	Balanced Impedance + Coupling	Plating Finish	Codes
B = Balun BD = Balun + D(F = Filter FB = Filter / Bal C = 3dB Couple DC = Directiona J = RF Jumper X = RF cross ove	0922 = 950 - 2150 MHz lun 0826 = 800 - 6200 MHz 1222 = 1200 - 2200 MHz 1416 = 1400 - 1600 MHz 1722 = 1700 - 2200 MHz	A = 150 x 150 mils (4mm x 4mm) C = 120 x 120 mils (3mm x 3mm) E = 100 x 80 mils (2.5mm x 2mm) J = 80 x 50 mils (2mm x 1.25mm) L = 60 x 30 mils (1.5mm x 0.75mm) N = 40 x 40 mils (1mm x 1mm)	50 = 50 Ohm 75 = 75 Ohm	25 = 25 Ω Balanced 30 = 30 Ω Balanced 50 = 50 Ω Balanced 75 = 75 Ω Balanced 100 = 100 Ω Balanced 200 = 200 Ω Balanced 300 = 300 Ω Balanced 400 = 400 Ω Balanced 03 = 3dB Hybrid 10 = 10dB Directional 20 = 20dB Directional	A = Gold P = Tin-Lead	

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

Available on Tape and Reel for Pick and Place Manufacturing.

