

Thin-Film Directional Couplers



CP0402 High Directivity LGA Termination

GENERAL DESCRIPTION

ITF (Integrated Thin-Film) TECHNOLOGY

The ITF High Directivity LGA Coupler is based on thin-film multilayer technology. The technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly.

The ITF Coupler is offered in a variety of frequency bands compatible with various types of high frequency wireless systems.

APPLICATIONS

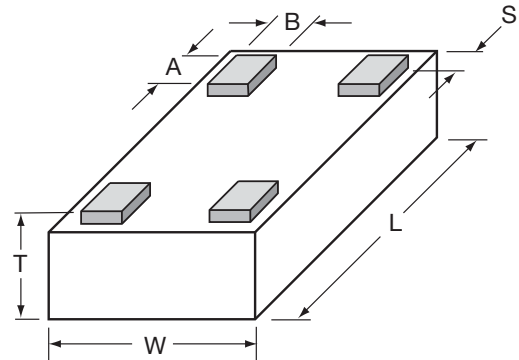
- Mobile Communications
- Satellite TV Receivers
- GPS
- Vehicle Location Systems
- Wireless LAN's

FEATURES

- Inherent Low Profile
- Self Alignment during Reflow
- Excellent Solderability
- Low Parasitics
- Better Heat Dissipation
- Operating/Storage Temp -40°C to +85°C
- Power Rating 3W RF Cont

DIMENSIONS: (Bottom View)

millimeters (inches)



| | |
|---|----------------------------|
| L | 1.00±0.05 (0.040±0.002) |
| W | 0.58±0.04 (0.023±0.002) |
| T | 0.35±0.05 (0.014±0.002) |

| | |
|---|----------------------------|
| A | 0.20±0.05 (0.008±0.002) |
| B | 0.18±0.05 (0.007±0.002) |
| S | 0.05±0.05 (0.002±0.002) |

3

HOW TO ORDER

| | | | | | | |
|---|---|------------------------------|---|----------------------------------|--|---|
| CP T Style Directional Coupler | 0402 T Size 0402 | X T Type | **** T Frequency (MHz) | X T Sub Type | N T LGA Termination L = LGA Sn90, Pb10 **N = LGA Sn100 | TR T Packaging Code TR = Tape and Reel |
| **RoHS compliant | | | | | | |

QUALITY INSPECTION

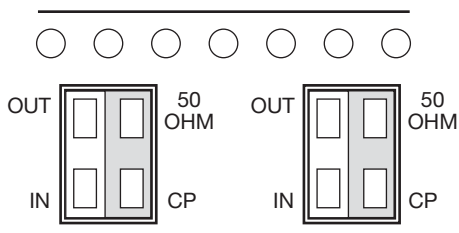
Finished parts are 100% tested for electrical parameters and visual characteristics. Each production lot is evaluated on a sample basis for:

- Static Humidity: 85°C, 85% RH, 160 hours
- Endurance: 125°C, I_R, 4 hours

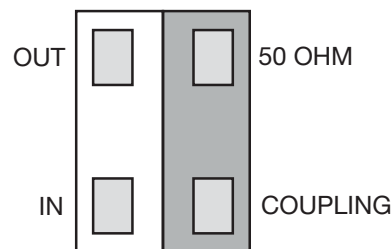
TERMINATION

Sn90Pb10 or Lead-Free Sn100 Nickel/Solder coating compatible with automatic soldering technologies: reflow, wave soldering, vapor phase and manual.

ORIENTATION IN TAPE



TERMINALS (Top View)



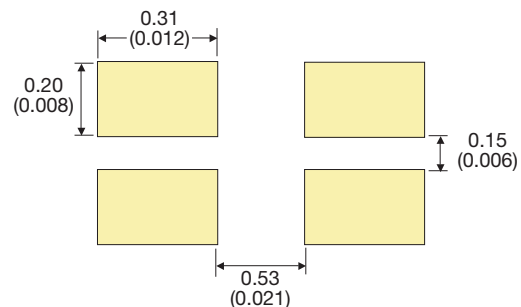
Not RoHS Compliant



For RoHS compliant products, please select correct termination style.

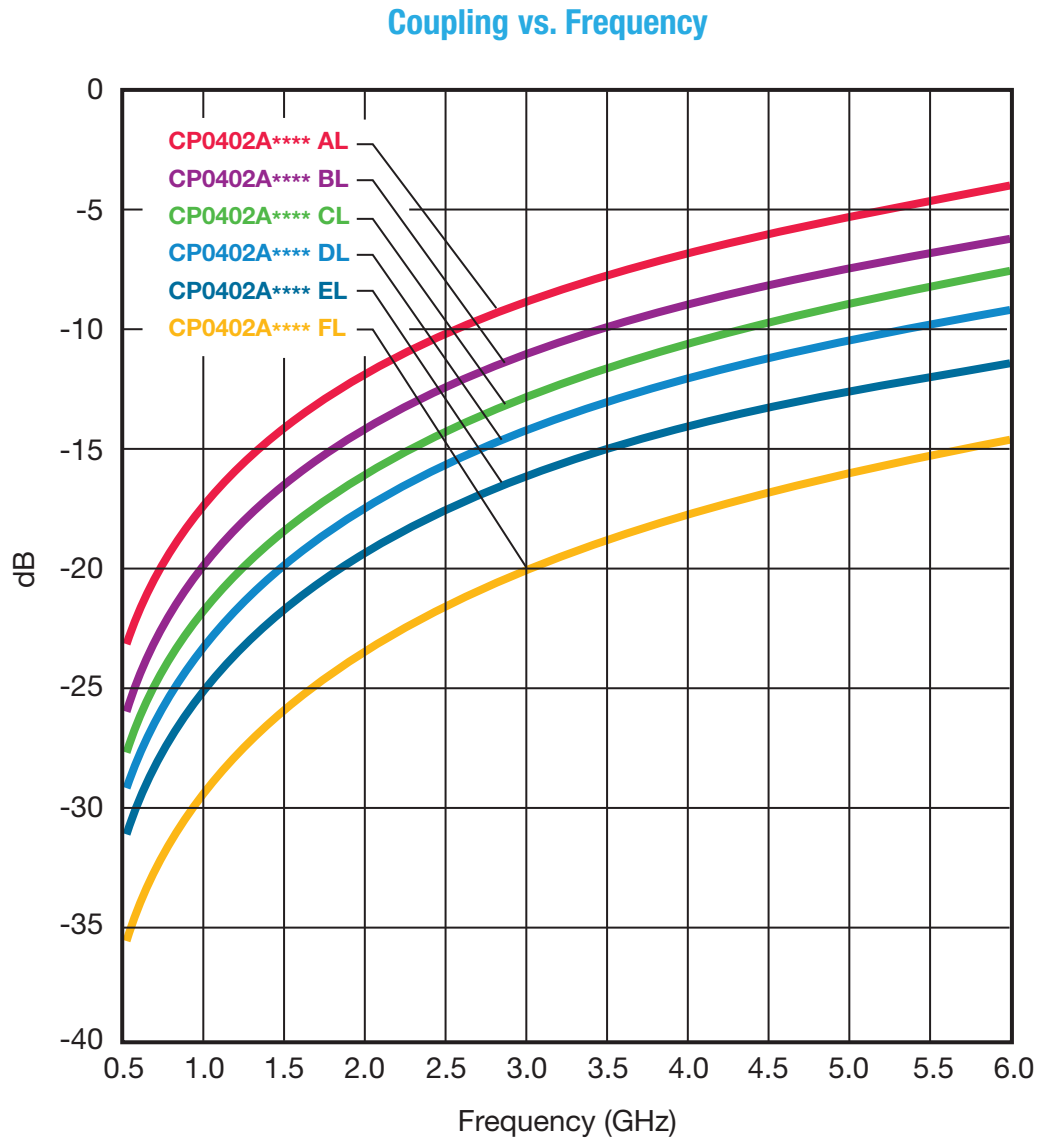
Recommended Pad Layout Dimensions

mm (inches)



*The recommended distance to the PCB Ground Plane is 0.254mm (0.010")

COUPLER TYPE SELECTION GRAPH



3

Intermediate coupling factors are readily available.
Please contact factory.

Thin-Film Directional Couplers

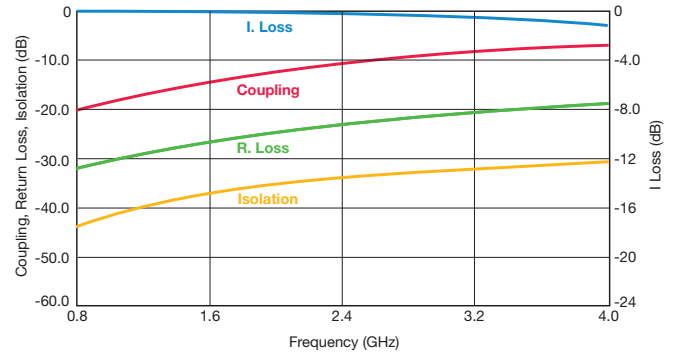


CP0402 High Directivity LGA Termination

Coupler P/N CP0402AxxxxAL

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|
| AMPS | CP0402A0836AL | 824 - 849 | 19.10 | 0.25 | 32 | 21 |
| | CP0402A0881AL | 869 - 894 | 18.60 | | | |
| GSM | CP0402A0902AL | 890 - 915 | 18.50 | 0.25 | 31 | |
| | CP0402A0947AL | 935 - 960 | 18.00 | | | |
| E-GSM | CP0402A0897AL | 880 - 915 | 18.50 | 0.25 | 31 | |
| | CP0402A0942AL | 925 - 960 | 18.00 | | | |
| PDC | CP0402A1441AL | 1429 - 1453 | 14.50 | 0.40 | 28 | |
| PCN | CP0402A1747AL | 1710 - 1785 | 13.00 | 0.50 | 26 | |
| | CP0402A1842AL | 1805 - 1880 | 12.50 | | | |
| PCS | CP0402A1880AL | 1850 - 1910 | 12.30 | 0.50 | 25 | |
| | CP0402A1960AL | 1930 - 1990 | 12.00 | | | |
| PHP | CP0402A1907AL | 1895 - 1920 | 12.30 | 0.50 | 25 | |
| DECT | CP0402A1890AL | 1880 - 1900 | 12.30 | 0.50 | 25 | |
| Wireless LAN | CP0402A2442AL | 2400 - 2484 | 10.30 | 0.70 | 23 | |

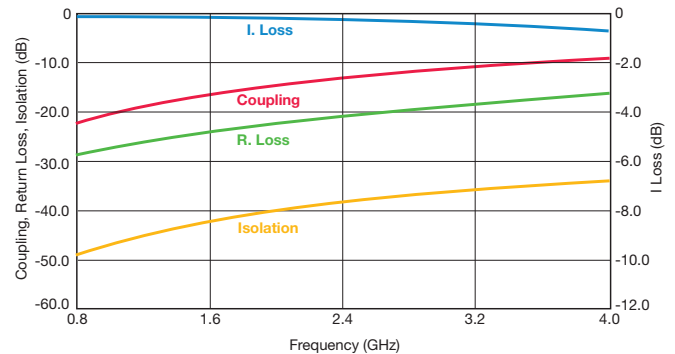
CP0402AxxxxALTR



Coupler P/N CP0402AxxxxBL

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|
| AMPS | CP0402A0836BL | 824 - 849 | 22.00 | 0.20 | 28 | 27 |
| | CP0402A0881BL | 869 - 894 | 21.70 | | | |
| GSM | CP0402A0902BL | 890 - 915 | 21.50 | 0.25 | 27 | |
| | CP0402A0947BL | 935 - 960 | 21.00 | | | |
| E-GSM | CP0402A0897BL | 880 - 915 | 21.50 | 0.20 | 28 | |
| | CP0402A0942BL | 925 - 960 | 21.00 | | | |
| PDC | CP0402A1441BL | 1429 - 1453 | 17.50 | 0.25 | 24 | |
| PCN | CP0402A1747BL | 1710 - 1785 | 16.00 | 0.30 | 23 | |
| | CP0402A1842BL | 1805 - 1880 | 15.50 | | | |
| PCS | CP0402A1880BL | 1850 - 1910 | 15.00 | 0.35 | 22 | |
| | CP0402A1960BL | 1930 - 1990 | 15.00 | | | |
| PHP | CP0402A1907BL | 1895 - 1920 | 15.50 | 0.35 | 23 | |
| DECT | CP0402A1890BL | 1880 - 1900 | 15.50 | 0.35 | 23 | |
| Wireless LAN | CP0402A2442BL | 2400 - 2484 | 13.30 | 0.40 | 21 | |

CP0402AxxxxBLTR



Coupler P/N CP0402AxxxxCL

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|
| AMPS | CP0402A0836CL | 824 - 849 | 23.60 | 0.20 | 33 | 22 |
| | CP0402A0881CL | 869 - 894 | 23.00 | | | |
| GSM | CP0402A0902CL | 890 - 915 | 23.00 | 0.20 | 26 | |
| | CP0402A0947CL | 935 - 960 | 22.50 | | | |
| E-GSM | CP0402A0897CL | 880 - 915 | 23.00 | 0.20 | 25 | |
| | CP0402A0942CL | 925 - 960 | 22.50 | | | |
| PDC | CP0402A1441CL | 1429 - 1453 | 19.00 | 0.25 | 31 | |
| PCN | CP0402A1747CL | 1710 - 1785 | 17.20 | 0.25 | 30 | |
| | CP0402A1842CL | 1805 - 1880 | 17.00 | | | |
| PCS | CP0402A1880CL | 1850 - 1910 | 16.80 | 0.25 | 29 | |
| | CP0402A1960CL | 1930 - 1990 | 16.50 | | | |
| PHP | CP0402A1907CL | 1895 - 1920 | 16.80 | 0.25 | 29 | |
| DECT | CP0402A1890CL | 1880 - 1900 | 16.80 | 0.25 | 30 | |
| Wireless LAN | CP0402A2442CL | 2400 - 2484 | 14.70 | 0.45 | 28 | |

CP0402AxxxxCLTR



Important: Couplers can be used at any frequency within the indicated range.

3



Thin-Film Directional Couplers

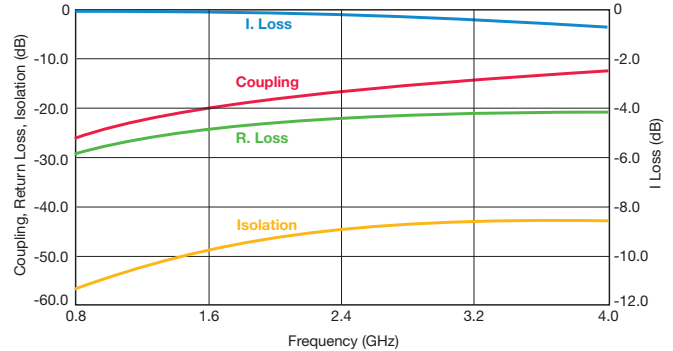


CP0402 High Directivity LGA Termination

Coupler P/N CP0402AxxxxDL

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] | |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|----|
| AMPS | CP0402A0836DL | 824 - 849 | 25.20 | 0.20 | 29 | 20 | |
| | CP0402A0881DL | 869 - 894 | 24.80 | | | | |
| GSM | CP0402A0902DL | 890 - 915 | 24.70 | | | | |
| | CP0402A0947DL | 935 - 960 | 24.10 | | | | |
| E-GSM | CP0402A0897DL | 880 - 915 | 24.70 | | | | |
| | CP0402A0942DL | 925 - 960 | 24.10 | | | | |
| PDC | CP0402A1441DL | 1429 - 1453 | 20.50 | | 25 | | |
| PCN | CP0402A1747DL | 1710 - 1785 | 19.00 | | 24 | | |
| | CP0402A1842DL | 1805 - 1880 | 18.50 | | | | |
| PCS | CP0402A1880DL | 1850 - 1910 | 18.20 | | 0.25 | | 23 |
| | CP0402A1960DL | 1930 - 1990 | 18.00 | | | | |
| PHP | CP0402A1907DL | 1895 - 1920 | 18.10 | | | | |
| DECT | CP0402A1890DL | 1880 - 1900 | 18.20 | | | | |
| Wireless LAN | CP0402A2442DL | 2400 - 2484 | 16.00 | 0.35 | | 22 | |

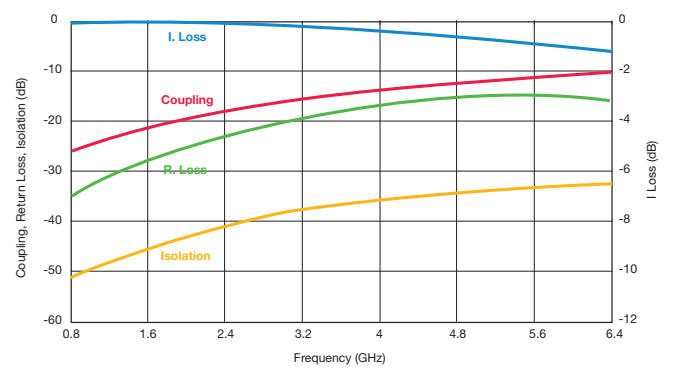
CP0402AxxxxDLTR



Coupler P/N CP0402AxxxxEL

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] | | |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|----|----|
| AMPS | CP0402A0836EL | 824 - 849 | 27.20 | 0.20 | 35 | 25 | | |
| | CP0402A0881EL | 869 - 894 | 26.80 | | | | | |
| GSM | CP0402A0902EL | 890 - 915 | 26.50 | | | | | |
| | CP0402A0947EL | 935 - 960 | 26.00 | | | | | |
| E-GSM | CP0402A0897EL | 880 - 915 | 26.50 | | | | | |
| | CP0402A0942EL | 925 - 960 | 26.00 | | | | | |
| PDC | CP0402A1441EL | 1429 - 1453 | 22.30 | | 29 | | | |
| PCN | CP0402A1747EL | 1710 - 1785 | 20.50 | | 27 | | | |
| | CP0402A1842EL | 1805 - 1880 | 20.30 | | | | | |
| PCS | CP0402A1880EL | 1850 - 1910 | 20.00 | | 26 | | 23 | |
| | CP0402A1960EL | 1930 - 1990 | | | | | | |
| PHP | CP0402A1907EL | 1895 - 1920 | | | | | | |
| DECT | CP0402A1890EL | 1880 - 1900 | | | | | | |
| Wireless LAN | CP0402A2442EL | 2400 - 2484 | | 18.00 | | 0.35 | | 23 |

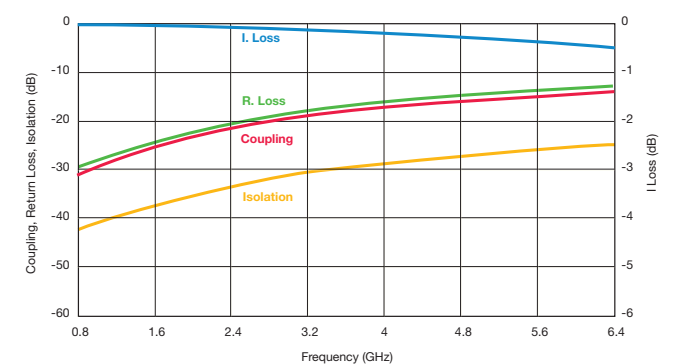
CP0402AxxxxELTR



Coupler P/N CP0402AxxxxFL

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] | |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|------|
| AMPS | CP0402A0836FL | 824 - 849 | 31.00 | 0.20 | 29.10 | 11 | |
| | CP0402A0881FL | 869 - 894 | 30.70 | | 28.60 | | |
| GSM | CP0402A0902FL | 890 - 915 | 30.60 | | 28.50 | | |
| | CP0402A0947FL | 935 - 960 | 30.00 | | 28.10 | | |
| E-GSM | CP0402A0897FL | 880 - 915 | 30.60 | | 28.50 | | |
| | CP0402A0942FL | 925 - 960 | 30.00 | | 28.10 | | |
| PDC | CP0402A1441FL | 1429 - 1453 | 26.50 | | 25.00 | | |
| PCN | CP0402A1747FL | 1710 - 1785 | 25.00 | | 23.80 | | |
| | CP0402A1842FL | 1805 - 1880 | 24.50 | | 23.60 | | |
| PCS | CP0402A1880FL | 1850 - 1910 | 24.20 | | 23.50 | | 0.25 |
| | CP0402A1960FL | 1930 - 1990 | 24.00 | 23.30 | | | |
| PHP | CP0402A1907FL | 1895 - 1920 | 24.20 | 23.40 | | | |
| DECT | CP0402A1890FL | 1880 - 1900 | 24.20 | 23.50 | | | |
| Wireless LAN | CP0402A2442FL | 2400 - 2484 | 22.00 | 0.25 | 22.60 | | |

CP0402AxxxxFLTR



Important: Couplers can be used at any frequency within the indicated range.



Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: ocean@oceanchips.ru

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А