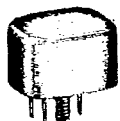


**LOW DISTORTION DOUBLE BALANCED MIXERS****PC & CONNECTOR VERSIONS**

**10 KHz to 1250 MHz**  
**LO POWER +13dBm**



PC  
VERSION  
FC-217YL  
FC-217R  
FC-217Z

CONN.  
VERSION  
FC-218YL  
FC-218R  
FC-218Z

FREQ.  
RANGE  
10 KHz to 100 MHz  
200 KHz to 500 MHz  
2 to 1250 MHz

Models FC-217YL/FC-218YL, FC-217R/FC-218R and FC-217Z/FC-218Z are low distortion mixers which cover the 10 KHz to 1250 MHz range with excellent performance at moderate LO power. Low-loss ferrite networks are used with special multiple junction diode quad arrangements in both discrete and integrated (chip) form. The wideband networks are optimized for best LO switching characteristics, which is significant in attaining low distortion performance; all models have superior compression and distortion characteristics—over an extremely wide frequency range. Several package styles are available to suit most applications. All PC units are hermetically sealed and are leak tested prior to shipment.

**PERFORMANCE DATA**

| PC VERSION |               | CONNECTOR VERSION |               | FULL FREQUENCY RANGE MHz |             | FREQ. RANGE MHz PORTS W AND A | CONV. LOSS (MAX.) dB (NOTE 3) | ISOLATION (MIN.) dB |             |             | LO POWER NOM. (NOTE 3) | 1dB INPUT COMPRESSION LEVEL (NOTE 3) | 3RD ORDER INTERCEPT POINT (NOTE 3) |
|------------|---------------|-------------------|---------------|--------------------------|-------------|-------------------------------|-------------------------------|---------------------|-------------|-------------|------------------------|--------------------------------------|------------------------------------|
| MODEL      | FIG. (NOTE 1) | MODEL             | FIG. (NOTE 2) | PORTS W (LO) & A (RF)    | PORT B (IF) |                               |                               | PORT W TO A         | PORT W TO B | PORT A TO B |                        |                                      |                                    |
| FC-217YL   | 1             | FC-218YL          | 11            | 0.01-100                 | DC-100      | 0.01-0.05                     | 7.5                           | 50                  | 45          | 30          | +13dBm                 | +5dBm                                | +20dBm                             |
|            |               |                   |               |                          |             | 0.05-2.0                      | 6.0                           | 50                  | 45          | 30          |                        |                                      |                                    |
|            |               |                   |               |                          |             | 2.0-10                        | 6.0                           | 45                  | 40          | 30          |                        |                                      |                                    |
|            |               |                   |               |                          |             | 10-60                         | 6.0                           | 35                  | 30          | 30          |                        |                                      |                                    |
|            |               |                   |               |                          |             | 60-100                        | 7.5                           | 35                  | 30          | 25          |                        |                                      |                                    |
| FC-217R    | 1             | FC-218R (NOTE 3)  | 11            | 0.2-500                  | DC-500      | 0.2-0.4                       | 8.0                           | 50                  | 45          | 30          | +13dBm                 | +5dBm                                | +20dBm                             |
|            |               |                   |               |                          |             | 0.4-10                        | 6.0                           | 50                  | 45          | 30          |                        |                                      |                                    |
|            |               |                   |               |                          |             | 10-50                         | 6.0                           | 45                  | 40          | 30          |                        |                                      |                                    |
|            |               |                   |               |                          |             | 50-150                        | 6.0                           | 35                  | 25          | 20          |                        |                                      |                                    |
|            |               |                   |               |                          |             | 150-500                       | 8.0                           | 30                  | 25          | 20          |                        |                                      |                                    |
| FC-217Z    | 1             | FC-218Z           | 11            | 2.0-1250                 | DC-1250     | 2.0-50                        | 8.5                           | 35                  | 30          | 20          | +13dBm                 | +5dBm                                | +20dBm                             |
|            |               |                   |               |                          |             | 50-400                        | 8.0                           | 35                  | 30          | 20          |                        |                                      |                                    |
|            |               |                   |               |                          |             | 400-500                       | 8.5                           | 35                  | 30          | 20          |                        |                                      |                                    |
|            |               |                   |               |                          |             | 500-1000                      | 8.5                           | 30                  | 25          | 12          |                        |                                      |                                    |
|            |               |                   |               |                          |             | 1000-1250                     | 9.0                           | 20                  | 20          | 12          |                        |                                      |                                    |

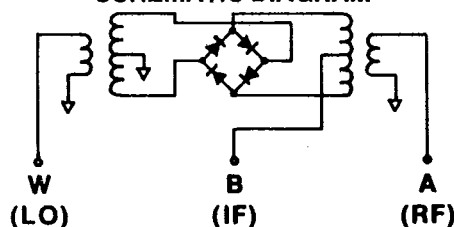
**NOTES:**

- The figure shown (Mixer Outline Drawings) is the standard case style. Alternate case styles, available on request, are Fig. 2, 3, 4, 7 and 8. To specify an alternate case style, add the figure number to the model designation (e.g., FC-217-YL-4).
- The figure shown (Mixer Outline Drawings) is the standard case style. An alternate case style, available on request, is Fig. 12. To specify this style, add -12 to the model designation (e.g., FC-218R-12).
- See "Performance Notes".

**GENERAL SPECIFICATIONS**

The mixers are designed and constructed to meet or exceed the requirement of MIL-E-5400 & MIL-E-16400. Hi Rel programs are also available. All products are designed and constructed to meet or exceed the following environmental and physical conditions of MIL-STD-202.

|                                      |   |
|--------------------------------------|---|
| Thermal Shock                        | Method 107D<br>Test Condition A<br>-55°C to +85°C, 30 minutes at each extreme   |
| Vibration                            | Method 204<br>Test Condition B<br>10-2000 Hz 15G Peak   |
| Moisture Resistance                  | Method 106D   |
| Humidity                             | Method 103B<br>Test Condition B   |
| Solderability                        | Method 208  |
| Resistance to Solvents               | Method 215  |
| Seal (Gross Leak) (PC versions only) | Method 112B<br>Test Condition D<br>10 <sup>-6</sup> ATM cc/sec  |
| Impedance                            | For use in a 50 Ohm system  |
| LO Power                             | Mixers should be operated at nominal LO power, with a tolerance of +4dB, -2dB. LO power should not exceed the nominal value shown by more than 6dB. |
| Polarity                             | With ports A and W in phase, dc at port B is negative with respect to ground.   |
| DC Current, Any Port                 | 40mA max.   |
| Connectors                           | BNC standard<br>SMA or TNC available  |

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