# Thin-Film Directional Couplers

## CP0402 High Directivity LGA Termination

AVX RF

## 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

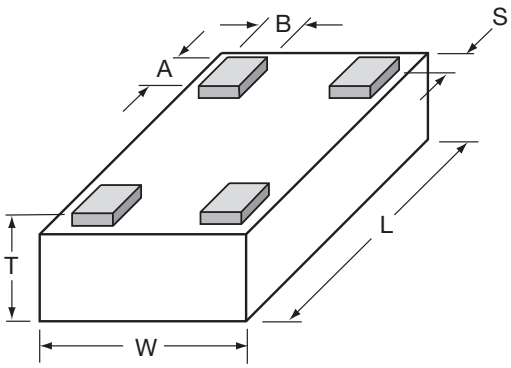
- Mobile Communications
- Satellite TV Receivers
- GPS
- Vehicle Location Systems
- Wireless LAN's

## 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) |

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## HOW TO ORDER

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

**RoHS compliant

## QUALITY INSPECTION

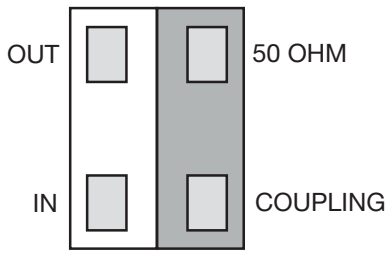
Finished parts are 100% tested for electrical parameters and visual characteristics. Each production lot is evaluated on a sample basis for:

- 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.

## TERMINALS (Top View)




Not RoHS Compliant

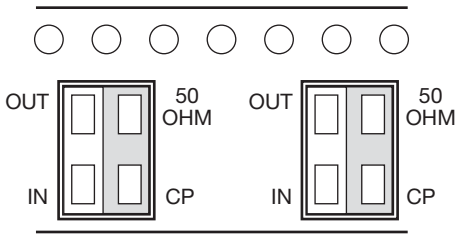
LEAD-FREE

LEAD-FREE COMPATIBLE COMPONENT

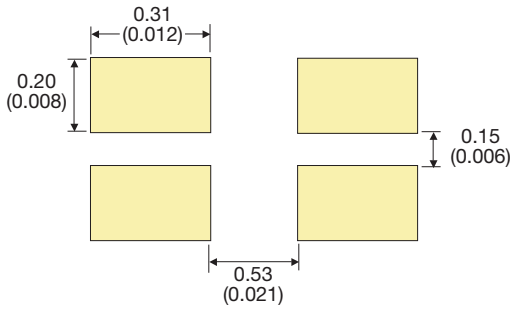
RoHS COMPLIANT

*For RoHS compliant products, please select correct termination style.*

## ORIENTATION IN TAPE




**Recommended Pad Layout Dimensions** mm (inches)

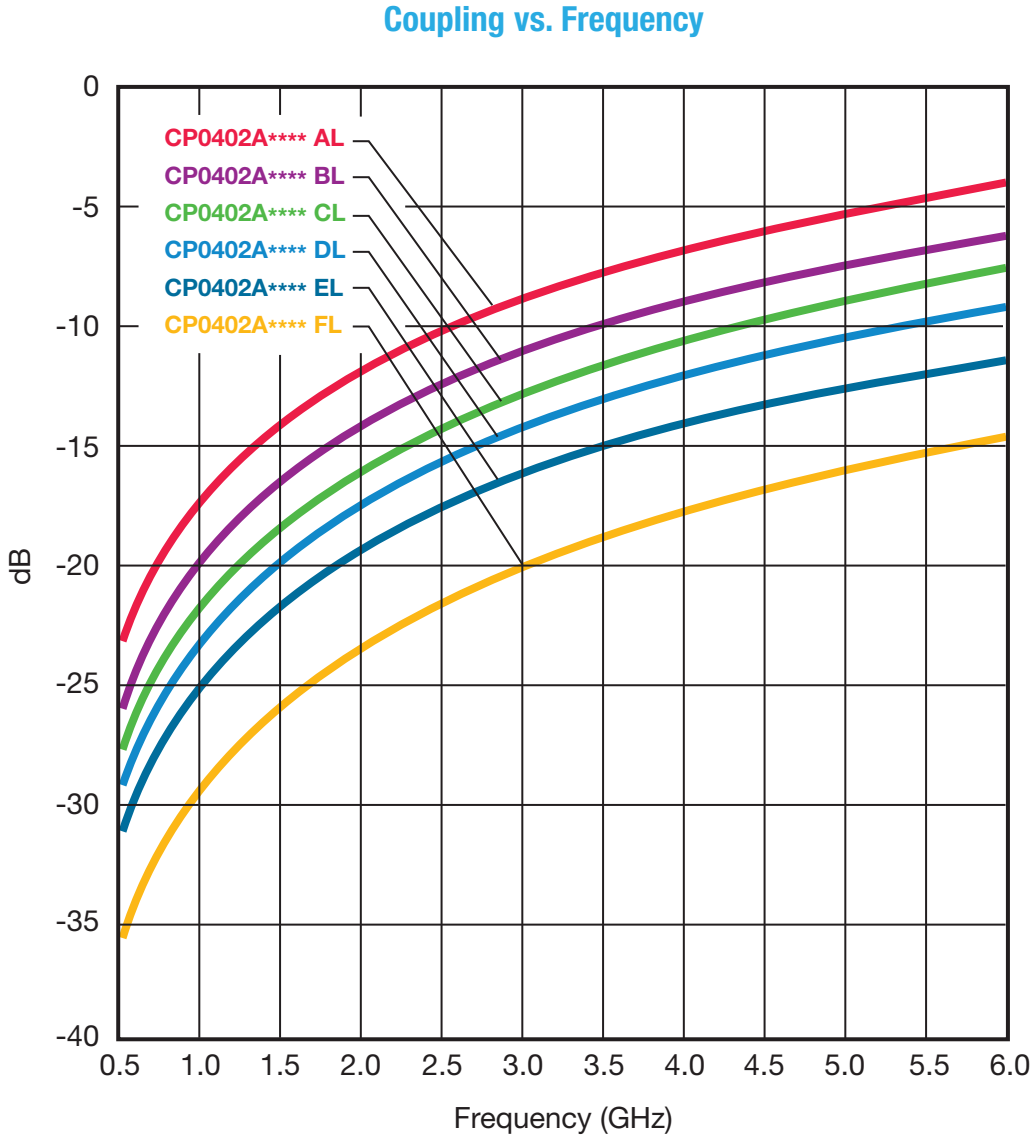



*The recommended distance to the PCB Ground Plane is 0.254mm (0.010")



AVX

### COUPLER TYPE SELECTION GRAPH

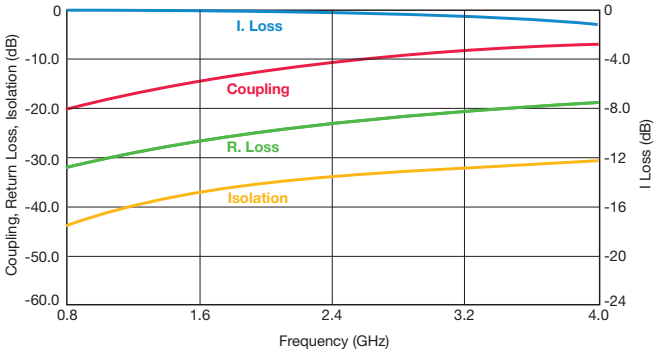



Intermediate coupling factors are readily available.
Please contact factory.

### 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 | | 31 | |
| GSM | CP0402A0902AL | 890 - 915 | 18.50 | | | |
| | CP0402A0947AL | 935 - 960 | 18.00 | | | |
| E-GSM | CP0402A0897AL | 880 - 915 | 18.50 | | | |
| | 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 | | 25 | |
| | CP0402A1960AL | 1930 - 1990 | 12.00 | | | |
| PHP | CP0402A1907AL | 1895 - 1920 | 12.30 | | | |
| DECT | CP0402A1890AL | 1880 - 1900 | | | | |
| Wireless LAN | CP0402A2442AL | 2400 - 2484 | 10.30 | 0.70 | 23 | |

### CP0402AxxxxALTR

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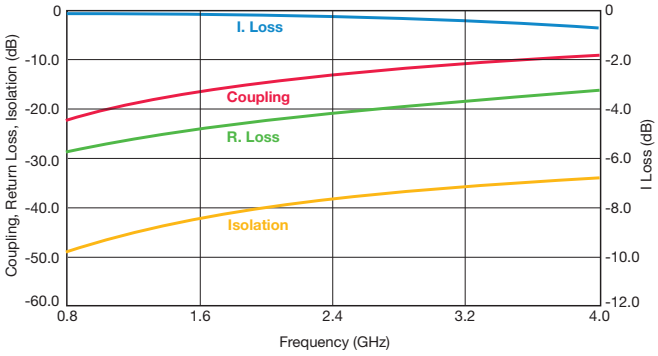
### Coupler P/N CP0402AxxxxBL

| 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 | | | |
| | CP0402A0947BL | 935 - 960 | 21.00 | 0.25 | 27 | |
| E-GSM | CP0402A0897BL | 880 - 915 | 21.50 | 0.20 | 28 | |
| | CP0402A0942BL | 925 - 960 | 21.00 | 0.25 | 27 | |
| PDC | CP0402A1441BL | 1429 - 1453 | 17.50 | | 24 | |
| PCN | CP0402A1747BL | 1710 - 1785 | 16.00 | 0.30 | 23 | |
| | CP0402A1842BL | 1805 - 1880 | 15.50 | 0.35 | | |
| PCS | CP0402A1880BL | 1850 - 1910 | | | | |
| | CP0402A1960BL | 1930 - 1990 | 15.00 | | 22 | |
| PHP | CP0402A1907BL | 1895 - 1920 | 15.50 | | 23 | |
| DECT | CP0402A1890BL | 1880 - 1900 | | | | |
| Wireless LAN | CP0402A2442BL | 2400 - 2484 | 13.30 | 0.40 | 21 | |

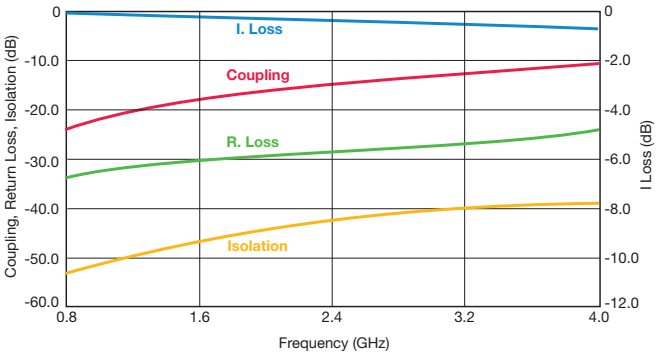
### CP0402AxxxxBLTR




### 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 | | | 26 | |
| | CP0402A0947CL | 935 - 960 | 22.50 | | 33 | |
| E-GSM | CP0402A0897CL | 880 - 915 | 23.00 | | 25 | |
| | CP0402A0942CL | 925 - 960 | 22.50 | | 32 | |
| PDC | CP0402A1441CL | 1429 - 1453 | 19.00 | 0.25 | 31 | |
| PCN | CP0402A1747CL | 1710 - 1785 | 17.20 | | 30 | 30 |
| | CP0402A1842CL | 1805 - 1880 | 17.00 | | | |
| PCS | CP0402A1880CL | 1850 - 1910 | 16.80 | | | |
| | CP0402A1960CL | 1930 - 1990 | 16.50 | | 29 | |
| PHP | CP0402A1907CL | 1895 - 1920 | 16.80 | | | |
| DECT | CP0402A1890CL | 1880 - 1900 | | | 30 | |
| Wireless LAN | CP0402A2442CL | 2400 - 2484 | 14.70 | 0.45 | 28 | |

### CP0402AxxxxCLTR

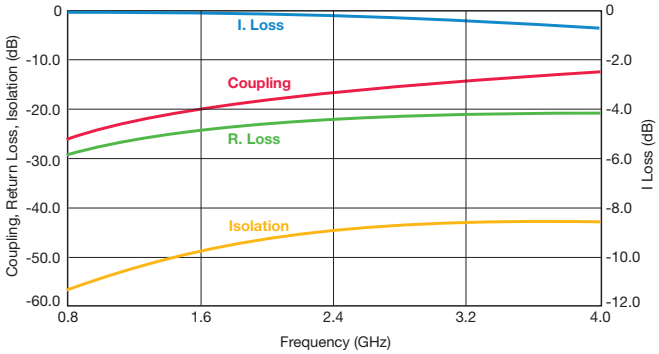



Important: Couplers can be used at any frequency within the indicated range.

### 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 | | 28 | |
| 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 | 23 |
| | CP0402A1842DL | 1805 - 1880 | 18.50 | 0.25 | 23 | |
| PCS | CP0402A1880DL | 1850 - 1910 | 18.20 | | | |
| | 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 | |

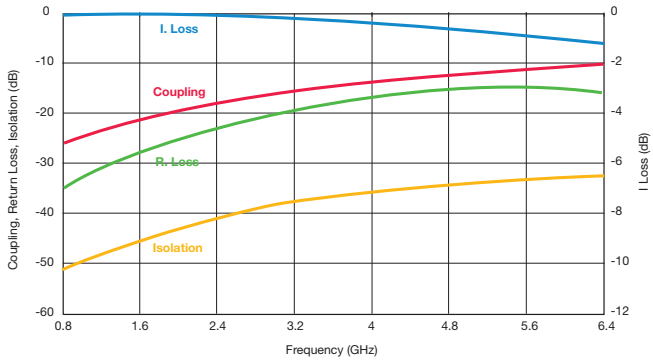
### CP0402AxxxxDLTR




### 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 | | 34 | |
| 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 | 0.25 | 29 | |
| PCN | CP0402A1747EL | 1710 - 1785 | 20.50 | | 27 | 23 |
| | CP0402A1842EL | 1805 - 1880 | 20.30 | | 26 | |
| PCS | CP0402A1880EL | 1850 - 1910 | 20.00 | | | |
| | CP0402A1960EL | 1930 - 1990 | | | | |
| PHP | CP0402A1907EL | 1895 - 1920 | | | | |
| DECT | CP0402A1890EL | 1880 - 1900 | | | | |
| Wireless LAN | CP0402A2442EL | 2400 - 2484 | 18.00 | 0.35 | 23 | |

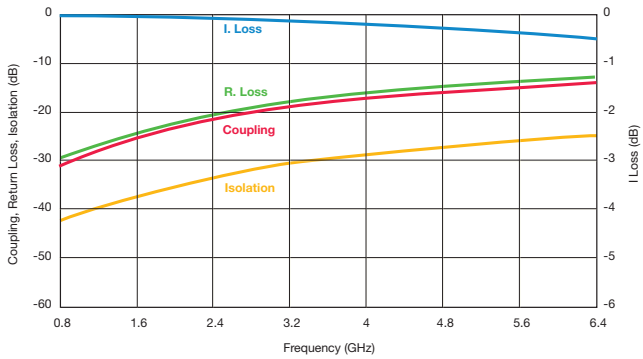
### CP0402AxxxxELTR




### 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 | |
| | CP0402A1960FL | 1930 - 1990 | 24.00 | | 23.30 | |
| PHP | CP0402A1907FL | 1895 - 1920 | 24.20 | | 23.40 | |
| DECT | CP0402A1890FL | 1880 - 1900 | | | 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.

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

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Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

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С нами вы становитесь еще успешнее!

**Наши контакты:**

**Телефон:** +7 812 627 14 35

**Электронная почта:** sales@st-electron.ru

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