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Test & Measurement

Complimentary Reference Material

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This PDF has been made available as a complimentary service for you to assist in evaluating this model for your testing requirements.

TMG offers a wide range of test equipment solutions, from renting short to long term, buying refurbished and purchasing new. Financing options, such as Financial Rental, and Leasing are also available on application.

TMG will assist if you are unsure whether this model will suit your requirements.

Call TMG if you need to organise repair and/or calibrate your unit.

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Continuously Variable Attenuator

Model 953K

1.0 – 40.0 GHz

1 WATT



Maximum dimensions in inches (cm).

Mates with SMA, 3.5 mm, Type K⁽¹⁾. K Connector is a registered trademark of Wiltron Co.

BROADBAND FREQUENCY RANGE – 1.0 TO 40.0 GHz in 3 dB model. Other models have slightly less range

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DIRECT READING SCALE – Insertion loss scales are individually calibrated. A permanently attached table shows small corrections to the calibrations above and below mid-frequency.

CONTINUOUSLY VARIABLE – Attenuation is continuously variable over near linear scale using a simple slide control.

SMALL PHASE SHIFT – Total insertion length remains constant for all attenuation settings, resulting in very small phase shift vs. attenuation $\approx 1^{\circ}/dB/GHz$.

NON-CONTACTING CONTROL DEVICE – Attenuator control is capacitively coupled to attenuating element to avoid wear and insure smooth operation.

STABILITY – These attenuators contain *Weinschel Associates* high quality, stable film resistors on a ceramic base.

STAINLESS STEEL CONNECTORS – Stainless steel con-nectors ensure maximum life and minimum wear. Critical dimensions are held more closely than required by applicable military specifications.

NOMINAL IMPEDANCE: 50 Ohms

ATTENUATION RANGE: 3, 10 AND 20 dB

CONNECTORS: Stainless steel 2.92 mm, Male, Female

PHASE SHIFT WITH CHANGE IN ATTENUATION: $\sim 1^{\circ}/dB \times f$ (GHz) maximum

INPUT POWER RATING (when properly terminated): 0.5 watt average, 100 watt peak; de-rated linearly to zero from 25 to 85°C.

POWER COEFFICIENT: < 0.001 dB/dB x W

TEMPERATURE COEFFICIENT: < 0.0003 dB/dB x °C

TERMPERATURE RANGE: 0° TO 85°C

WEIGHT: Net 0.37 kg (13 oz); Shipping 0.60 kg (1 lb., 5 oz)

Characteristic	Model 953K		
	3 dB	10 dB	20 dB
Frequency Range	1 – 40 GHz	3-40 GHz	4-40 GHz
Characteristic Insertion Loss, Residual	1.0 dB max at 18 GHz	1.5 dB max at 18 GHz	2.0 dB max at 18 GHz
Direct Reading Scale Calibration	18 GHz	18 GHz	18 GHz
Insertion Loss Corrections	Min. 1, 2 & 3 dB at 1 and 40	Min. 2, 4, 6 & 10 dB at 3 and 40	Min. 5,10, 15 & 20 dB at 4 and 40
Max. Correction from Scale Value	GHz	GHz	GHz
Calibration Accuracy (Incl. Resettabil-	± 1.0 dB	+ 2.5 dB -1.0 dB	± 2.5 dB
ity)	0.1 dB	0.2 dB	0.3 dB
Scale Resolution	~ 0.60 in / dB	~ 0.25 in / dB	~ 0.12 in / dB
Scale Increments	0.2 dB	0.5 dB	0.5 dB
Max. VSWR			
To 18.0 GHz	1.50	1.50	1.50
To 40.0 GHz	1.35	1.35	1.50



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