S0404AF High Frequency Thin Film Chip Resistor
Standard Grade, Surface Mount, Top Surface Terminations

PRODUCT FEATURES
- Frequency Range to 20GHz with excellent VSWR characteristics
- High stability thin film resistor element, 99.5% alumina substrate
- Produced with the same stringent quality and reliability standards as our QPL S level Mil-PRF-55342 and space level products
- Tight tolerance and low TCR availability

MECHANICAL

<table>
<thead>
<tr>
<th>MECHANICAL</th>
<th>INCHES</th>
<th>MILIMETERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>.042 (.040 - .048)</td>
<td>1.07 (1.02 - 1.22)</td>
</tr>
<tr>
<td>Width</td>
<td>.038 (.036 - .040)</td>
<td>.97 (.92 - 1.02)</td>
</tr>
<tr>
<td>Thickness</td>
<td>.015 (.013 - .023)</td>
<td>.38 (.33 - .58)</td>
</tr>
<tr>
<td>Top Term</td>
<td>.009 (.004 - .014)</td>
<td>.23 (.10 - .35)</td>
</tr>
<tr>
<td>Gap</td>
<td>.022 (.018 - .026)</td>
<td>.57 (.47 - .67)</td>
</tr>
<tr>
<td>Approx. Weight</td>
<td>.0010 grams</td>
<td></td>
</tr>
</tbody>
</table>

FREQUENCY PERFORMANCE
-State of the Art thin film high frequency chip resistors are produced with a tantalum-nitride based resistor element that is extremely stable with time, temperature, and frequency. The chips perform well over a wide frequency range, exhibiting low VSWR response from DC to 20 GHz and higher. Solderable terminations allow the chips to be refloved or hand soldered into microwave circuits easily while maintaining excellent return loss characteristics. Parasitic reactance is very low for these chips with capacitance being typically less than 0.1 pF.

CHARACTERISTICS
- Resistance (others available) 50, 75, 100, 200 ohms
- Tolerance (others available) 0.1, 1, 2, 5 %
- Maximum Power 75 milliwatts
- Frequency Range DC to 20 GHz
- TCR (-55° / + 125°C) 25, 50, 100 ppm/°C

ENVIRONMENTAL PERFORMANCE*
- Thermal Shock ±0.03 %
- Low Temperature Operation ±0.03 %
- Short Time Overload ±0.03 %
- Resistance to Bonding Exposure ±0.03 %
- Moisture Resistance ±0.05 %
- High Temperature Exposure ±0.05 %

Typical percent resistance change - test methods and actual specification limits are in accordance with Mil-PRF-55342.

TYPICAL LIFE PERFORMANCE
Parts are solder mounted on F4 board and tested at 70°C. Power is applied for 90 minutes on and 30 minutes off at a rate that achieves a film temperature 30°C above ambient.

OPTIONAL EXPOSURE TO CONFORMAL COATING
- Optional high reliability screening or custom testing or other special requirements can also be furnished. Consult our factory with your special needs.

PACKAGING
Packaging options available:
- Waffle Pack - 400 per tray maximum

STATE OF THE ART, INC. 2470 Fox Hill Road State College, PA 16803-1797 Phone (814)355-8004 Fax (814)355-3714 TOLL FREE 1-800-458-3401

STATE of the Art, Inc. www.resistor.com