## The Big Deal

- Excellent matching VSWR, 1.2:1 typical
- 0.25W Power Handling
- SMA-F (50 ) to F-Type-M (75 ) Connectors


## Product Overview

Mini-Circuits' Z7550R-FMSF+ is a coaxial 50/75 resistive matching pad covering the DC to 2500 MHz frequency range, supporting impedance matching in a wide range of systems including CATV, broadband networks, and more. This model is ideal for $50 / 75 \Omega$ impedance matching in systems where minimizing mismatch and signal reflections is a priority. The matching pad handles RF input power up to 0.25 W and comes housed in a rugged, compact aluminium alloy case ( $1.25 \times 1.25 \times 0.75$ ") with SAM-F $(50 \Omega)$ to F -Type-M( $75 \Omega$ ) connectors.

## Key Features

| Feature | Advantages |
| :--- | :--- |
| Wideband, DC to 2500 MHz | Supports a wide variety of applications including CATV and DOCSIS® 3.1 systems and equipment. |
| Excellent matching VSWR, 1.2:1 <br> typ. | Enables excellent signal power transmission from input to output, minimizing over all systems losses. |
| 0.25 W power handling | Supports a range of systems power requirements. |
| Compact size, $1.25 \times 1.25 \times 0.75$ " | Accommodates tight space requirements for crowded systems layouts. |
| SMA-F $(50 \Omega)$ <br> nectors | to Type-M (75 $)$ con- | Supports connections between components with different connector types..

[^0]50/75 $\Omega$

## Maximum Ratings

Operating Temperature $\qquad$ $-40^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}$
Storage Temperature $-55^{\circ} \mathrm{C}$ to $100^{\circ} \mathrm{C}$
Permanent damage may occur if any of these limits are exceeded.

Features

- Minimum loss pad
- Wideband coverage, DC-2500MHz
- Connectorized package


## Applications

- Impedance matching
- Cable / CATV \& Broadband Fiber Networks


## Z7550R-FMSF+



CASE STYLE: H16
Connectors Model 75 $\Omega$ F-M Z7550R-FMSF+ $50 \Omega$ S-F
+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

## Coaxial Connections

| Input | SMA-Female |
| :--- | ---: |
| Output | F-Male |

## Outline Drawing



| Frequency <br> (MHz) | Insertion Loss <br> (dB) | VSWR |  |
| :---: | :---: | :---: | :---: |
| 10 | 5.72 | $\mathbf{5 0} \Omega$ | $\mathbf{7 5 \Omega}$ |
| 50 | 5.73 | 1.00 |  |
| 100 | 5.74 | 1.01 | 1.01 |
| 250 | 5.76 | 1.01 | 1.01 |
| 950 | 5.78 | 1.02 | 1.01 |
| 1500 | 5.82 | 1.07 | 1.07 |
| 2000 | 5.83 | 1.13 | 1.20 |
| 2150 | 5.82 | 1.17 | 1.28 |
| 2300 | 5.79 | 1.19 | 1.30 |
| 2500 | 5.74 | 1.20 | 1.32 |
|  |  |  | 1.35 |



## Notes

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 . To the rights and cod by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled

| FREQ. | INSERTION LOSS | INPUT RETURN LOSS (50^) | OUTPUT RETURN LOSS (75 ${ }^{\text {) }}$ |
| :---: | :---: | :---: | :---: |
| (MHz) | (dB) | (dB) | (dB) |
| 1.00 | 5.71 | 60.98 | 51.20 |
| 5.00 | 5.72 | 59.71 | 50.53 |
| 10.00 | 5.72 | 58.87 | 49.95 |
| 50.00 | 5.73 | 50.55 | 46.69 |
| 100.00 | 5.74 | 46.08 | 43.81 |
| 150.00 | 5.75 | 43.34 | 43.02 |
| 200.00 | 5.75 | 41.43 | 43.53 |
| 220.00 | 5.76 | 40.71 | 43.87 |
| 240.00 | 5.76 | 40.10 | 43.92 |
| 250.00 | 5.76 | 39.74 | 43.67 |
| 265.00 | 5.76 | 39.35 | 43.08 |
| 270.00 | 5.76 | 39.16 | 42.78 |
| 275.00 | 5.76 | 39.02 | 42.57 |
| 290.00 | 5.76 | 38.70 | 41.74 |
| 300.00 | 5.76 | 38.44 | 41.24 |
| 320.00 | 5.77 | 37.94 | 40.39 |
| 340.00 | 5.77 | 37.48 | 39.88 |
| 375.00 | 5.77 | 36.76 | 39.48 |
| 395.00 | 5.77 | 36.43 | 39.41 |
| 400.00 | 5.77 | 36.33 | 39.48 |
| 425.00 | 5.77 | 35.90 | 39.94 |
| 440.00 | 5.77 | 35.65 | 40.50 |
| 465.00 | 5.77 | 35.24 | 41.42 |
| 480.00 | 5.77 | 34.99 | 41.54 |
| 500.00 | 5.77 | 34.65 | 41.11 |
| 515.00 | 5.77 | 34.40 | 40.61 |
| 545.00 | 5.78 | 33.93 | 39.75 |
| 560.00 | 5.78 | 33.71 | 39.27 |
| 595.00 | 5.78 | 33.22 | 37.87 |
| 600.00 | 5.78 | 33.15 | 37.68 |
| 645.00 | 5.78 | 32.54 | 36.61 |
| 650.00 | 5.78 | 32.49 | 36.59 |
| 680.00 | 5.78 | 32.04 | 36.38 |
| 730.00 | 5.78 | 31.35 | 35.06 |
| 785.00 | 5.78 | 30.68 | 33.66 |
| 840.00 | 5.78 | 30.08 | 31.55 |
| 850.00 | 5.78 | 29.98 | 31.27 |
| 935.00 | 5.78 | 29.03 | 29.39 |
| 940.00 | 5.78 | 29.00 | 29.28 |
| 945.00 | 5.78 | 28.93 | 29.16 |
| 950.00 | 5.78 | 28.89 | 29.05 |
| 955.00 | 5.78 | 28.85 | 28.97 |
| 960.00 | 5.78 | 28.79 | 28.88 |
| 985.00 | 5.78 | 28.54 | 28.50 |
| 995.00 | 5.78 | 28.45 | 28.34 |
| 1000.00 | 5.78 | 28.41 | 28.23 |
| 1050.00 | 5.78 | 27.90 | 27.12 |
| 1100.00 | 5.79 | 27.41 | 26.10 |
| 1150.00 | 5.79 | 27.02 | 25.16 |
| 1200.00 | 5.79 | 26.63 | 24.40 |
| 1400.00 | 5.81 | 25.14 | 21.88 |
| 1500.00 | 5.82 | 24.48 | 20.88 |
| 1700.00 | 5.83 | 23.33 | 19.38 |
| 1900.00 | 5.84 | 22.37 | 18.50 |
| 2000.00 | 5.83 | 21.93 | 18.12 |
| 2050.00 | 5.83 | 21.75 | 17.95 |
| 2100.00 | 5.82 | 21.59 | 17.81 |
| 2150.00 | 5.82 | 21.43 | 17.65 |
| 2300.00 | 5.80 | 21.17 | 17.44 |
| 2500.00 | 5.79 | 21.06 | 17.31 |

## Typical Performance Curves



## Case Style

## Outline Dimensions

STANDARD


OPTION "B"



| CASE\# | A | B | C | D | E | F | G | H | J | K | L | M | N |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| H 16 | 1.25 | 1.25 | .750 | .63 | .38 | 1.000 | .125 | 1.000 |  |  | .125 | 1.688 | 2.18 |
|  | $(31.75)$ | $(31.75)$ | $(19.05)$ | $(16.00)$ | $(9.65)$ | $(25.40)$ | $(3.18)$ | $(25.40)$ | - | - | $(3.18)$ | $(42.88)$ | $(55.37)$ |


| CASE\# | P | Q | WT.GRAMS |
| :---: | :---: | :---: | :---: |
| H16 | .750 | .06 | 70 |
|  | $(19.05)$ | $(1.52)$ |  |

Dimensions are in inches (mm). Tolerances: 2PL. $\pm .03 ; 3 P L . \pm .015$

## Notes:

1. Case material: Aluminum alloy.
2. Case finish:

For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
3. Mounting bracket available on request. Add suffix $B$ to part number.
4. Bracket version, option B, dimension "C" changes from .75 to .94 inches when connectors are type N.
5. Refer to the individual model data sheet for the type of connectors available.

## $\square$ Mini-Circuits

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification | Test/Inspection Condition | Reference/Spec |
| :---: | :---: | :---: |
| Operating Temperature | $-55^{\circ} \text { to } 100^{\circ} \mathrm{C}$ <br> Ambient Environment | Individual Model Data Sheet |
| Storage Temperature | $-55^{\circ} \text { to } 100^{\circ} \mathrm{C}$ <br> Ambient Environment | Individual Model Data Sheet |
| Barometric Pressure | 100,000 Feet | MIL-STD-202, Method 105, Condition D |
| Humidity | $90 \% \mathrm{RH}, 65^{\circ} \mathrm{C}$ <br> Units may require bake-out after humidity to restore full performance. | MIL-STD-202, Method 103 |
| Thermal Shock | $-65^{\circ}$ to $125^{\circ} \mathrm{C}, 5$ cycles | MIL-STD-202, Method 107, Condition B |
| Vibration (High Frequency) | 20 g peak, $10-2000 \mathrm{~Hz}, 12$ times in each of three perpendicular directions (total 36) | MIL-STD-202, Method 204, Condition D |
| Mechanical Shock | $100 \mathrm{~g}, 6 \mathrm{~ms}$ sawtooth, 3 shocks each direction 3 axes (total 18) | MIL-STD-202, Method 213, Condition I |
| ENV28 Rev: B 09/26/13 M143494 File: ENV28.pdf |  |  |
| This document and its contents are the property of Mini-Circuits. |  |  |


[^0]:    Notes
    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.
    C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled
    to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at ww.minicircuits.com/MCLStore/terms.jsp to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

