

# SUB-MINIATURE COUPLERS, DIRECTIONAL WITH SMA FEMALE CONNECTORS 0.5-18 GHz

# SERIES CA, CL

## GENERAL INFORMATION:

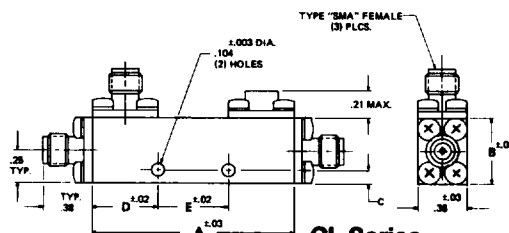
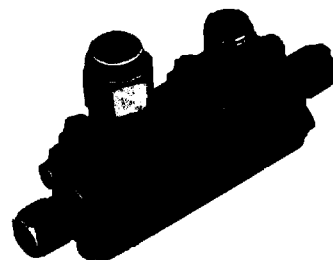
KDI/Triangle Electronics' Miniature Stripline Couplers, Series CA and CL are available in 6 dB, 10 dB, 20 dB, and 30 dB coupling values. These units feature high directivity and low VSWR and are conservatively rated to ensure the most reliable service and performance under severe environmental conditions. Optional mechanical sizes are also available in the standard CL series for all models. Consult factory.

## GENERAL SPECIFICATIONS:

**Frequency Range:** 0.5 to 18.0 GHz  
**RF Impedance:** 50 Ohms  
**RF Power:** The peak and average power handling capability of the couplers apply if the main line is terminated in a 1.25 max. VSWR for the 6 and 10 dB couplers, and in a 1.75 max. VSWR for the 20 and 30 dB couplers.  
**Operating Temperature:** -55°C to +85°C  
**Environment:** MIL-E-5400  
**Connectors:** SMA Female

### Notes:

1. If the frequency band of interest is narrower than that listed, it should be indicated when ordering. Performance will be optimized over the band of interest and improved delivery may be provided. A special part number may be assigned.
2. The directional couplers shown on this page are unequalled in terms of size and performance. The volume of these couplers made them ideally suited for applications involving high density packaging. As evidenced by the specifications no compromise has been made with electrical performance in order to achieve sub-miniaturization.
3. Rugged 4 hole connector construction insures mechanical superiority.
4. For all 30 dB couplers B dimension is 0.55/1.40 (CA Series) and 0.56/1.42 (CL Series).
5. A 50 ohm termination is supplied on each unit delivered. Power rating is 1.0 watts at +25°C.

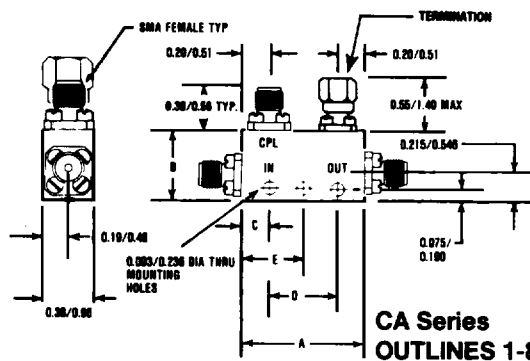


**CL Series  
OUTLINES 9-12**

## MECHANICAL OUTLINES—FIG. 1 SMA CONNECTOR SERIES CA & CL

| OUTLINE | A<br>Inches<br>cm. | B<br>Inches<br>cm. | C<br>Inches<br>cm. | D<br>Inches<br>cm. | E<br>Inches<br>cm. |
|---------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 1       | 3.10<br>7.87       | 0.50<br>1.27       | 0.80<br>2.03       | 1.50<br>3.81       | —                  |
| 2       | 3.40<br>8.64       | 0.50<br>1.27       | 0.95<br>2.41       | 1.50<br>3.81       | —                  |
| 3       | 2.50<br>6.35       | 0.50<br>1.27       | 0.60<br>1.52       | 1.30<br>3.30       | —                  |
| 4       | 1.80<br>4.57       | 0.50<br>1.27       | 0.43<br>1.09       | 0.94<br>2.39       | —                  |
| 5       | 1.40<br>3.56       | 0.50<br>1.27       | 0.50<br>1.27       | 0.40<br>1.02       | —                  |
| 6       | 1.00<br>2.54       | 0.50<br>1.27       | —                  | —                  | 0.50<br>1.27       |
| 7       | 1.30<br>3.30       | 0.50<br>1.27       | —                  | —                  | 0.65<br>1.65       |
| 8       | 0.90<br>2.29       | 0.50<br>1.27       | —                  | —                  | 0.45<br>1.14       |
| 9       | 2.56               | 0.75               | .09                | 0.5                | 1.55               |
| 10      | 2.08               | 0.70               | 0.125              | 0.61               | 0.88               |
| 11      | 3.80               | 0.75               | NA                 | NA                 | NA                 |
| 12      | 1.375              | 0.688              | 0.125              | 0.44               | 0.500              |

INCHES/CENTIMETERS  
 XX ±.03 XXX ±.010 / XX ±.08 XXX ±.025



**CA Series  
OUTLINES 1-8**

# COUPLERS, DIRECTIONAL SERIES CA, CL

| Model No.  | Frequency Range GHz | Coupling (Note 1) dB | Frequency Flatness (Note 1) dB | Minimum Directivity dB | Max. Input/Output VSWR | Max. Ins. Loss Above Coupling Loss dB | Max. Peak Power kW | Max. Avg. Power Watts | Outline |
|------------|---------------------|----------------------|--------------------------------|------------------------|------------------------|---------------------------------------|--------------------|-----------------------|---------|
| *CA-516    | .5-1.0              | 6 ± 1.0              | ± 0.6                          | 22                     | 1.10                   | 0.15                                  | 3                  | 50                    | 1       |
| *CA-511    | .5-1.0              | 10 ± 1.2             | ± 0.75                         | 25                     | 1.10                   | 0.15                                  | 3                  | 50                    | 1       |
| *CA-512    | .5-1.0              | 20 ± 1.2             | ± 0.75                         | 25                     | 1.10                   | 0.15                                  | 3                  | 50                    | 1       |
| *CA-513    | .5-1.0              | 30 ± 1.2             | ± 0.75                         | 25                     | 1.10                   | 0.15                                  | 3                  | 50                    | 1       |
| CA-526     | .5-2.0              | 6 ± 1.0              | ± 0.6                          | 20                     | 1.20                   | 0.2                                   | 3                  | 50                    | 2       |
| CA-521     | .5-2.0              | 10 ± 1.2             | ± 0.75                         | 20                     | 1.20                   | 0.2                                   | 3                  | 50                    | 2       |
| CA-522     | .5-2.0              | 20 ± 1.2             | ± 0.75                         | 20                     | 1.20                   | 0.2                                   | 3                  | 50                    | 2       |
| CA-523     | .5-2.0              | 30 ± 1.2             | ± 0.75                         | 20                     | 1.20                   | 0.2                                   | 3                  | 5                     | 2       |
| CL-7530-20 | 0.75-3.0            | 20 ± 1.0             | ± 0.75                         | 20                     | 1.30                   | 0.2                                   | 3                  | 100                   | 9       |
| CL-0833-10 | 0.8-3.3             | 10 ± 1.25            | ± 0.75                         | 20                     | 1.25                   | 0.2                                   | 3                  | 100                   | 9       |
| CA-556     | .75-1.5             | 6 ± 1.0              | ± 0.6                          | 22                     | 1.15                   | 0.2                                   | 3                  | 50                    | 3       |
| CA-551     | .75-1.5             | 10 ± 1.2             | ± 0.75                         | 22                     | 1.15                   | 0.2                                   | 3                  | 50                    | 3       |
| CA-552     | .75-1.5             | 20 ± 1.2             | ± 0.75                         | 22                     | 1.15                   | 0.2                                   | 3                  | 50                    | 3       |
| CA-553     | .75-1.5             | 30 ± 1.2             | ± 0.75                         | 22                     | 1.15                   | 0.2                                   | 3                  | 50                    | 3       |
| *CA-596    | 1.0-2.0             | 6 ± 1.0              | ± 0.6                          | 22                     | 1.20                   | 0.2                                   | 3                  | 50                    | 4       |
| *CA-591    | 1.0-2.0             | 10 ± 1.2             | ± 0.75                         | 22                     | 1.20                   | 0.2                                   | 3                  | 50                    | 4       |
| *CA-592    | 1.0-2.0             | 20 ± 1.2             | ± 0.75                         | 22                     | 1.20                   | 0.2                                   | 3                  | 50                    | 4       |
| *CA-593    | 1.0-2.0             | 30 ± 1.2             | ± 0.75                         | 22                     | 1.20                   | 0.2                                   | 3                  | 50                    | 4       |
| CL-1040-20 | 1.0-4.0             | 20 ± 1.0             | ± 0.3                          | 20                     | 1.25                   | 0.25                                  | 3                  | 50                    | 11      |
| *CA-636    | 1.5-3.0             | 6 ± 1.0              | ± 0.6                          | 20                     | 1.20                   | 0.2                                   | 3                  | 50                    | 5       |
| *CA-631    | 1.5-3.0             | 10 ± 1.2             | ± 0.75                         | 20                     | 1.20                   | 0.2                                   | 3                  | 50                    | 5       |
| *CA-632    | 1.5-3.0             | 20 ± 1.2             | ± 0.75                         | 20                     | 1.20                   | 0.2                                   | 3                  | 50                    | 5       |
| *CA-633    | 1.5-3.0             | 30 ± 1.2             | ± 0.75                         | 20                     | 1.20                   | 0.2                                   | 3                  | 50                    | 5       |
| CL-1743-16 | 1.7-4.3             | 16 ± 1.0             | ± 0.3                          | 20                     | 1.25                   | 0.25                                  | 3                  | 50                    | 10      |
| *CA-676    | 2.0-4.0             | 6 ± 1.0              | ± 0.6                          | 20                     | 1.20                   | 0.2                                   | 3                  | 40                    | 6       |
| *CA-671    | 2.0-4.0             | 10 ± 1.2             | ± 0.75                         | 20                     | 1.20                   | 0.2                                   | 3                  | 40                    | 6       |
| *CA-672    | 2.0-4.0             | 20 ± 1.2             | ± 0.75                         | 20                     | 1.20                   | 0.2                                   | 3                  | 40                    | 6       |
| *CA-673    | 2.0-4.0             | 30 ± 1.2             | ± 0.75                         | 20                     | 1.20                   | 0.2                                   | 3                  | 40                    | 6       |
| CA-696     | 2.0-8.0             | 6 ± 1.0              | ± 0.6                          | 17                     | 1.30                   | 0.3                                   | 2                  | 20                    | 7       |
| CA-691     | 2.0-8.0             | 10 ± 1.2             | ± 0.75                         | 17                     | 1.30                   | 0.3                                   | 2                  | 20                    | 7       |
| CA-692     | 2.0-8.0             | 20 ± 1.2             | ± 0.75                         | 17                     | 1.30                   | 0.3                                   | 2                  | 20                    | 7       |
| CA-693     | 2.0-8.0             | 30 ± 1.2             | ± 0.75                         | 17                     | 1.30                   | 0.3                                   | 2                  | 20                    | 7       |
| CL-2086-16 | 2.0-8.6             | 16 ± 1.0             | ± 0.3                          | 18                     | 1.35                   | 0.25                                  | 3                  | 50                    | 10      |
| *CA-716    | 2.6-5.2             | 6 ± 1.0              | ± 0.6                          | 20                     | 1.25                   | 0.25                                  | 3                  | 40                    | 8       |
| *CA-711    | 2.6-5.2             | 10 ± 1.2             | ± 0.75                         | 20                     | 1.25                   | 0.25                                  | 3                  | 40                    | 8       |
| *CA-712    | 2.6-5.2             | 20 ± 1.2             | ± 0.75                         | 20                     | 1.25                   | 0.25                                  | 3                  | 40                    | 8       |
| *CA-713    | 2.6-5.2             | 30 ± 1.2             | ± 0.75                         | 20                     | 1.25                   | 0.25                                  | 3                  | 40                    | 8       |
| CA-776     | 6.0-18.0            | 6 ± 1.0              | ± 0.6                          | 14                     | 1.45                   | 0.55                                  | 2                  | 20                    | 8       |
| CA-771     | 6.0-18.0            | 10 ± 1.0             | ± 0.6                          | 14                     | 1.45                   | 0.55                                  | 2                  | 20                    | 8       |
| CA-772     | 6.0-18.0            | 20 ± 1.2             | ± 0.7                          | 14                     | 1.45                   | 0.55                                  | 2                  | 20                    | 8       |
| CA-773     | 6.0-18.0            | 30 ± 1.25            | ± 0.7                          | 14                     | 1.45                   | 0.55                                  | 2                  | 20                    | 8       |
| *CA-756    | 4.0-8.0             | 6 ± 1.0              | ± 0.6                          | 18                     | 1.25                   | 0.3                                   | 3                  | 40                    | 8       |
| *CA-751    | 4.0-8.0             | 10 ± 1.2             | ± 0.75                         | 18                     | 1.25                   | 0.3                                   | 3                  | 40                    | 8       |
| *CA-752    | 4.0-8.0             | 20 ± 1.2             | ± 0.75                         | 18                     | 1.25                   | 0.3                                   | 3                  | 40                    | 8       |
| *CA-753    | 4.0-8.0             | 30 ± 1.2             | ± 0.75                         | 18                     | 1.25                   | 0.3                                   | 3                  | 40                    | 8       |
| CL-6017-10 | 6-17                | 10 ± 1.0             | ± 0.4                          | 12                     | 1.5                    | 0.6                                   | 3                  | 30                    | 12      |
| *CA-796    | 7.0-12.4            | 6 ± 1.0              | ± 0.5                          | 17                     | 1.30                   | 0.45                                  | 2                  | 30                    | 8       |
| *CA-791    | 7.0-12.4            | 10 ± 1.0             | ± 0.5                          | 17                     | 1.30                   | 0.45                                  | 2                  | 30                    | 8       |
| *CA-792    | 7.0-12.4            | 20 ± 1.0             | ± 0.5                          | 17                     | 1.30                   | 0.45                                  | 2                  | 30                    | 8       |
| *CA-793    | 7.0-12.4            | 30 ± 1.0             | ± 0.5                          | 17                     | 1.30                   | 0.45                                  | 2                  | 30                    | 8       |
| CA-836     | 8.0-16.0            | 6 ± 1.0              | ± 0.5                          | 15                     | 1.40                   | 0.5                                   | 2                  | 30                    | 8       |
| CA-831     | 8.0-16.0            | 10 ± 1.0             | ± 0.6                          | 15                     | 1.40                   | 0.5                                   | 2                  | 30                    | 8       |
| CA-832     | 8.0-16.0            | 20 ± 1.2             | ± 0.7                          | 15                     | 1.40                   | 0.5                                   | 2                  | 30                    | 8       |
| CA-833     | 8.0-16.0            | 30 ± 1.25            | ± 0.7                          | 15                     | 1.40                   | 0.5                                   | 2                  | 30                    | 8       |
| CA-876     | 8.0-18.0            | 6 ± 1.0              | ± 0.6                          | 14                     | 1.45                   | 0.55                                  | 2                  | 20                    | 8       |
| CA-871     | 8.0-18.0            | 10 ± 1.0             | ± 0.6                          | 14                     | 1.45                   | 0.55                                  | 2                  | 20                    | 8       |
| CA-872     | 8.0-18.0            | 20 ± 1.2             | ± 0.7                          | 14                     | 1.45                   | 0.55                                  | 2                  | 20                    | 8       |
| CA-873     | 8.0-18.0            | 30 ± 1.25            | ± 0.7                          | 14                     | 1.45                   | 0.55                                  | 2                  | 20                    | 8       |
| *CA-916    | 12.4-18.0           | 6 ± 1.0              | ± 0.5                          | 15                     | 1.40                   | 0.55                                  | 2                  | 30                    | 8       |
| *CA-911    | 12.4-18.0           | 10 ± 1.0             | ± 0.5                          | 15                     | 1.40                   | 0.55                                  | 2                  | 30                    | 8       |
| *CA-912    | 12.4-18.0           | 20 ± 1.0             | ± 0.5                          | 15                     | 1.40                   | 0.55                                  | 2                  | 30                    | 8       |
| *CA-913    | 12.4-18.0           | 30 ± 1.0             | ± 0.5                          | 15                     | 1.40                   | 0.55                                  | 2                  | 30                    | 8       |

**Notes:**

- 1. Coupling includes Frequency Flatness. Coupling measurement is referenced to Input Port.
- \* Available with optional mechanical outline in "CL" Series. (Consult factory.)

**KDI/triangle  
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