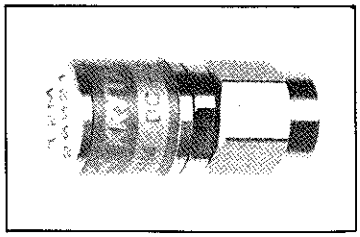
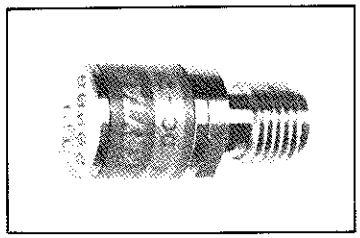
Precision Coaxial Terminations Offer Low SWR and Mechanical Reliability



Krytar
Sunnyvale, CA



Krytar has introduced the T1 and T2 series of 3.5 mm male and female precision coaxial terminations, operating in the DC to 20 GHz and DC to 26.5 GHz frequency ranges, respectively, with a 0.5 W maximum power reading.

Models T1M (male connectors) and T1F (female connectors) feature a maximum SWR of 1.05 and 1.07, respectively. Diameter dimensions are 0.78" x 0.36" for the T1M and 0.73" x 0.36" for the T1F.

The dimensions of models T2M (male connectors) and T2F (female connectors) are identical to those of the T1M and T1F. Guaranteed SWR for the T2M is 1.06 at frequencies up to 20 GHz and 1.09 at frequencies up to 26.5 GHz. For the T2F, guaranteed SWR goes from 1.08 at a frequency of 20 GHz to 1.11 at 26.5 GHz. SWR performance of the T2M termination is shown in Figure 1.

Both series feature a rugged mechanical design that guarantees long wear and high repeatability.

Generally a termination fails for two reasons. The first is that its center contact may be insufficiently anchored. Some contacts are simply press-fitted into place; others are glued or screwed on. The second kind of failure results from the way contact is made with the resistor. Tubular resistors are generally used, and some rely simply on butting up against the center conductor.

The Krytar terminations use a bead that is 0.34" long for the male and 0.19" for the female. These dimensions provide solid axial support for center conductors; the bead and center conductor are captivated by an epoxy post going through the outer conductor, bead and around a groove in the center conductor. Captivation is solid, typically requiring a force of 15 to 20 pounds to break it loose.

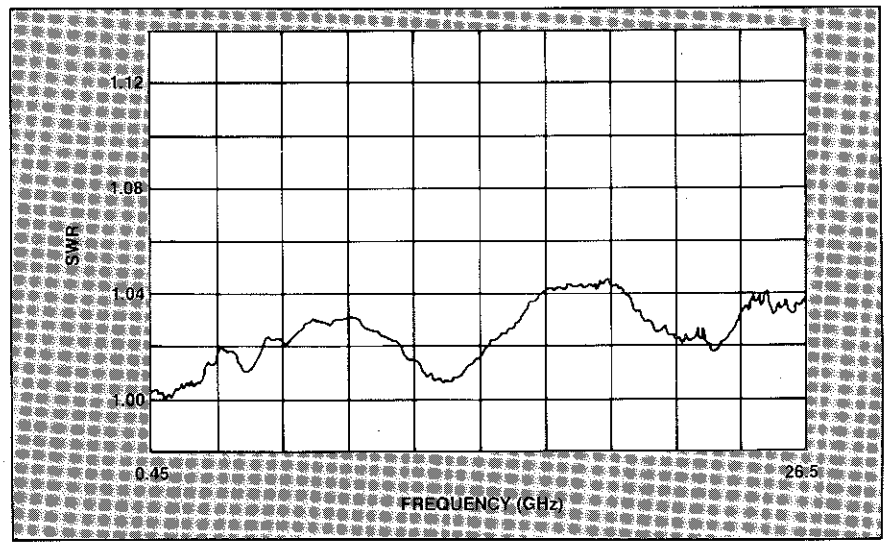


Fig. 1 SWR for the T2M termination.

Contact to the coaxial rod resistor is made with spring-loaded gold-plated beryllium copper fingers. This allows for temperature expansion differences between the ceramic rod resistor and metal housing, resulting in a -65 to 125°C operating temperature range.

MIL-Spec Ruggedness

T2M terminations were subjected to thermal shock testing, as per conditions outlined by MIL-202, Method 107, Test Condition B. They underwent five cycles of thermal shock throughout the -65 to 125°C temperature range without any significant SWR change. This established that the devices can be used in testing under varied environmental conditions, not only at room temperature.

With an eye toward calibration laboratory and QA use, each termination has the model and serial number permanently laser-inscribed on its metal cap. Even if the recessed label were to wear off, each unit's permanently etched identification provides the requisite traceability.

Krytar will shortly offer similar terminations for operation in the 40 GHz range.

The T1 series is priced at $275 and the T2 series at $335. Delivery takes place upon receipt of order.

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Circle No. 299

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