

Thin-Film Directional Couplers



CP0603 High Directivity LGA Termination

GENERAL DESCRIPTION ITF (Integrated Thin-Film) TECHNOLOGY

The ITF 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 | 1.60±0.10 (0.063±0.004) | A | 0.25±0.05 (0.010±0.002) |
| W | 0.84±0.10 (0.033±0.004) | B | 0.20±0.05 (0.008±0.002) |
| T | 0.60±0.10 (0.024±0.004) | S | 0.05±0.05 (0.002±0.002) |

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HOW TO ORDER

| | | | | | | |
|---------------------|------------------|---------------|------------------|-----------------|---------------------------------------|-----------------------|
| CP T | 0603 T | X T | **** T | X T | N T | TR T |
| Style | Size | Type | Frequency | Sub Type | Termination Code | Packaging Code |
| Directional Coupler | 0603 | | (MHz) | | L = LGA Sn90, Pb10 **N = LGA Sn100 | TR = Tape and Reel |

**RoHS compliant

QUALITY INSPECTION

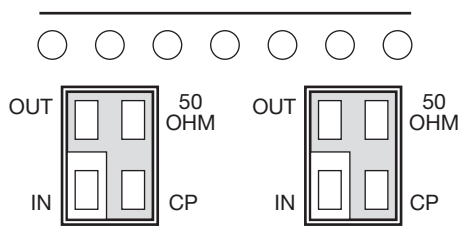
Finished parts are 100% tested for electrical parameters and visual characteristics. Each production lot is evaluated on a sample basis for:

- 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)

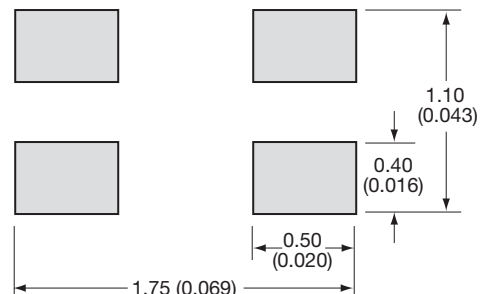
Not RoHS Compliant



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")

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COUPLER TYPE SELECTION GRAPH

Coupling vs. Frequency



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Intermediate coupling factors are readily available.
Please contact factory.



Thin-Film Directional Couplers



CP0603 High Directivity LGA Type

Coupler P/N CP0603AxxxxAL

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] | |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|----|
| AMPS | CP0603A0836AL | 824 - 849 | 20.0 | 0.25 | 28 | 22 | |
| | CP0603A0881AL | 869 - 894 | 19.7 | | | | |
| GSM | CP0603A0902AL | 890 - 915 | 19.4 | | | | |
| | CP0603A0947AL | 935 - 960 | 19.0 | | | | |
| E-GSM | CP0603A0897AL | 880 - 915 | 19.4 | | | | |
| | CP0603A0942AL | 925 - 960 | 19.0 | | | | |
| PDC | CP0603A1441AL | 1429 - 1453 | 15.5 | | 0.40 | | 24 |
| PCN | CP0603A1747AL | 1710 - 1785 | 14.0 | | 0.50 | | 22 |
| | CP0603A1842AL | 1805 - 1880 | 13.5 | | | | |
| PCS | CP0603A1880AL | 1850 - 1910 | 13.2 | | 0.55 | | 21 |
| | CP0603A1960AL | 1930 - 1990 | 13.0 | | | | |
| PHP | CP0603A1907AL | 1895 - 1920 | 13.2 | 0.50 | 22 | | |
| DECT | CP0603A1890AL | 1880 - 1900 | 13.2 | 0.50 | 22 | | |
| Wireless LAN | CP0603A2442AL | 2400 - 2484 | 11.5 | 0.75 | 20 | | |

CP0603AxxxxALTR



Coupler P/N CP0603AxxxxBL

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] | |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|----|
| AMPS | CP0603A0836BL | 824 - 849 | 23.0 | 0.20 | 31 | 20 | |
| | CP0603A0881BL | 869 - 894 | 22.7 | | | | |
| GSM | CP0603A0902BL | 890 - 915 | 22.5 | | | | |
| | CP0603A0947BL | 935 - 960 | 22.0 | | | | |
| E-GSM | CP0603A0897BL | 880 - 915 | 22.5 | | | | |
| | CP0603A0942BL | 925 - 960 | 22.0 | | | | |
| PDC | CP0603A1441BL | 1429 - 1453 | 18.5 | | 0.25 | | 27 |
| PCN | CP0603A1747BL | 1710 - 1785 | 17.0 | | | | |
| | CP0603A1842BL | 1805 - 1880 | 16.4 | | 0.25 | | 25 |
| PCS | CP0603A1880BL | 1850 - 1910 | 16.2 | | | | |
| | CP0603A1960BL | 1930 - 1990 | 16.0 | 0.35 | 23 | | |
| PHP | CP0603A1907BL | 1895 - 1920 | 16.1 | | | | |
| DECT | CP0603A1890BL | 1880 - 1900 | 16.2 | 0.35 | 23 | | |
| Wireless LAN | CP0603A2442BL | 2400 - 2484 | 14.2 | 0.35 | 23 | | |

CP0603AxxxxBLTR



Coupler P/N CP0603AxxxxCL

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] | |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|----|
| AMPS | CP0603A0836CL | 824 - 849 | 15.2 | 0.35 | 23 | 23 | |
| | CP0603A0881CL | 869 - 894 | 15.0 | | | | |
| GSM | CP0603A0902CL | 890 - 915 | 14.7 | | | | |
| | CP0603A0947CL | 935 - 960 | 14.3 | | | | |
| E-GSM | CP0603A0897CL | 880 - 915 | 14.7 | | | | |
| | CP0603A0942CL | 925 - 960 | 14.3 | | | | |
| PDC | CP0603A1441CL | 1429 - 1453 | 11.0 | | 0.70 | | 19 |
| PCN | CP0603A1747CL | 1710 - 1785 | 9.5 | | 0.80 | | 18 |
| | CP0603A1842CL | 1805 - 1880 | 9.0 | | | | |
| PCS | CP0603A1880CL | 1850 - 1910 | 8.8 | | 0.90 | | 17 |
| | CP0603A1960CL | 1930 - 1990 | 8.5 | | | | |
| PHP | CP0603A1907CL | 1895 - 1920 | 8.8 | 0.90 | 17 | | |
| DECT | CP0603A1890CL | 1880 - 1900 | 8.8 | 0.90 | 17 | | |
| Wireless LAN | CP0603A2442CL | 2400 - 2484 | 7.0 | 1.40 | 15 | | |

CP0603AxxxxCLTR



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

Thin-Film Directional Couplers



CP0603 High Directivity LGA Type

Coupler P/N CP0603AxxxxDL

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|
| AMPS | CP0603A0836DL | 824 - 849 | 22.0 | 0.25 | 31 | 22 |
| | CP0603A0881DL | 869 - 894 | 21.8 | | | |
| GSM | CP0603A0902DL | 890 - 915 | 21.3 | 0.30 | 30 | |
| | CP0603A0947DL | 935 - 960 | 21.0 | | | |
| E-GSM | CP0603A0897DL | 880 - 915 | 21.3 | 0.30 | 27 | |
| | CP0603A0942DL | 925 - 960 | 21.0 | | | |
| PDC | CP0603A1441DL | 1429 - 1453 | 17.7 | 0.40 | 25 | |
| PCN | CP0603A1747DL | 1710 - 1785 | 16.0 | | | |
| | CP0603A1842DL | 1805 - 1880 | 15.4 | | 24 | |
| PCS | CP0603A1880DL | 1850 - 1910 | 15.2 | | | |
| | CP0603A1960DL | 1930 - 1990 | 15.0 | 22 | | |
| PHP | CP0603A1907DL | 1895 - 1920 | 15.2 | | | |
| DECT | CP0603A1890DL | 1880 - 1900 | 15.2 | | | |
| Wireless LAN | CP0603A2442DL | 2400 - 2484 | 13.3 | 0.55 | | |

CP0603AxxxxDLTR



Coupler P/N CP0603AxxxxEL

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|
| AMPS | CP0603A0836EL | 824 - 849 | 25.8 | 0.20 | 32 | 21 |
| | CP0603A0881EL | 869 - 894 | 25.3 | | | |
| GSM | CP0603A0902EL | 890 - 915 | 25.0 | 0.25 | 31 | |
| | CP0603A0947EL | 935 - 960 | 24.7 | | | |
| E-GSM | CP0603A0897EL | 880 - 915 | 25.0 | 0.30 | 32 | |
| | CP0603A0942EL | 925 - 960 | 24.7 | | | |
| PDC | CP0603A1441EL | 1429 - 1453 | 21.0 | 0.40 | 28 | |
| PCN | CP0603A1747EL | 1710 - 1785 | 19.5 | | | |
| | CP0603A1842EL | 1805 - 1880 | 19.0 | | 26 | |
| PCS | CP0603A1880EL | 1850 - 1910 | 18.8 | | | |
| | CP0603A1960EL | 1930 - 1990 | 18.5 | 24 | | |
| PHP | CP0603A1907EL | 1895 - 1920 | 18.7 | | | |
| DECT | CP0603A1890EL | 1880 - 1900 | 18.8 | | | |
| Wireless LAN | CP0603A2442EL | 2400 - 2484 | 17.0 | 0.40 | | |

CP0603AxxxxELTR



Coupler P/N CP0603AxxxxFL

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|
| AMPS | CP0603A0836FL | 824 - 849 | 31.2 | 0.20 | 28 | 12 |
| | CP0603A0881FL | 869 - 894 | 30.8 | | | |
| GSM | CP0603A0902FL | 890 - 915 | 30.5 | 0.25 | 27 | |
| | CP0603A0947FL | 935 - 960 | 30.2 | | | |
| E-GSM | CP0603A0897FL | 880 - 915 | 30.5 | 0.30 | 23 | |
| | CP0603A0942FL | 925 - 960 | 30.2 | | | |
| PDC | CP0603A1441FL | 1429 - 1453 | 27.0 | 0.40 | 21 | |
| PCN | CP0603A1747FL | 1710 - 1785 | 25.0 | | | |
| | CP0603A1842FL | 1805 - 1880 | 24.5 | | 20 | |
| PCS | CP0603A1880FL | 1850 - 1910 | 24.3 | | | |
| | CP0603A1960FL | 1930 - 1990 | 24.0 | 21 | | |
| PHP | CP0603A1907FL | 1895 - 1920 | 24.2 | | | |
| DECT | CP0603A1890FL | 1880 - 1900 | 24.2 | | | |
| Wireless LAN | CP0603A2442FL | 2400 - 2484 | 21.5 | 0.25 | | |

CP0603AxxxxFLTR



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



Thin-Film Directional Couplers



CP0603 High Directivity LGA Type

Coupler P/N CP0603AxxxxGL

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] | |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|------|
| AMPS | CP0603A0836GL | 824 - 849 | 34.2 | 0.20 | 39 | 13 | |
| | CP0603A0881GL | 869 - 894 | 33.8 | | | | |
| GSM | CP0603A0902GL | 890 - 915 | 33.6 | | | | |
| | CP0603A0947GL | 935 - 960 | 33.2 | | | | |
| E-GSM | CP0603A0897GL | 880 - 915 | 33.6 | | | | |
| | CP0603A0942GL | 925 - 960 | 33.2 | | | | |
| PDC | CP0603A1441GL | 1429 - 1453 | 30.0 | | 0.25 | | 34 |
| PCN | CP0603A1747GL | 1710 - 1785 | 28.5 | | | | |
| | | CP0603A1842GL | 1805 - 1880 | | | | 28.0 |
| PCS | CP0603A1880GL | 1850 - 1910 | 27.7 | | | | |
| | CP0603A1960GL | 1930 - 1990 | 27.5 | | | | |
| PHP | CP0603A1907GL | 1895 - 1920 | 27.6 | 32 | | | |
| DECT | CP0603A1890GL | 1880 - 1900 | 27.7 | | | | |
| Wireless LAN | CP0603A2442GL | 2400 - 2484 | 25.5 | 31 | | | |

CP0603AxxxxGLTR



Coupler P/N CP0603AxxxxHL

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|
| AMPS | CP0603A0836HL | 824 - 849 | 17.3 | 0.30 | 26 | 26 |
| | CP0603A0881HL | 869 - 894 | 17.0 | | | |
| GSM | CP0603A0902HL | 890 - 915 | 16.7 | | | |
| | CP0603A0947HL | 935 - 960 | 16.3 | | | |
| E-GSM | CP0603A0897HL | 880 - 915 | 17.0 | 0.35 | 25 | |
| | CP0603A0942HL | 925 - 960 | 16.3 | | | |
| PDC | CP0603A1441HL | 1429 - 1453 | 13.0 | 0.55 | 22 | |
| PCN | CP0603A1747HL | 1710 - 1785 | 11.4 | | | |
| | | CP0603A1842HL | 1805 - 1880 | | 11.0 | |
| PCS | CP0603A1880HL | 1850 - 1910 | 10.8 | | | |
| | CP0603A1960HL | 1930 - 1990 | 10.5 | | | |
| PHP | CP0603A1907HL | 1895 - 1920 | 10.7 | | 19 | |
| DECT | CP0603A1890HL | 1880 - 1900 | 10.8 | | | |
| Wireless LAN | CP0603A2442HL | 2400 - 2484 | 8.8 | | 1.00 | 17 |

CP0603AxxxxHLTR



Coupler P/N CP0603AxxxxML

| Application | P/N Examples | Frequency Band [MHz] | Coupling [dB] | I. Loss max. [dB] | Return Loss [dB] | Directivity [dB] | |
|--------------|---------------|----------------------|---------------|-------------------|------------------|------------------|------|
| AMPS | CP0603A0836ML | 824 - 849 | 24.2 | 0.20 | 33 | 23 | |
| | CP0603A0881ML | 869 - 894 | 23.8 | | | | |
| GSM | CP0603A0902ML | 890 - 915 | 23.4 | | | | |
| | CP0603A0947ML | 935 - 960 | 23.2 | | | | |
| E-GSM | CP0603A0897ML | 880 - 915 | 23.4 | | | | |
| | CP0603A0942ML | 925 - 960 | 23.2 | | | | |
| PDC | CP0603A1441ML | 1429 - 1453 | 20.0 | | 0.25 | | 28 |
| PCN | CP0603A1747ML | 1710 - 1785 | 18.4 | | | | |
| | | CP0603A1842ML | 1805 - 1880 | | | | 18.0 |
| PCS | CP0603A1880ML | 1850 - 1910 | 17.8 | | | | |
| | CP0603A1960ML | 1930 - 1990 | 17.5 | | | | |
| PHP | CP0603A1907ML | 1895 - 1920 | 17.7 | 26 | | | |
| DECT | CP0603A1890ML | 1880 - 1900 | 17.8 | | | | |
| Wireless LAN | CP0603A2442ML | 2400 - 2484 | 15.6 | 0.35 | | 24 | |

CP0603AxxxxMLTR



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