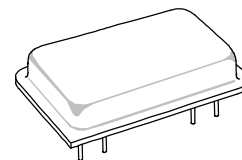


BP1042 70 MHz SAW Filter



- Designed for CDMA Receiver IF Applications
- Simple External Impedance Matching
- Hermetic Metal DIP
- Unbalanced Input and Output
- Complies with Directive 2002/95/EC (RoHS)



See Associated Plots

| Characteristic | Sym | Min | Typ | Max | Units | Notes | |
|--------------------------------|--|-----------------|------|------|---------|------------------|-------------------|
| Nominal Center Frequency | fc | 70.000 | | | MHz | 1 | |
| Passband | Insertion Loss at fc | IL | | 22 | 28 | dB | |
| | 1 dB Passband | BW ₁ | ±455 | ±500 | | | kHz |
| | 3 dB Passband | BW ₃ | ±550 | ±600 | | | |
| | Group Delay Variation over fc ±550 kHz | GDV | | 150 | 175 | | ns _{P-P} |
| Rejection | Phase Linearity over fc ±550 kHz | | | 4 | 5 | ° _{P-P} | |
| | At fc ±1.0 MHz | | 40 | 45 | | dB | |
| Ultimate from 1 MHz to 105 MHz | | 40 | 50 | | 1, 2, 3 | | |
| Operating Temperature Range | T _A | -25 | | +85 | °C | 1 | |

| | |
|--|---|
| Impedance Matching to 50 Ω unbalanced | External L-C |
| Suggested Matching Network Impedance at Port 1 | 375 nH in parallel with 310 Ω |
| Suggested Matching Network Impedance at Port 2 | 240 nH in parallel with 320 Ω |
| Case Style | DIP14L-8 22.1 x 12.6 mm Nominal Footprint |
| Lid Symbolization (RR = run code, LL = lot code) | RFM BP1042 RLLL |

Absolute Maximum Ratings

| Rating | Value | Units |
|---|----------------|-------|
| Maximum Incident Power in Passband | +10 | dBm |
| Max. DC voltage between any 2 terminals | 30 | VDC |
| Storage Temperature Range | -40 to +85 | °C |
| Max Soldering Temperature | 260°C for 30 s | |
| Suitable for lead-free Soldering | | |

Electrical Connections (See note 3)

| Connection | Terminals |
|-------------------|-------------------|
| Port 1 Hot | 7 |
| Port 1 Gnd Return | 9 |
| Port 2 Hot | 14 |
| Port 2 Gnd Return | 2 |
| No Connection | 1, 8 |
| Case Ground | 2, 9 & All others |

Notes:

1. Unless noted otherwise, all specifications apply *over the operating temperature range* with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, fc.
3. Rejection is measured as attenuation below the minimum IL point in the passband. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details. All "NC" or "no connection pins should be grounded.
4. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
5. The design, manufacturing process, and specifications of this filter are subject to change.
6. Either Port 1 or Port 2 may be used for either input or output in the design. However, impedances and impedance matching may vary between Port 1 and Port 2, so that the filter must always be installed in one direction per the circuit design.
7. US and international patents may apply.
8. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.
9. ©Copyright 1999, RF Monolithics Inc.
10. Electrostatic Sensitive Device. Observe precautions for handling.



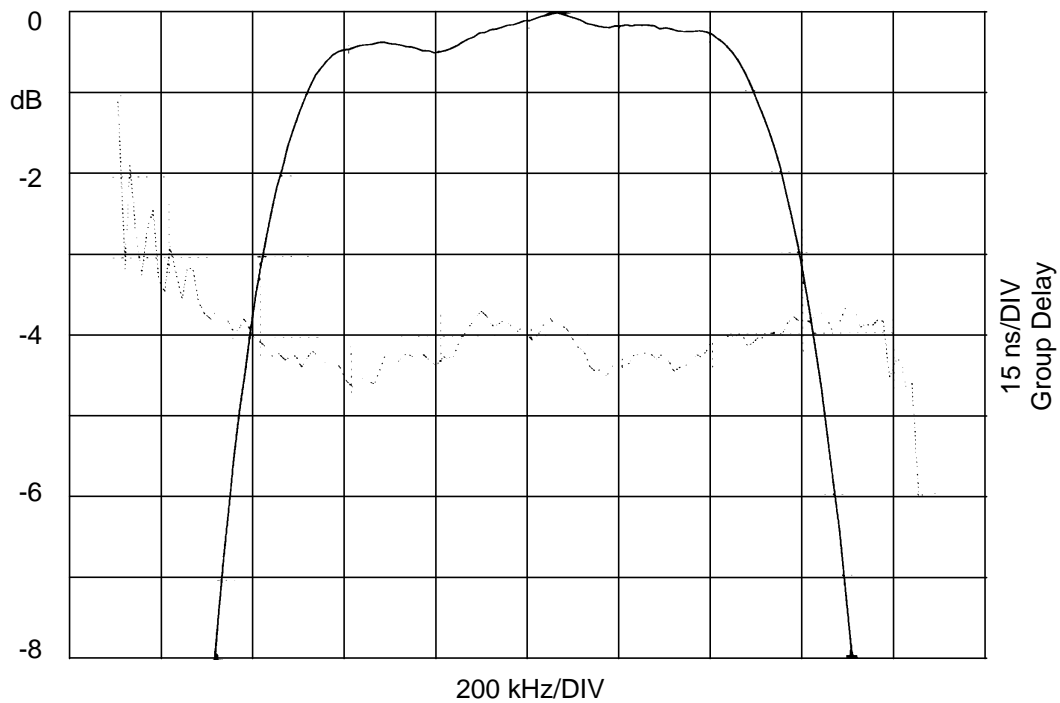
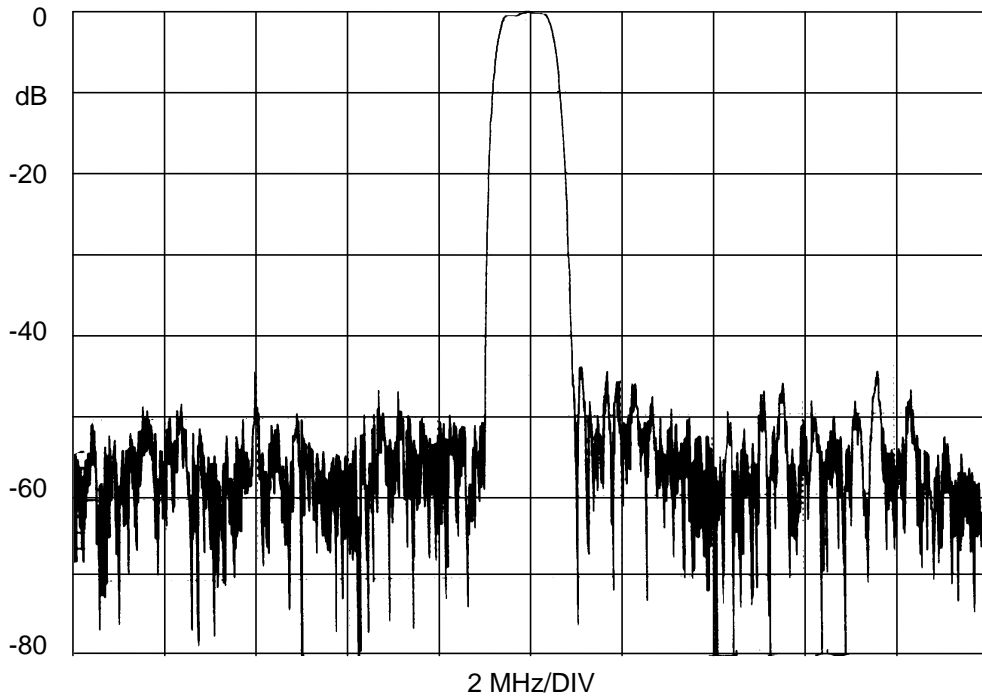
www.DataSheet.in

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Home page: www.rfm.com

European Sales Office
44 1963 251383
44 1963 251510

BP1042 70 MHz SAW Filter



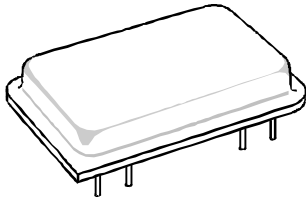
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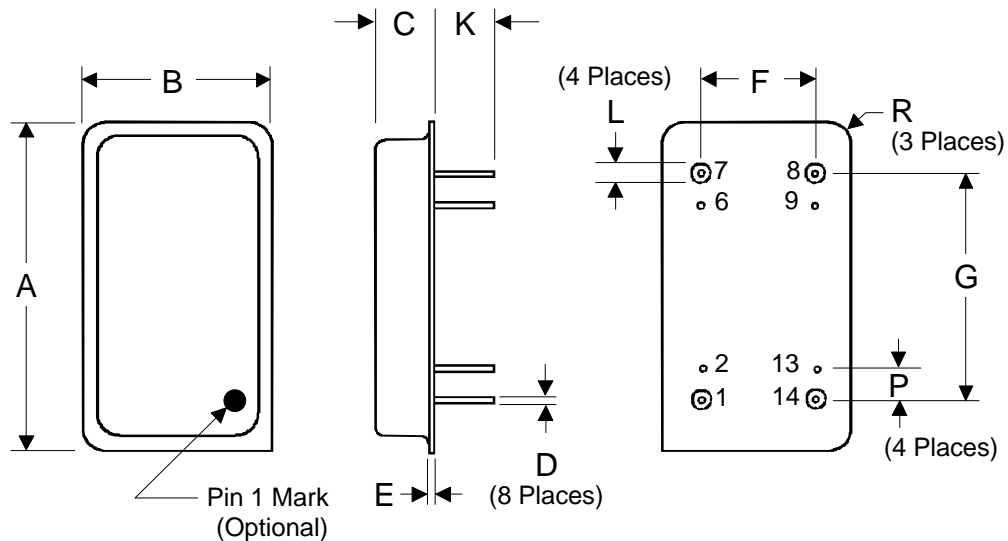
Phone: +1(972)233-2903
Fax: +1(972)387-8148
e-mail: info@rfm.com
Home page: www.rfm.com

European Sales Office

Metal 8-Pin DIP in 14-Pin (Long) Configuration 22.1 x 12.6 mm Nominal Footprint



| Dimension | mm | | | Inches | | |
|-----------|------|-------|-------|--------|-------|-------|
| | Min | Nom | Max | Min | Nom | Max |
| A | | 22.10 | 22.50 | | 0.870 | 0.886 |
| B | | 12.55 | 13.00 | | 0.494 | 0.512 |
| C | | 3.56 | 3.81 | | 0.140 | 0.150 |
| D | 0.41 | 0.48 | 0.51 | 0.016 | 0.019 | 0.020 |
| E | | 0.89 | | | 0.035 | |
| F | | 7.62 | | | 0.300 | |
| G | | 15.24 | | | 0.600 | |
| K | 3.30 | 3.81 | 6.73 | 0.130 | 0.150 | 0.265 |
| L | 1.37 | 1.45 | 1.52 | 0.054 | 0.057 | 0.060 |
| P | | 2.54 | | | 0.100 | |
| R | | 1.60 | | | 0.063 | |



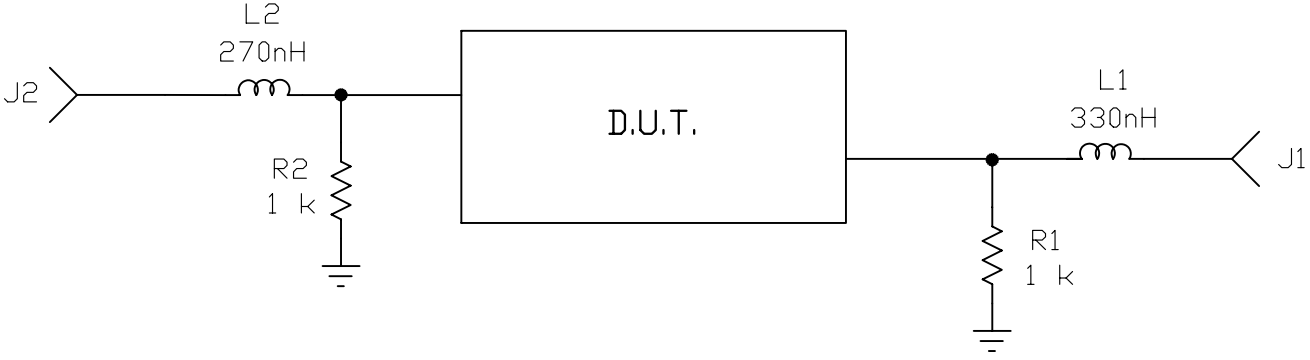
| | | | |
|-----|---------|-----------------|----------|
| REV | ECN NO. | DESCRIPTION | APP/DATE |
| A | 4571 | INITIAL RELEASE | |

BILL OF MATERIALS

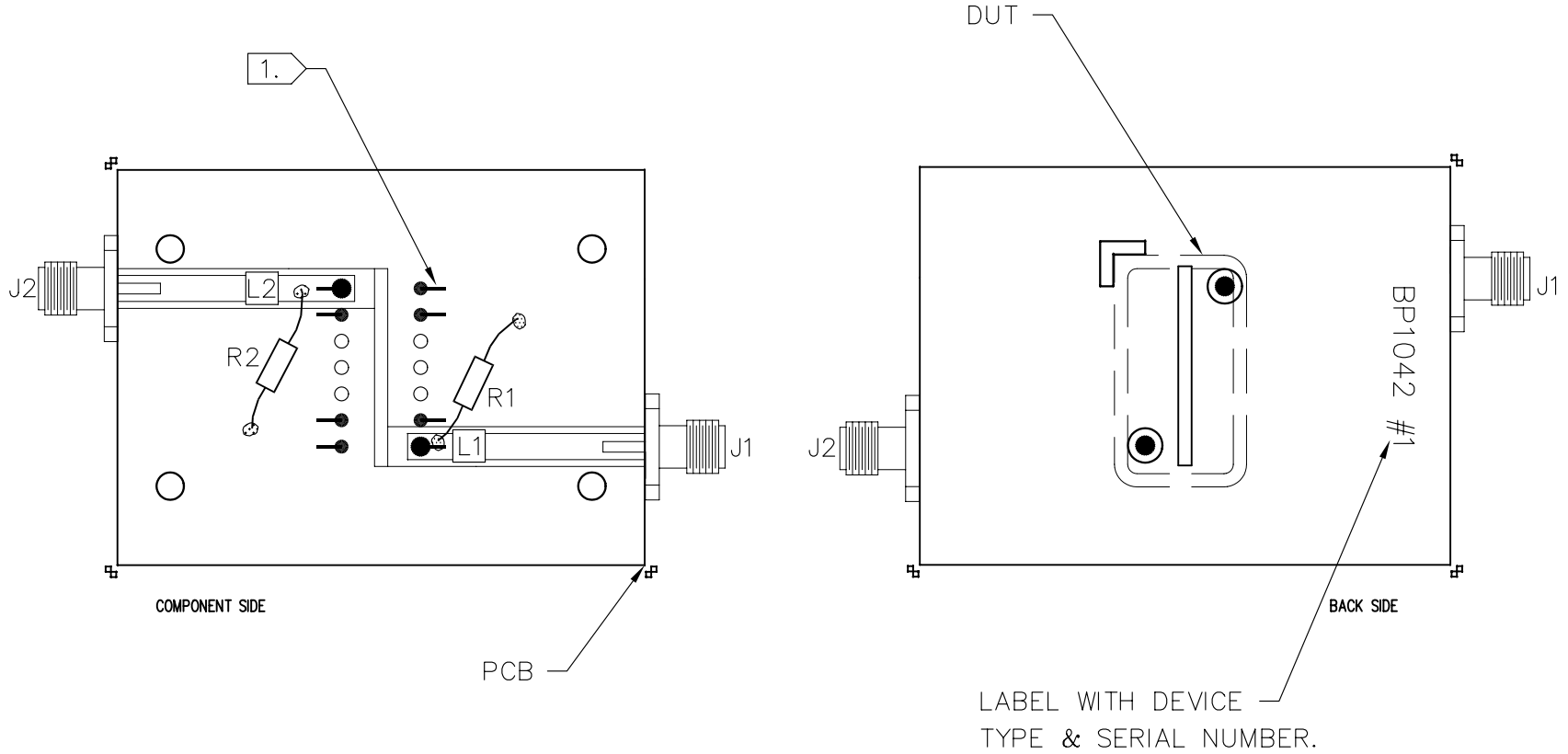
| SEQ | QTY | RFM P/N | DESCRIPTION | REF DES | REFERENCE/ COMMENTS |
|-----|-----|--------------|--------------------------------|---------|------------------------|
| 1 | 1 | 400-0846-001 | 14 PIN PCB | PCB | |
| 2 | 2 | 500-0248-001 | CONN, COAX, FLANGE MT. JACK | J1,2 | |
| 3 | 1 | 500-0010-331 | IND, CHIP 330 nH | L1 | ±10%, |
| 4 | 1 | 500-0010-271 | IND, CHIP 270 nH | L2 | ±10%, |
| 5 | 2 | 500-0127-102 | RES, C.COMP, 1.0 k, .25W | R1,2 | ±5% |
| | | | | | |
| | | | | | |

| | | | | | |
|--|------------------|-------------------------|----------------------------|-----------------------|-----------------|
| DRAWN BY/DATE: J. LAYTON 05/01/96 | | TITLE: DEMO PCB, BP1042 | | | |
| RF Monolithics, Inc. DALLAS, TEXAS 75244 | CHECKED/APPROVED | SIZE A | CODE IDENT 2U874 | DWG. NO. BP1042(DEMO) | REV A SHEET 1/7 |

SCHEMATIC, BP1042 <DEMO>



1. DEVICE LEADS ARE TO BE SOLDERED DIRECTLY TO PCB. (NO PIN SOCKETS ARE USED)



INSTRUCTIONS:

PLOTS: PLOTS A & B SHOW PLACE ON SMITH CHART WHERE DEVICE IS TO BE TUNED TO.
PLOT #C IS TO BE DELIVERED WITH EACH DEMO.
THE TUNING COMPONENT VALUES MAY VARY IN ORDER TO ACHIEVE PROPER TUNING
DUE TO COMPONENT TOLERANCES. NOTE COMPONENT VALUES AND TOLERANCES ON EACH PLOT.

RF Monolithics, Inc.
DALLAS, TEXAS 75244

SIZE
A

CODE IDENT
2U874

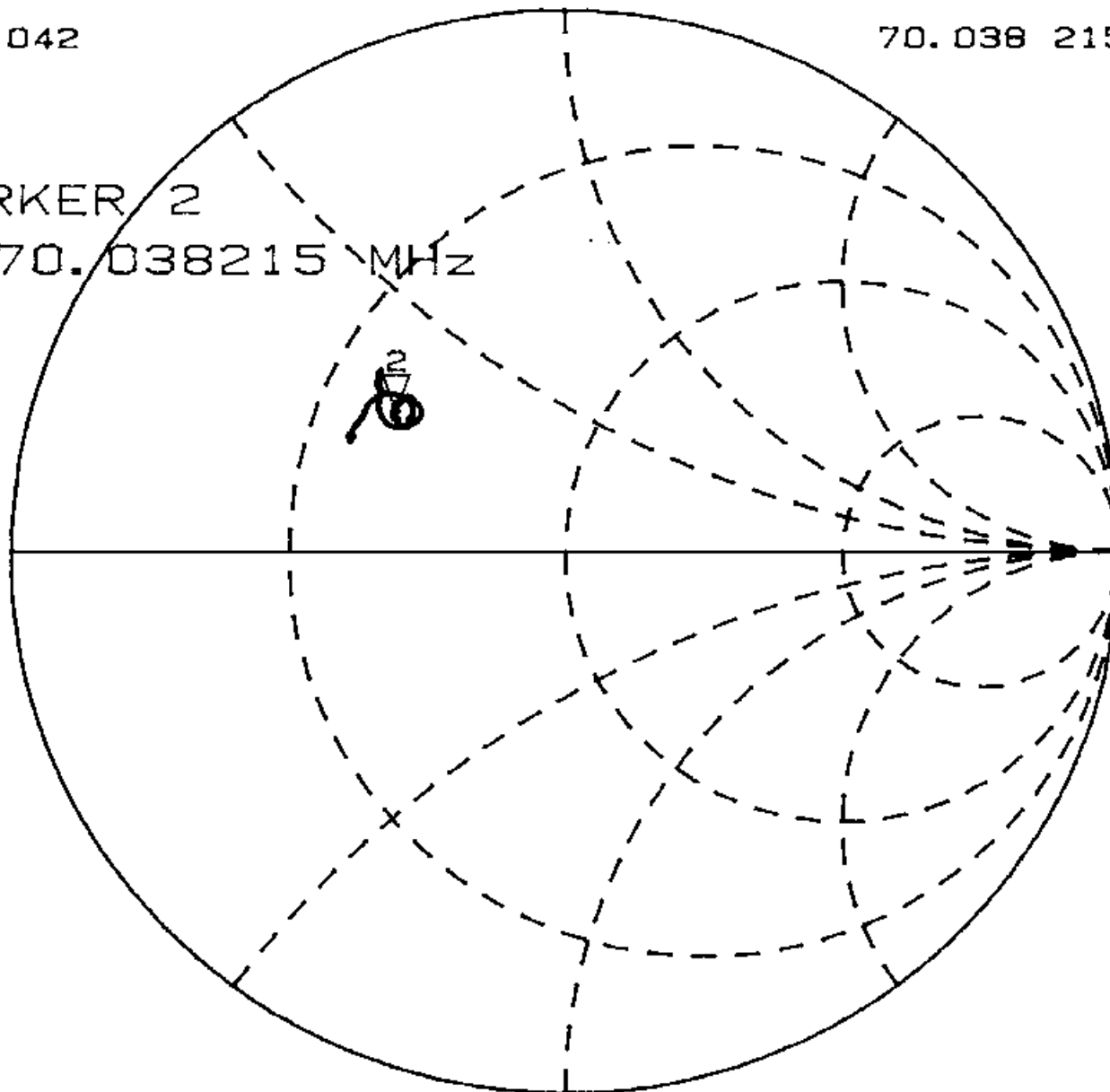
DWG. NO. **BP1042<DEMO>**

REV
A

SHEET
4

CH1 S₁₁ 1 U FS 2, 23.725 Ω 14.676 Ω 33.349 nH
BP1042 70.038 215 MHz

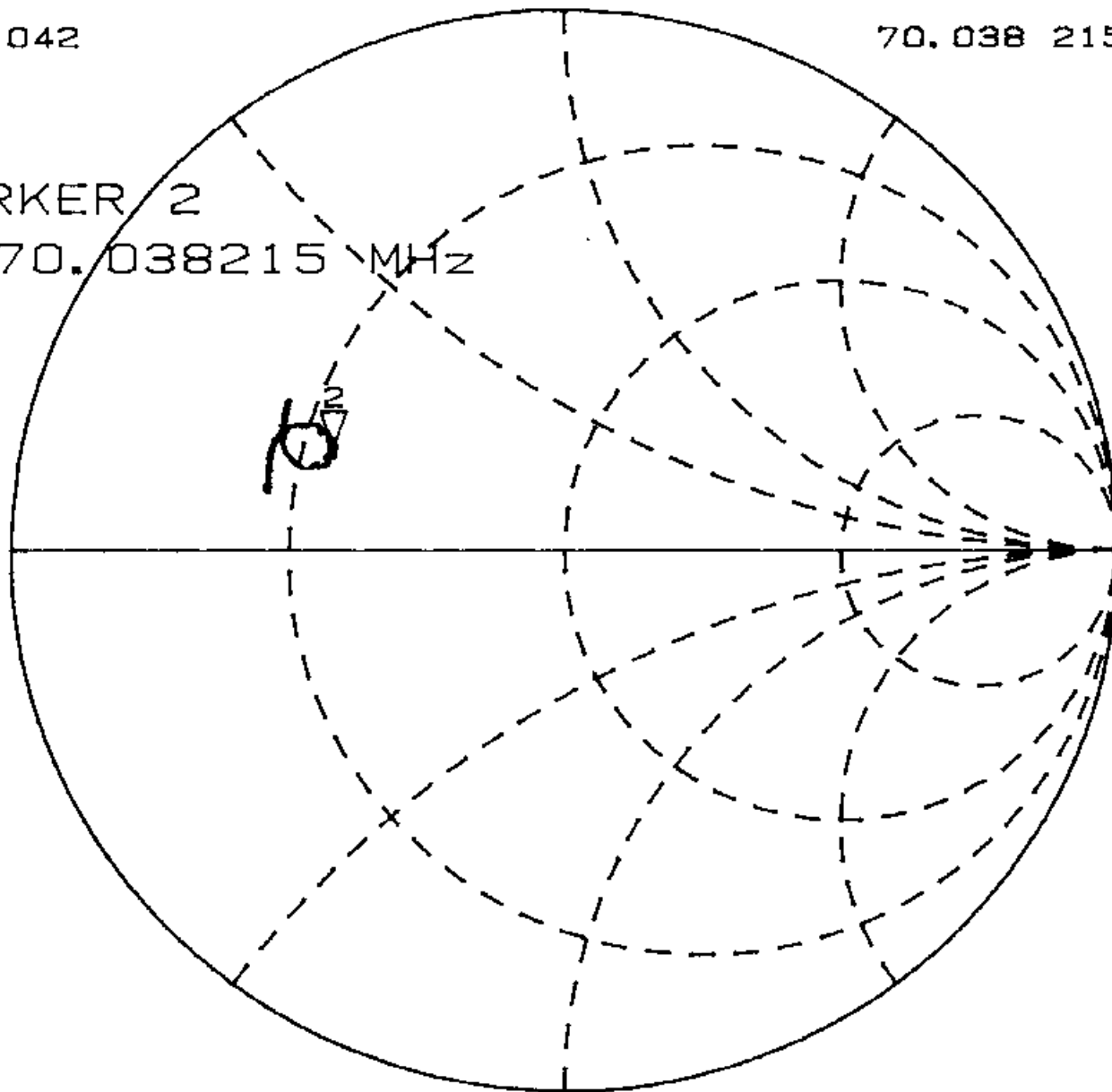
Cor MARKER 2
70.038215 MHz



CH1 CENTER 70.000 000 MHz SPAN 3.000 000 MHz

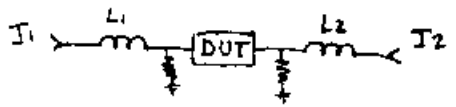
CH1 S₂₂ 1 U FS 2, 19.308 n 9.2705 n 21.066 nH
 BP1042 70.038 215 MHz

Cor MARKER 2
 70.038215 MHz



CH1 CENTER 70.000 000 MHz SPAN 3.000 000 MHz

BP1042
4/c 9519 B
#1



S11/S22
S11, 1kΩ ±5% Cor
L1 330 nH ±10%
S22, 1kΩ ±5%
L2 270 nH ±10%
1-26-96
SS.

