

50Ω      Output 4800 to 6600 MHz



**+RoHS Compliant**

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

|                       |                |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C  |
| Storage Temperature   | -55°C to 100°C |
| RF Input Power        | 17 dBm         |

Permanent damage may occur if any of these limits are exceeded.

|        |         |
|--------|---------|
| INPUT  | 1       |
| OUTPUT | 4       |
| GROUND | 2,3,5,6 |

**TOP VIEW**

**SIDE VIEW**

**BOTTOM VIEW**

**PCB Land Pattern**

**Suggested Layout,**  
Tolerance to be within  $\pm 0.02$

| A    | B    | C    | D    | E    | F    | G    | H     |
|------|------|------|------|------|------|------|-------|
| .25  | .31  | .16  | .100 | .040 | .055 | .060 | .065  |
| 6.35 | 7.87 | 4.06 | 2.54 | 1.02 | 1.40 | 1.52 | 1.65  |
| J    | K    | L    | M    | N    | P    | Q    | wt.   |
| .300 | .060 | .160 | .025 | .100 | .110 | .070 | grams |
| 7.62 | 1.52 | 4.06 | 0.64 | 2.54 | 2.79 | 1.78 | 0.16  |

NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030"  $\pm$  .002"; COPPER: 1/2 OZ. EACH SIDE.  
2. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
3. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

 DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

**A.** Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

**B.** Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

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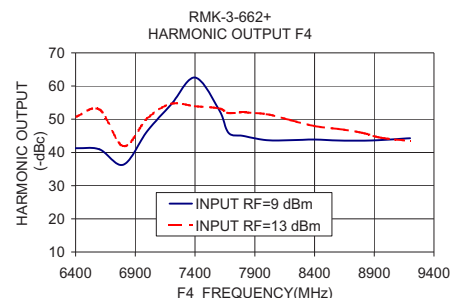
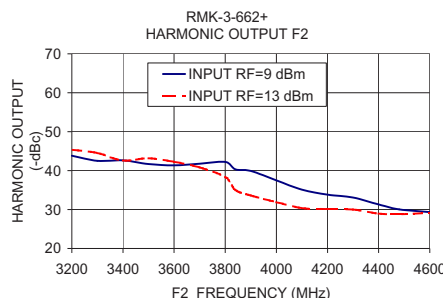
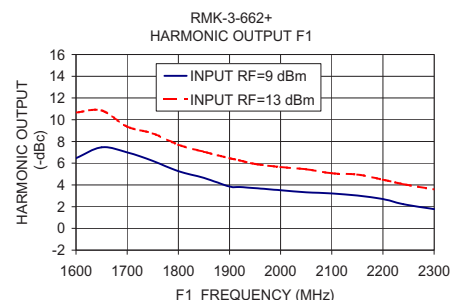
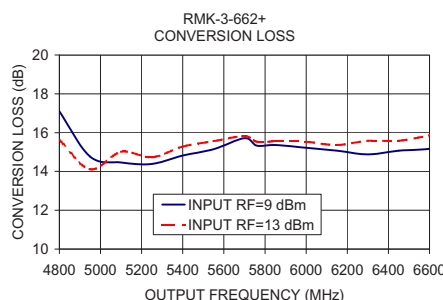
- broadband
- low conversion loss, 15.0 dB typ.
- high rejection F2, 45 dBc typ.; F4, 38 dBc typ.
- low cost
- aqueous washable

- synthesizers
- local oscillators
- satellite up and down converters

| MULTIPLICATION<br>FACTOR | FREQUENCY<br>(MHz) |           | INPUT<br>POWER<br>(dBm) |      | CONVERSION<br>LOSS<br>(dB) |      | *HARMONIC OUTPUT<br>(dBc) |      |      |      |      |      |
|--------------------------|--------------------|-----------|-------------------------|------|----------------------------|------|---------------------------|------|------|------|------|------|
|                          | F3                 |           |                         |      |                            |      | F1                        |      | F2   |      | F4   |      |
|                          | F1<br>Input        | Output    | Min.                    | Max. | Typ.                       | Max. | Typ.                      | Min. | Typ. | Min. | Typ. | Min. |
| 3                        | 1600-2200          | 4800-6600 | 9                       | 13   | 15                         | 19.5 | 6                         | -4   | 45   | 20   | 38   | 21   |

\* Harmonics of input frequency below the power level of F3

| INPUT RF= 9 dBm       |                      |                                 |       |       | INPUT RF= 13 dBm     |                                 |       |       |
|-----------------------|----------------------|---------------------------------|-------|-------|----------------------|---------------------------------|-------|-------|
| Input Frequency (MHz) | Conversion Loss (dB) | Harmonic Output Below F3 (-dBc) |       |       | Conversion Loss (dB) | Harmonic Output Below F3 (-dBc) |       |       |
|                       | F3                   | F1                              | F2    | F4    |                      | F3                              | F1    | F2    |
| 1600.00               | 16.17                | 5.79                            | 39.64 | 42.32 | 16.07                | 9.80                            | 45.92 | 49.63 |
| 1650.00               | 15.46                | 6.01                            | 43.37 | 40.97 | 15.33                | 10.25                           | 47.62 | 52.77 |
| 1700.00               | 15.10                | 5.89                            | 46.84 | 40.55 | 14.98                | 10.06                           | 48.95 | 49.53 |
| 1750.00               | 14.89                | 5.78                            | 49.17 | 42.02 | 14.62                | 10.36                           | 48.86 | 49.65 |
| 1800.00               | 14.66                | 5.53                            | 48.23 | 43.98 | 14.22                | 10.83                           | 46.31 | 52.18 |
| 1850.00               | 14.70                | 5.07                            | 46.62 | 44.93 | 14.54                | 9.81                            | 43.11 | 54.74 |
| 1900.00               | 15.03                | 4.47                            | 45.05 | 44.85 | 14.74                | 9.07                            | 39.08 | 50.55 |
| 1920.00               | 14.99                | 4.28                            | 44.45 | 44.68 | 14.95                | 8.74                            | 37.10 | 45.73 |
| 1950.00               | 14.93                | 4.17                            | 42.99 | 43.71 | 14.93                | 8.77                            | 33.59 | 37.40 |
| 2000.00               | 15.07                | 3.68                            | 39.94 | 43.00 | 15.14                | 8.31                            | 30.77 | 31.77 |
| 2050.00               | 15.69                | 2.78                            | 36.93 | 41.91 | 15.49                | 7.21                            | 29.04 | 29.44 |
| 2100.00               | 15.99                | 2.26                            | 33.31 | 39.71 | 16.00                | 6.00                            | 28.43 | 29.20 |
| 2150.00               | 16.08                | 1.90                            | 30.27 | 37.69 | 16.59                | 4.93                            | 28.42 | 29.24 |
| 2200.00               | 16.58                | 1.13                            | 27.59 | 36.27 | 17.30                | 3.93                            | 29.15 | 27.99 |
| 2240.00               | 17.29                | 0.20                            | 26.08 | 34.76 | 17.37                | 3.46                            | 30.73 | 27.09 |
| 2300.00               | 17.45                | 0.22                            | 24.12 | 34.37 | 18.09                | 2.05                            | 31.53 | 26.89 |



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REV. A  
M151107  
RMK-3-662-  
ED-12689/1  
DJ/CP/AM  
150923  
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