

**WR-28 Magic Tee Waveguide Using UG-599/U  
 Square Cover Flange and Operating from 26.5 GHz to  
 40 GHz**

Fairview's FMWMT1005 is a magic, or hybrid tee that operates from 26.5 GHz to 40 GHz, Ka band. It is a 4 port device that is internally tuned to optimize matching, balance, and isolation. Magic tees have an H-plane (sum) port, an E-plane (difference) port, and two collinear ports. A signal applied to the H port will be equally divided between the two collinear ports. A signal applied to the E port will be divided between the two collinear ports but with a 180 degree phase difference. Similarly, when two in-phase signals of equal amplitude are applied to the collinear ports, these will be added together at the H-plane (sum) port and subtracted from one another at the E-plane (difference) port.



**Electrical Specifications**

Description	Min	Typ	Max	Units
Frequency Range	26.5		40	GHz
Insertion Loss			0.5	dB
Isolation, E-H ( $\Delta$ - $\Sigma$ ) Ports	25			dB
Isolation, Collinear Ports	15			dB

**Mechanical Specifications**

**Size**

Weight	0.12 lbs [54.43 g]
Waveguide Size	WR-28
Flange Type	Square Cover
Flange Designation	UG-599/U
Body Material and Plating	Aluminum, Gold
Body Plating Specification	ASTMB488

**Environmental Specifications**

**Compliance Certifications** (visit [www.FairviewMicrowave.com](http://www.FairviewMicrowave.com) for current document)

RoHS Compliant	Yes
REACH Compliant	12/17/2015

**Plotted and Other Data**

Notes:

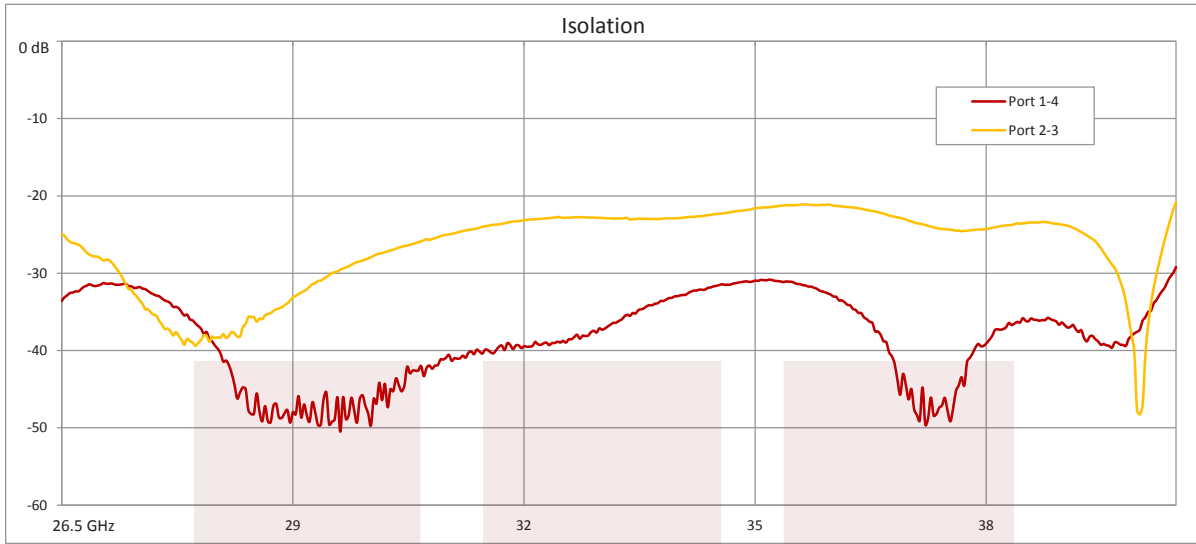
**Features:**

- 26.5 to 40 GHz Frequency Range
- E to H Port Isolation 25 dB Min
- Collinear Port Isolation 15 dB Min
- 0.5 dB Insertion loss
- Ka Band

**Applications:**

- Test and Measurement
- Military Communications
- Commercial Communications
- Wireless Communications
- SATCOM

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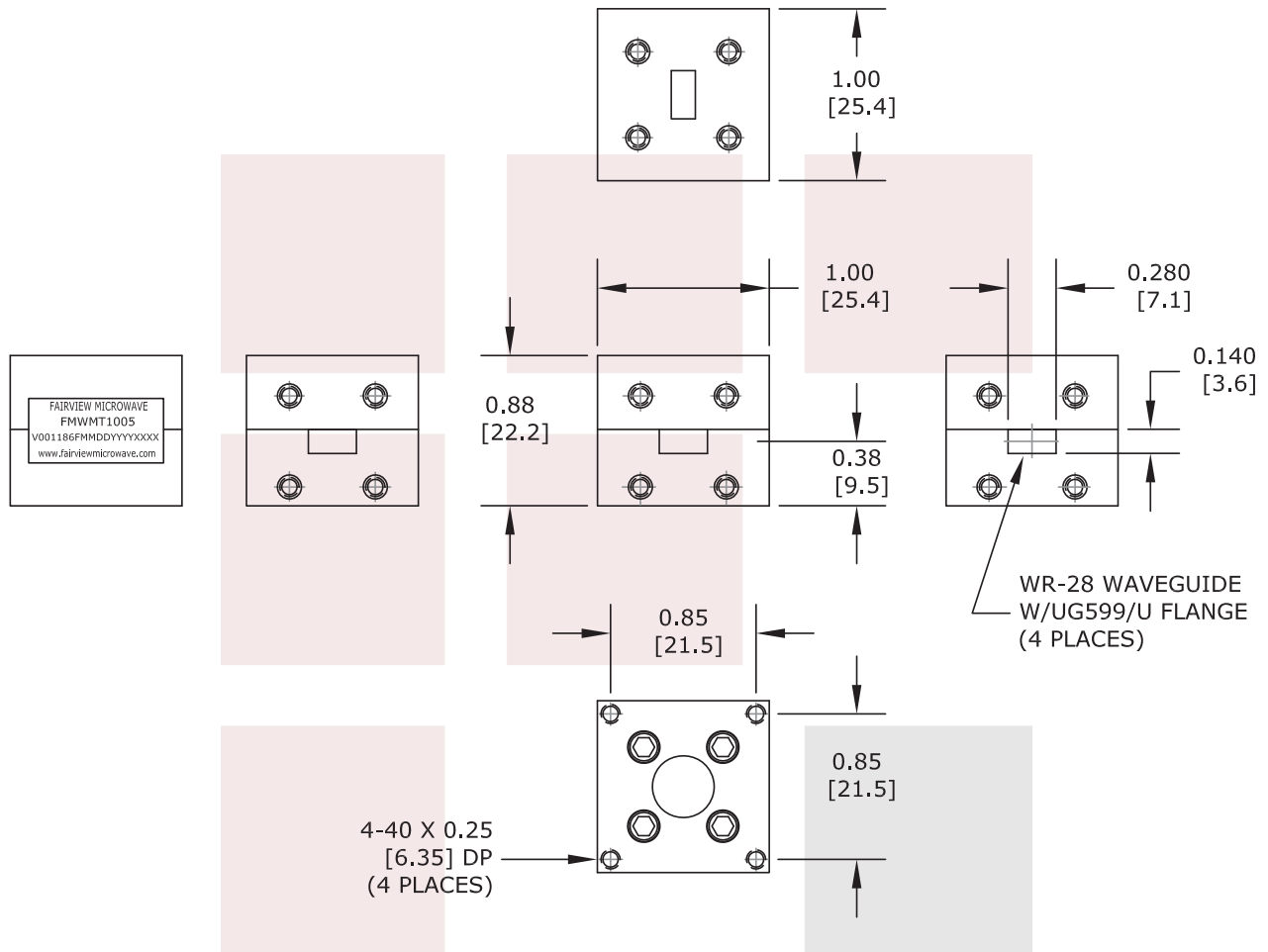


WR-28 Magic Tee Waveguide Using UG-599/U Square Cover Flange and Operating from 26.5 GHz to 40 GHz from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [WR-28 Magic Tee Waveguide Using UG-599/U Square Cover Flange and Operating from 26.5 GHz to 40 GHz FMWMT1005](http://www.fairviewmicrowave.com/wr-28-magic-tee-waveguide-ug599-square-40-ghz-fmwmt1005-p.aspx)

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UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN: Inches [mm]  
 TOLERANCES ARE:  
 DECIMALS ANGLES FRACTIONS  
 .XX ±.01 ±1/2° ± 1/64  
 [±.25] [± 127/320]  
 .XXX ±.005  
 [±.127]

\* THESE DIMENSIONS AND TOLERANCES SUPERSEDE NOTE #1 ON TITLE BLOCK.

<b>FAIRVIEW MICROWAVE INC.</b> ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM		NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS ARE IN INCHES [mm].			
TITLE WR-28 Magic Tee Waveguide Using UG-599/U Square Cover Flange and Operating from 26.5 GHz to 40 GHz		DWG NO FMWMT1005		CAGE CODE 3FKR5	
CAD FILE	033116	SHEET	SCALE	N/A	SIZE A 2233