E-Series RF 4:1 Transformer
8.0 - 750 MHz

ETK4-1T

V3.00

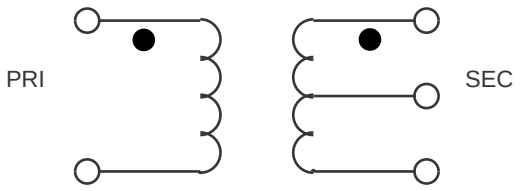
Features

- Surface Mount
- 4:1 Impedance Ratio
- CT on Secondary

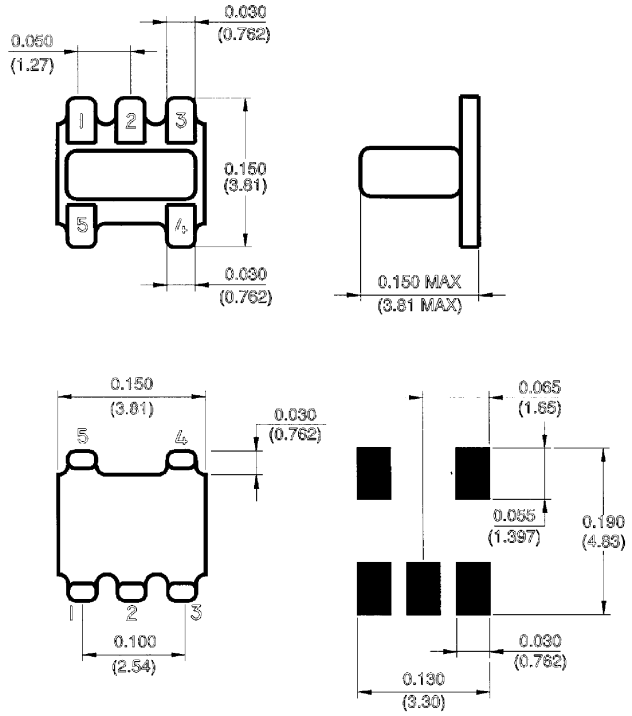
Description

M/A-COM's ETK4-1T is a 4:1 RF transformer in a low-cost, surface mount package. Ideally suited for high volume cellular and wireless applications. Typical applications include single to balanced mode conversion and impedance matching.

Schematic



SM-22



Dimensions in ( ) are in mm.
Unless Otherwise Noted: .x = ±0.04 (1.00)
.xx = ±0.02 (0.50)
.xxx = ±0.010 (0.250)

Specifications @ 25°C

Frequency Range: 8.0 - 750 MHz

Parameter	Maximum	Mean (x)	Sigma (σ)
Insertion Loss (f_L - f_U)			
70 - 250 MHz	2.0 dB	1.56 dB	0.007
15 - 600 MHz	3.0 dB	–	–
8.0 - 750 MHz	4.0 dB	–	–
Amplitude Unbalance			
8.0 - 750 MHz	1.0 dB	–	–
Phase Unbalance			
8.0 - 750 MHz	20°	–	–

Note: Mean and sigma calculated from average loss @ $(f_U - f_L)/2 + f_L$.

Pin Configuration

Pin No.	Function
1	Secondary dot
2	Secondary CT
3	Secondary
4	Primary
5	Primary dot

Ordering Information

Part No.	Packaging
ETK4-1T	Tubes
ETK4-1TTR	Tape & Reel

S 0934 D

North America: Tel. (800) 366-2266 Fax (800) 618-8883 ■ Asia/Pacific: Tel. +81 (03) 3226-1671 Fax +81 (03) 3226-1451 ■ Europe: Tel. +44 (1344) 869 595 Fax +44 (1344) 300 020

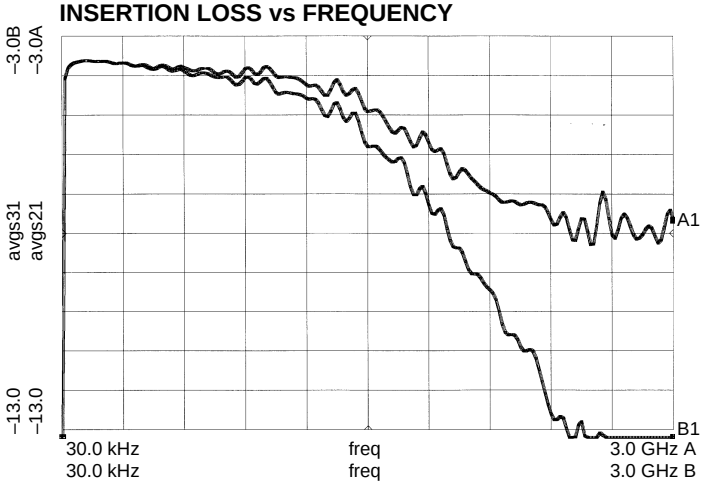
Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Power	250 mW
DC Current	30 mA
Operating/Storage Temp.	-30°C to +85°C

Typical Performance

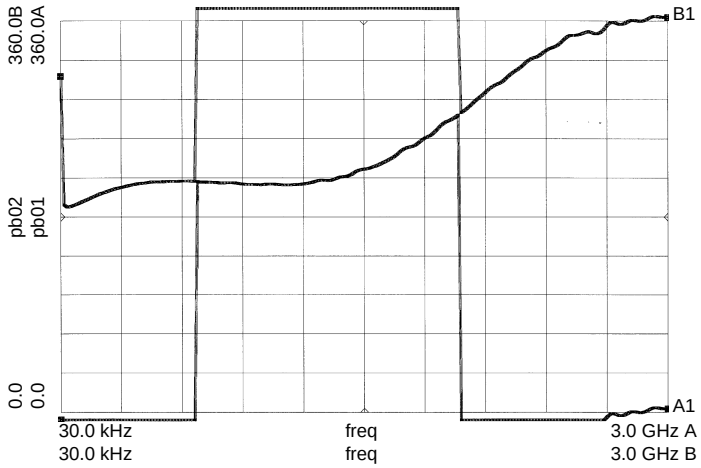
Over Extended Bandwidth (30 kHz - 3.0 GHz)

INSERTION LOSS vs FREQUENCY



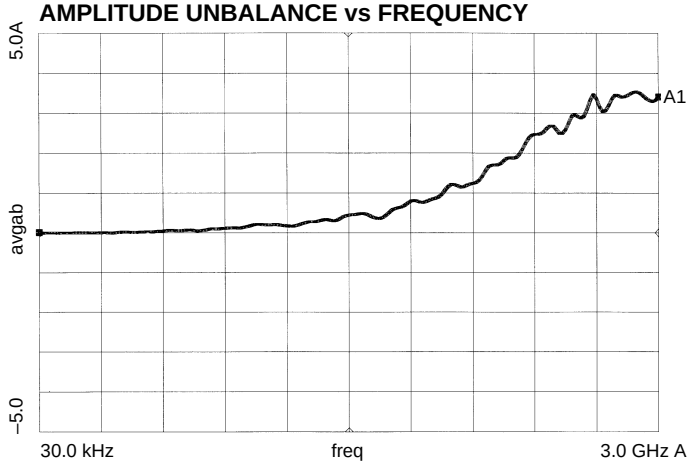
INSERTION LOSS (-3 to -13 dB) vs FREQ (30 kHz to 3 GHz)

PHASE UNBALANCE vs FREQUENCY



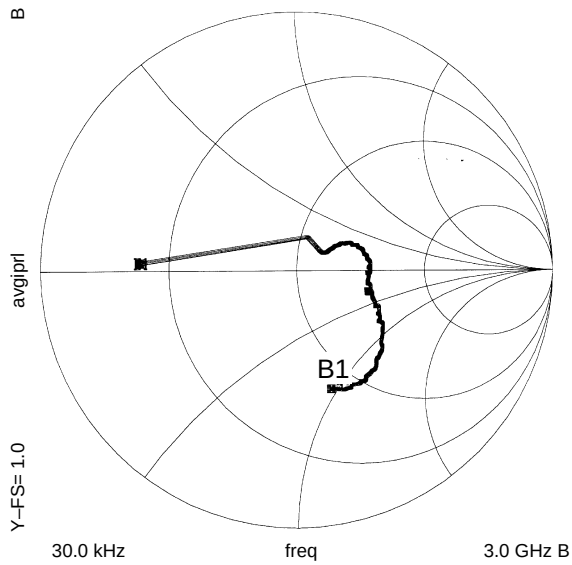
PHASE UNBALANCE (0 to 360 deg) vs FREQ (30 kHz to 3 GHz)

AMPLITUDE UNBALANCE vs FREQUENCY



AMP UNBALANCE (5 to -5 dB) vs FREQ (30 kHz to 3 GHz)

INPUT IMPEDANCE vs FREQUENCY



INPUT IMPEDANCE on SMITH CHART; FREQ (30 kHz to 3 GHz)

Note: All measurements performed on Hewlett Packard 8753D Network Analyzer (201 sample points, linear scale) in a 50 ohm coplanar waveguide environment. Tables created using MDS software.

S-Parameter data available by E-Mail. Send your request to: eurotec@corp.macom.com.

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