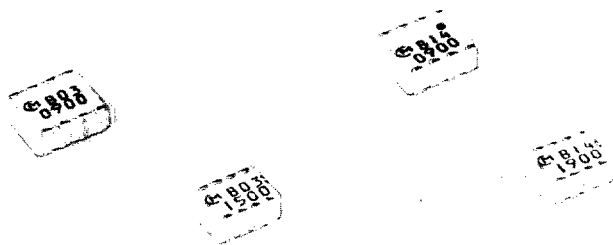


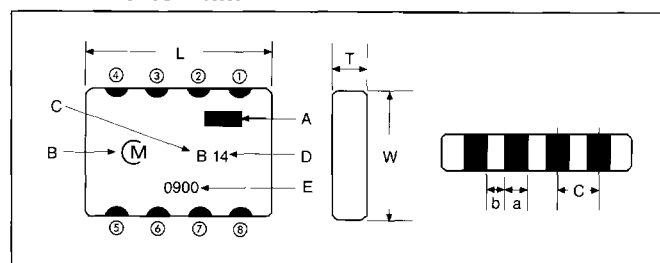
# DIRECTIONAL COUPLERS & 90° HYBRIDS CHIP MONOLITHIC



## LDC Series



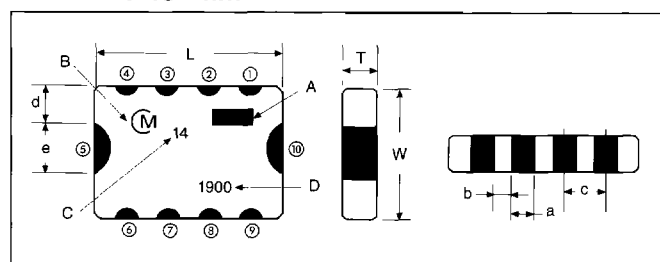
### LDC 33 – 90° Hybrid



| Code | Dimensions | Code | Dimensions |
|------|------------|------|------------|
| L    | 5.0 ± 0.3  | a    | 0.4 min.   |
| W    | 4.0 ± 0.3  | b    | 0.4 min.   |
| T    | 2.2 max.   | c    | 1.27 ± 0   |

Weight ≈ .15g

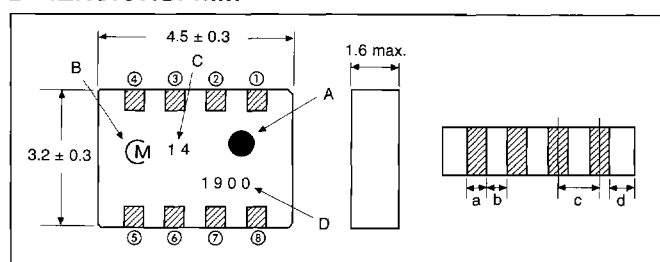
### LDC 30 – 90° Hybrid



| Code | Dimensions | Code | Dimensions |
|------|------------|------|------------|
| L    | 4.5 ± 0.3  | b    | 0.3 min.   |
| W    | 3.2 ± 0.3  | c    | 1.0 ± 0.2  |
| T    | 2.0 max.   | d    | 0.9 min.   |
| a    | 0.4 min.   | e    | 0.8 ± 0.3  |

Weight ≈ .09g

### LDC 30 – Directional Coupler



| Mark | Dimensions |
|------|------------|
| a    | 0.4 min.   |
| b    | 0.3 min.   |
| c    | 1.0 ± 0.2  |
| d    | 0.3 min.   |

Weight ≈ .09g

### FEATURES

- Small size: see dimensions
- Light weight
- Tape and reel packaging
- Reflow solderable
- Available to cover a frequency range from 800MHz to 2.5GHz
- Coupling values 3dB, 10dB, 14dB and others

### MARKING: LDC 33 – 90° Hybrid

| Mark | Description                  |
|------|------------------------------|
| A    | Directional Input Mark       |
| B    | Manufacturer's Name Code     |
| C    | Phase Code (B:90°)           |
| D    | Coupling Value 3dB           |
| E    | Center Frequency (unit: MHz) |

### TERMINALS: LDC 33 – 90° Hybrid

| Terminal No. | Terminal Name         | Terminal No. | Terminal Name        |
|--------------|-----------------------|--------------|----------------------|
| ①            | Port 1 (IN)           | ⑥            | GND                  |
| ②            | GND                   | ⑦            | GND                  |
| ③            | GND                   | ⑧            | Port 3 (OUT) 0° Port |
| ④            | Port 4, 50Ω to GND    |              |                      |
| ⑤            | Port 2 (OUT) 90° Port |              |                      |

### MARKING: LDC 30 – 90° Hybrid

| Mark | Description                  |
|------|------------------------------|
| A    | Directional Input Mark       |
| B    | Manufacturer's Name Code     |
| C    | Coupling Value 3dB           |
| D    | Center Frequency (unit: MHz) |

### TERMINALS: LDC 30 – 90° Hybrid

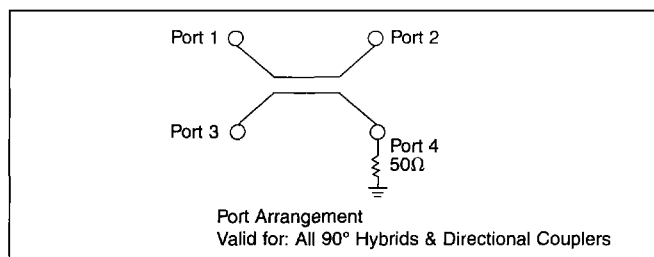
| Terminal No. | Terminal Name      | Terminal No. | Terminal Name         |
|--------------|--------------------|--------------|-----------------------|
| ①            | Port 1 (IN)        | ⑥            | Port 2 (OUT) 90° Port |
| ②            | GND                | ⑦            | GND                   |
| ③            | GND                | ⑧            | GND                   |
| ④            | Port 4, 50Ω to GND | ⑨            | Port 3 (OUT) 0° Port  |
| ⑤            | GND                | ⑩            | GND                   |

### MARKING: LDC 30 – Directional Coupler

| Mark | Description                  |
|------|------------------------------|
| A    | Directional Input Mark       |
| B    | Manufacturer's Name Code     |
| C    | Coupling Value               |
| D    | Center Frequency (unit: MHz) |

### TERMINALS: LDC 30 – Directional Coupler

| Terminal No. | Terminal Name              | Terminal No. | Terminal Name       |
|--------------|----------------------------|--------------|---------------------|
| ①            | Port 1 (IN)                | ⑤            | Port 4 (50Ω to GND) |
| ②            | GND                        | ⑥            | GND                 |
| ③            | GND                        | ⑦            | GND                 |
| ④            | Port 2 OUTPUT Through Port | ⑧            | Port 3 Coupled Port |



MONOLITHIC DEVICES

# DIRECTIONAL COUPLERS CHIP MONOLITHIC

## LDC Series

### DIRECTIONAL COUPLER SPECIFICATIONS

| P/N                | Frequency Range (MHz) | Coupling (dB) | IL          |             | Isolation (dB min.) | VSWR (max.) |
|--------------------|-----------------------|---------------|-------------|-------------|---------------------|-------------|
|                    |                       |               | 25°C        | -30 ~ +85°C |                     |             |
| <b>EAMPS/ADC</b>   |                       |               |             |             |                     |             |
| LDC30B150J0836     | 836.5 ± 12.5          | 15.6 ± 1.0    | 0.35dB max. | 0.40dB max. | 26                  | 1.3         |
| LDC30B200J0836     |                       | 20.6 ± 1.0    | 0.20dB max. | 0.25dB max. | 36                  |             |
| <b>CT-2</b>        |                       |               |             |             |                     |             |
| LDC30B150J0866     | 866.0 ± 2.0           | 15.4 ± 1.0    | 0.35dB max. | 0.40dB max. | 26                  | 1.3         |
| LDC30B200J0866     |                       | 20.4 ± 1.0    | 0.20dB max. | 0.25dB max. | 36                  |             |
| <b>ETACS</b>       |                       |               |             |             |                     |             |
| LDC30B150J0888     | 888.5 ± 16.5          | 15.2 ± 1.0    | 0.35dB max. | 0.40dB max. | 25                  | 1.3         |
| LDC30B200J0888     |                       | 20.2 ± 1.0    | 0.20dB max. | 0.25dB max. | 35                  |             |
| <b>GSM/NMT 900</b> |                       |               |             |             |                     |             |
| LDC30B150J0902     | 902.5 ± 12.5          | 15.0 ± 1.0    | 0.35dB max. | 0.40dB max. | 25                  | 1.3         |
| LDC30B200J0902     |                       | 20.0 ± 1.0    | 0.20dB max. | 0.25dB max. | 35                  |             |
| <b>NTACS</b>       |                       |               |             |             |                     |             |
| LDC30B140J0911     | 911.5 ± 13.5          | 14.8 ± 1.0    | 0.35dB max. | 0.40dB max. | 25                  | 1.3         |
| LDC30B190J0911     |                       | 19.8 ± 1.0    | 0.20dB max. | 0.25dB max. | 35                  |             |
| <b>CT-1 40</b>     |                       |               |             |             |                     |             |
| LDC30B140J0914     | 914.5 ± 0.5           | 14.8 ± 1.0    | 0.35dB max. | 0.40dB max. | 25                  | 1.3         |
| LDC30B190J0914     |                       | 19.8 ± 1.0    | 0.20dB max. | 0.25dB max. | 35                  |             |
| <b>CT-1 80</b>     |                       |               |             |             |                     |             |
| LDC30B140J0931     | 931.0 ± 1.0           | 14.6 ± 1.0    | 0.35dB max. | 0.40dB max. | 25                  | 1.3         |
| LDC30B190J0931     |                       | 19.6 ± 1.0    | 0.20dB max. | 0.25dB max. | 35                  |             |
| <b>IDO</b>         |                       |               |             |             |                     |             |
| LDC30B140J0920     | 920.0 ± 5.0           | 14.8 ± 1.0    | 0.35dB max. | 0.40dB max. | 25                  | 1.3         |
| LDC30B190J0920     |                       | 19.8 ± 1.0    | 0.20dB max. | 0.25dB max. | 35                  |             |
| <b>IDO/NTT</b>     |                       |               |             |             |                     |             |
| LDC30B140J0927     | 927.5 ± 12.5          | 14.8 ± 1.0    | 0.35dB max. | 0.40dB max. | 25                  | 1.3         |
| LDC30B190J0927     |                       | 19.8 ± 1.0    | 0.20dB max. | 0.25dB max. | 35                  |             |
| <b>NTT</b>         |                       |               |             |             |                     |             |
| LDC30B140J0933     | 933.5 ± 8.5           | 14.6 ± 1.0    | 0.35dB max. | 0.40dB max. | 25                  | 1.3         |
| LDC30B190J0933     |                       | 19.6 ± 1.0    | 0.20dB max. | 0.25dB max. | 35                  |             |
| <b>PDC 800</b>     |                       |               |             |             |                     |             |
| LDC30B140J0950     | 950.0 ± 10.0          | 14.4 ± 1.0    | 0.35dB max. | 0.40dB max. | 25                  | 1.3         |
| LDC30B190J0950     |                       | 19.4 ± 1.0    | 0.20dB max. | 0.25dB max. | 35                  |             |
| <b>PDC 1.5</b>     |                       |               |             |             |                     |             |
| LDC30B110J1441     | 1441.0 ± 12.0         | 11.8 ± 1.0    | 0.60dB max. | 0.65dB max. | 23                  | 1.3         |
| LDC30B160J1441     |                       | 16.6 ± 1.0    | 0.30dB max. | 0.35dB max. | 32                  |             |
| LDC30B200J1441     |                       | 20.8 ± 1.0    | 0.25dB max. | 0.30dB max. | 36                  |             |
| <b>PCS</b>         |                       |               |             |             |                     |             |
| LDC30B100J1870     | 1870.0 ± 20.0         | 10.4 ± 1.0    | 0.70dB max. | 0.75dB max. | 22                  | 1.3         |
| LDC30B140J1870     |                       | 14.8 ± 1.0    | 0.35dB max. | 0.40dB max. | 30                  |             |
| LDC30B190J1870     |                       | 19.2 ± 1.0    | 0.25dB max. | 0.30dB max. | 35                  |             |
| <b>PCN</b>         |                       |               |             |             |                     |             |
| LDC30B100J1747     | 1747.5 ± 37.5         | 10.8 ± 1.0    | 0.65dB max. | 0.70dB max. | 23                  | 1.3         |
| LDC30B150J1747     |                       | 15.4 ± 1.0    | 0.35dB max. | 0.40dB max. | 32                  |             |
| LDC30B190J1747     |                       | 19.6 ± 1.0    | 0.25dB max. | 0.30dB max. | 36                  |             |
| <b>DECT</b>        |                       |               |             |             |                     |             |
| LDC30B100J1890     | 1890.0 ± 10.0         | 10.4 ± 1.0    | 0.70dB max. | 0.75dB max. | 22                  | 1.3         |
| LDC30B140J1890     |                       | 14.8 ± 1.0    | 0.35dB max. | 0.40dB max. | 30                  |             |
| LDC30B190J1890     |                       | 19.2 ± 1.0    | 0.25dB max. | 0.30dB max. | 35                  |             |
| <b>PHP</b>         |                       |               |             |             |                     |             |
| LDC30B100J1907     | 1907.5 ± 12.5         | 10.4 ± 1.0    | 0.70dB max. | 0.75dB max. | 22                  | 1.3         |
| LDC30B140J1907     |                       | 14.8 ± 1.0    | 0.35dB max. | 0.40dB max. | 30                  |             |
| LDC30B190J1907     |                       | 19.2 ± 1.0    | 0.25dB max. | 0.30dB max. | 35                  |             |

Note: All directional couplers have 3.0 Watt power rating.

Note: All directional couplers and hybrids have 50 ohm nominal characteristic impedance.

### 90° HYBRID SPECIFICATIONS

| P/N             | Frequency Range | Insertion Loss | Input VSWR | Isolation | Phase Deviation | Amplitude Balance | Power Capacity |
|-----------------|-----------------|----------------|------------|-----------|-----------------|-------------------|----------------|
| LDC33B030GC0900 | 800M ~ 1GHz     | 3.0+0.6/-0.2dB | 1.4 max.   | 20dB min. | 90 ± 3DEG       | 0.8dB max.        | 5 Watts        |
| LDC30B030GC1600 | 1.45G ~ 1.70GHz |                |            |           |                 |                   | 3 Watts        |
| LDC30B030GC1750 | 1.65M ~ 1.85GHz |                |            |           |                 |                   |                |
| LDC30B030GC1900 | 1.80M ~ 2.00GHz |                |            |           |                 |                   |                |

# DIRECTIONAL COUPLERS CHIP MONOLITHIC

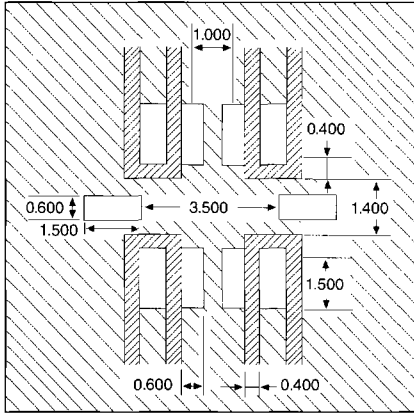


## LDC Series

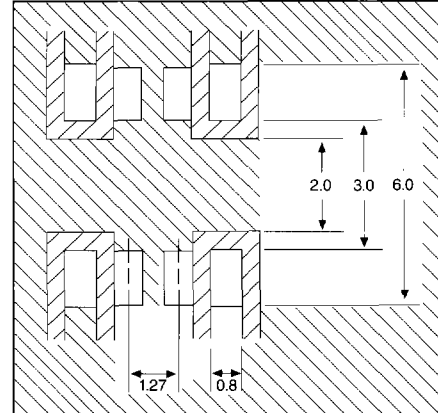
LAND
  NO PATTERN, SOLDER RESIST
  SOLDER RESIST

DIMENSIONS: mm

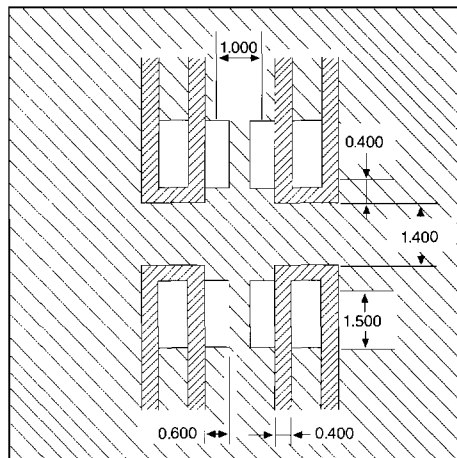
LDC 30 – 90° Hybrid



LDC 33 – 90° Hybrid



LDC 30 – Directional Coupler



(Unit: mm)