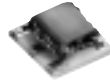


# POWER SPLITTERS/COMBINERS $50\Omega$

## 2 WAY-90° 315 MHz to 1460 MHz



HPQ

MODEL NO.	FREQ. RANGE MHz $f_l$ - $f_u$	ISOLATION dB		INSERTION LOSS, dB Avg. of Coupled Outputs less 3 dB		PHASE UNBALANCE Degrees		AMPLITUDE UNBALANCE dB		VSWR (:1)		CASE STYLE Note B	MINI-CIRCUITS km	PRICE \$ Qty. (10-49)
		Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	S Typ.	OUT Typ.			
<b>NEW</b> HPQ-04	315-395 332-367	24	18	0.20	0.45	0.7	3.0	1.0	1.6	1.17	1.15	AT577	km	6.95
		24	19	0.17	0.40	0.5	3.0	0.5	1.0	1.17	1.15			
HPQ-05	410 - 455	25	20	0.17	0.35	0.5	3.0	0.5	1.0	1.12	1.12	AT577	km	6.95
HPQ-05W	380 - 490	25	20	0.20	0.40	0.6	3.0	1.1	1.6	1.12	1.12	AT577	km	6.95
HPQ-06	510 - 570	26	18	0.20	0.40	0.6	3.0	0.5	1.2	1.10	1.12	AT577	km	6.95
HPQ-06W	480 - 600	26	18	0.20	0.40	0.6	3.0	0.9	1.6	1.10	1.12	AT577	km	6.95
HPQ-07	580 - 690	24	18	0.20	0.40	0.5	3.0	0.8	1.6	1.17	1.17	AT577	km	6.95
HPQ-08	680 - 790	24	18	0.25	0.40	0.8	3.0	0.6	1.6	1.10	1.20	AT577	km	6.95
HPQ-09	730 - 800	25	20	0.20	0.40	0.6	3.0	0.6	1.2	1.14	1.14	AT577	km	6.95
HPQ-09W	690 - 830	24	20	0.20	0.40	0.7	3.0	1.1	1.6	1.14	1.14	AT577	km	6.95
HPQ-10	900 - 970	22	17	0.25	0.45	0.7	4.0	0.5	1.2	1.17	1.17	AT577	km	6.95
HPQ-10W	880 - 1030	22	16	0.28	0.50	1.0	4.0	0.85	1.6	1.17	1.17	AT577	km	6.95
HPQ-11	980 - 1070	23	18	0.25	0.50	0.5	3.5	0.4	1.2	1.17	1.17	AT577	km	6.95
HPQ-12	990 - 1100	21	16	0.25	0.45	0.8	4.0	0.5	1.2	1.20	1.20	AT577	km	6.95
HPQ-12W	940 - 1130	21	16	0.30	0.50	1.0	4.0	0.8	1.6	1.20	1.20	AT577	km	6.95
HPQ-15	1320 - 1430	19	15	0.30	0.50	1.8	5.0	0.35	1.2	1.22	1.22	AT577	km	6.95
HPQ-15W	1240 - 1460	19	15	0.30	0.60	1.8	5.0	0.8	1.6	1.22	1.22	AT577	km	6.95

see suggested PCB layout (PL-114) for HPQ models

### features

- excellent amplitude and phase unbalance
- good insertion loss
- good isolation
- excellent input and output VSWR
- excellent unit-to-unit repeatability
- small size

### applications

- image rejection mixer
- wideband amplifier matching
- I&Q modulator

### NOTES:

- ◆ HPQ models, aqueous washable.
- A. Environmental specifications and re-flow soldering information available in General Information Section.
- B. Units are non-hermetic unless otherwise noted. For details on case dimensions & finishes see "Case Styles & Outline Drawings".
- C. Prices and Specifications subject to change without notice.
- 1. Absolute maximum power, voltage and current ratings:  
1a. Matched power rating ..... 1Watt

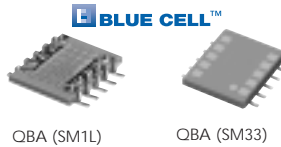
### pin connections

see case style outline drawings

PORT	km
SUM PORT	3
PORT 1	6
PORT 2	4
GND EXT.	2,5
50 OHM TERM.	1
DEMO BOARD	TB-43

## Surface Mount

### 340 MHz to 2400 MHz



MODEL NO. ◆	FREQ. RANGE MHz $f_L$ - $f_U$	ISOLATION dB		◆ INSERTION LOSS, dB Avg. of Coupled Outputs less 3 dB			PHASE UNBALANCE Degrees Max.	AMPLITUDE UNBALANCE dB Max.	CASE STYLE Note B	CONNECTION	PCB Lay- out PL-	PRICE \$ Qty. (10-49)
		Typ.	Min.	$f_L$ $\bar{x}$	$f_U$ $\bar{x}$	$\sigma$						
QBA-07	340-680 340-530	22 23	16 18	0.8 0.5	0.8 0.5	0.1 0.1	7.0 4.0	2.0 2.0	SM1L	If	004	6.95
QBA-12N*	800-900	28	20	0.25	0.30	.02	3.0	1.0	SM33	If	004	6.95
QBA-12*	800-1200	23	14	0.25	0.44	.02	6.0	1.2	SM33	If	004	6.95
QBA-20*	1800-2000	23	18	0.47	0.54	.02	4.0	0.7	SM33	If	004	6.95
QBA-20W*	1500-2200	23	16	0.41	0.58	.02	5.0	1.2	SM33	If	004	6.95
QBA-24*	1900-2400	21	17	0.54	0.71	.02	6.0	0.8	SM33	If	004	6.95
QBA-24W*	1700-2400	21	15	0.49	0.71	.02	6.0	1.2	SM33	If	004	6.95

◆ Includes test fixture losses.

#### features

- low insertion loss, 0.25 dB typ. (QBA-12N)
- high power capability (50 watts for QBA-12N)
- high isolation, 28 dB typ. (QBA-12N)
- ceramic body, good for heat dissipation
- solder plated leads for excellent solderability
- QBA-07, hermetically sealed

#### applications

- cellular
- instrumentation
- PCN

#### NOTES:

- ◆ QBA models, aqueous washable.
- \* BLUE CELL™ power splitters protected by U.S. Patents 5534830 & 5640699
- A. Environmental specifications and re-flow soldering information available in General Information Section.
- B. Units are non-hermetic unless otherwise noted. For details on case dimensions & finishes see "Case Styles & Outline Drawings".
- C. Prices and Specifications subject to change without notice.
- 1. Absolute maximum power, voltage and current ratings:
  - 1a. Matched power rating, as splitters
    - QBA-07, 21W max. (340-680 MHz) below 25°C. Derate linearly to 9W at 100°C.
    - 27W max. (340-530 MHz) below 25°C. Derate linearly to 12W at 100°C.
    - QBA-12N/-12, 50W max. below 25°C. Derate linearly to 10W at 85°C.
    - QBA-20/-20W, 25W max. below 25°C. Derate linearly to 5W at 85°C.
    - QBA-24/-24W, 20W max. below 25°C. Derate linearly to 4W at 85°C.

#### pin connections

see case style outline drawings

PORT	If
SUM PORT	1
PORT 1	10(0°)
PORT 2	6(-90°)
GND EXT.	2,3,4,7,8,9
50 OHM TERM.	5
NOT USED	—
DEMO BOARD	TB-115



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