

Products

◆ Description:

K&L's Dielectric Resonator Bandpass Filters are available in standard packages with a basic Chebychev design. Connectors available are SMA and RF pins. Through the use of ceramic technology, this filter series offers superior temperature stability and low insertion loss.



◆ Specifications:

Frequency (MHz)	3 dB % BW	VSWR	Impedance (Ohms)	No. of Sections	Shock	Vibration	Temperature	Temp. Stability	Relative Humidity
500-3000	1.0-10	1.5:1	50	2-6	20 G's, 1/2 Sine, 11 Ms	10 G's, 10 Hz-2000 Hz	-40 to +85 °C (Operating) -50 to +125 °C (Non-Operating)	+2 to +11 ppm/°C	0-95%

◆ Attenuation:

The adjacent curve shows the attenuation as multiples of the bandwidth for filters with 2-6 sections. The following formula is used:
3 dB bandwidths from center frequency =

$$\frac{\text{Reject Frequency} - \text{Center Frequency}}{3 \text{ dB Bandwidth}}$$

Example:

Center Frequency = 1000 MHz

3 dB Bandwidth = 50

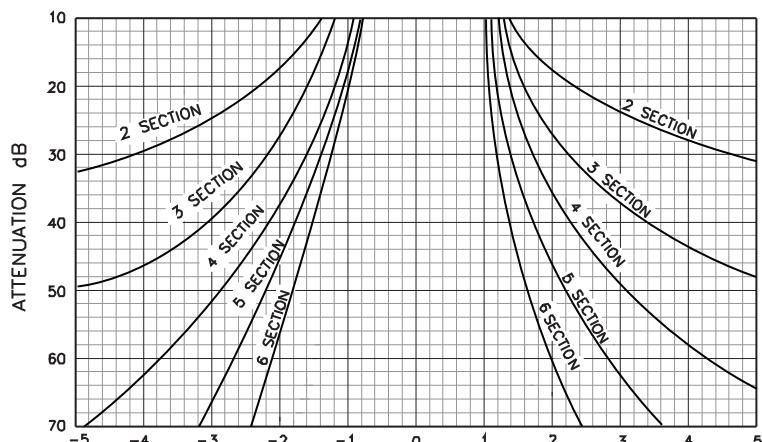
Number of Sections = 5

Find the attenuation at 900 and 1100 MHz by substituting in the formula 3 dB bandwidth from center frequency = $\frac{900-1000}{50} = -2 \text{ BW's}$

and 3dB bandwidth from center frequency =

$$\frac{1100-1000}{50} = +2 \text{ BW's}$$

From the curve, we find the attenuation in dB for a 5-section response -2 bandwidths from center frequency to yield 46 dB, and +2 bandwidths from center frequency to yield 44 dB.



◆ To Order:

3 DR 20 — 1000 / T 50 — O / O
 1 2 3 4 5 6 7 8

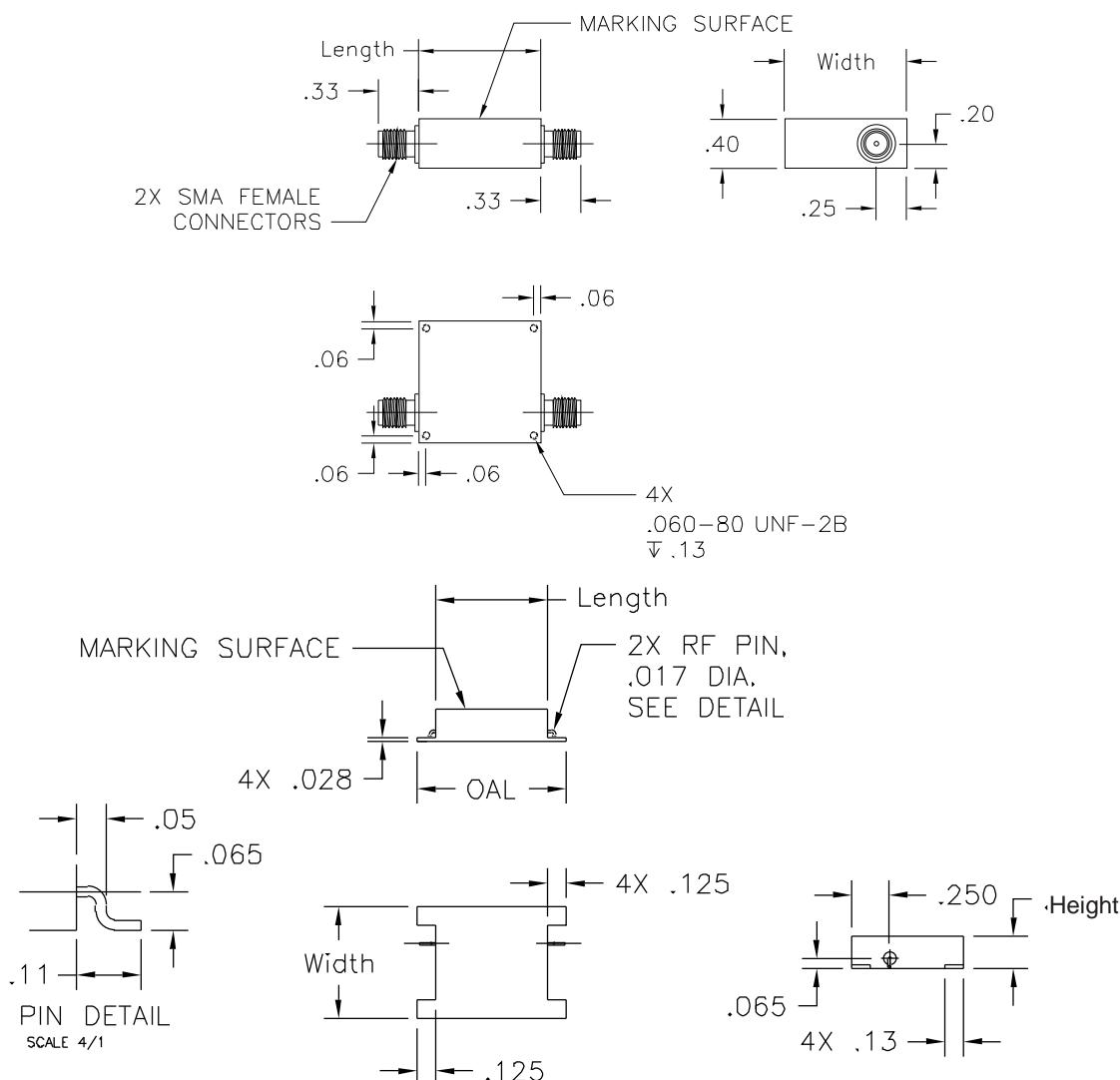
Code

Description

- 1 Number of Sections
- 2 Series
- 3 Package/Resonator Designator
- 4 Center Frequency
- 5 Supplemental Codes (See Page 13)
- 6 Bandwidth
- 7 Input Connector
- 8 Output Connector

◆ Connectors:

Connector	Code
SMA Female	O
SMA Male	OP
Gull Wing	PX



For Mechanical Definitions see www.klmfilterwizard.com or contact our factory.

Bandpass Filters

◆ Features:

- Designed for Low Cost While Providing High "Q" Response
- Extremely Temperature Stable
- Covers the 270 MHz to 3000 MHz Frequency Range
- 3 dB BW Available up to 30%
- Designs Available in 2-6 Sections
- Chebyshev Design Response
- Series 3 and 5 are ROHs compliant
- See page 44 for Reflow Profile and Suggested Mounting Information.



◆ Specifications:

Center Frequency (MHz)	3 dB % BW	VSWR	Attenuation	Impedance (Ohms)	Number of Sections	Shock	Vibration	Temp.	Temp. Stability	Rel. Humidity
270-3000	Up to 30%	2.0:1	≥ 60 dBc (270-2000 MHz) ≥ 30 dBc (2001-3000 MHz)	50	2-6	20 G's 1/2 Sine, 11 Ms	10 G's 10 Hz - 2000 Hz	-40 to +85°C (Operating) -50 to +125°C (Non-Operating)	+2 to +11 ppm/°C	0-95%

* For more complete specifications please visit us at www.klfilterwizard.com

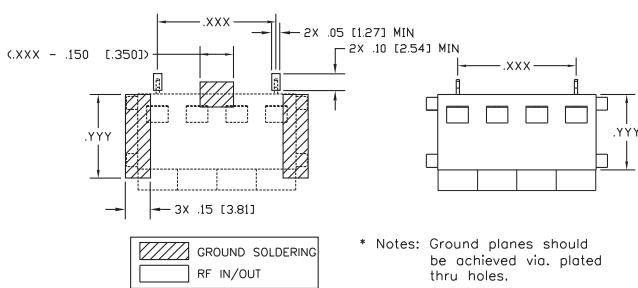
◆ Recommended PCB Layout:

DR 23, 33 Series Depicted

.XXX = Dim. A

.YYY = Dim. B

Dimensions are determined by Filter Wizard outline.



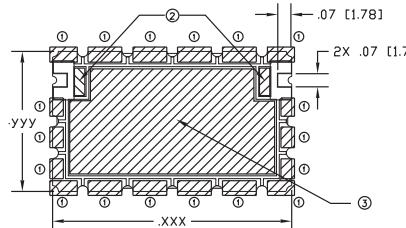
* Notes: Ground planes should be achieved via. plated thru holes.

DR 25, 35 Series Depicted

.XXX = Dim. A

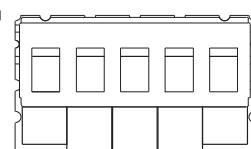
.YYY = Dim. B

Dimensions are determined by Filter Wizard outline.



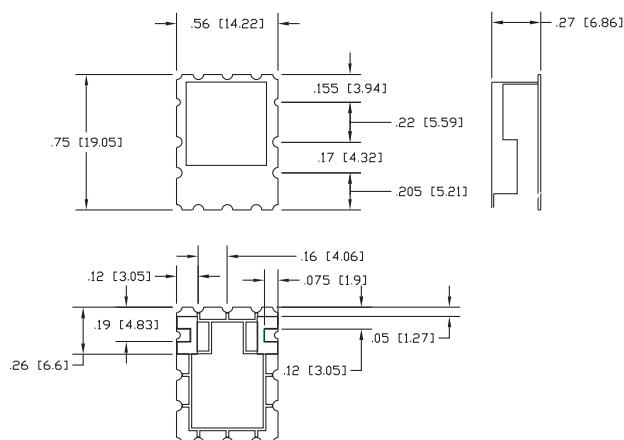
GROUNDING OPTIONS:

- (1) PERIMETER GROUND SOLDERING
- (2) PERIMETER AND INPUT/ OUTPUT ISOLATION GROUND SOLDERING
- (3) TOTAL GROUND SOLDERING



* Notes: Ground planes should be achieved via. plated thru holes.

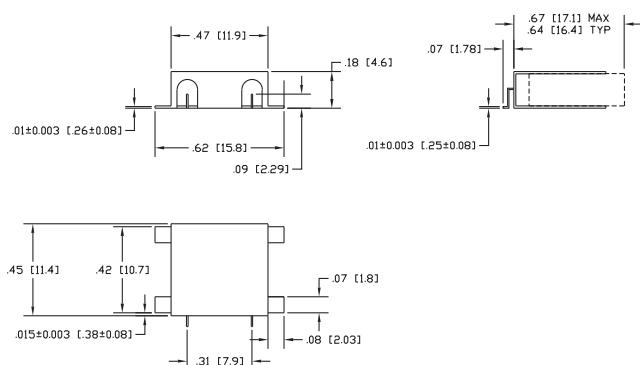
◆ Mechanical — Note: Dimensions for 1000 MHz filters shown



KEL-fil®: 3DR25-1000/U20-1.8

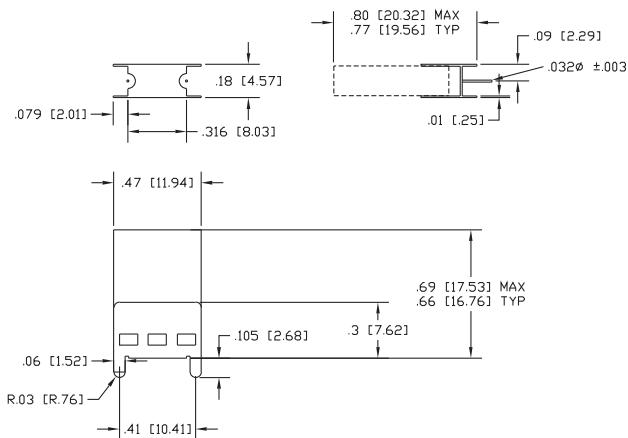
Leadless Surface Mount - Series 5

This mounting configuration offers best isolation.



KEL-fil®: 3DR23-1000/U20-1.8

Surface Mounting - Tab



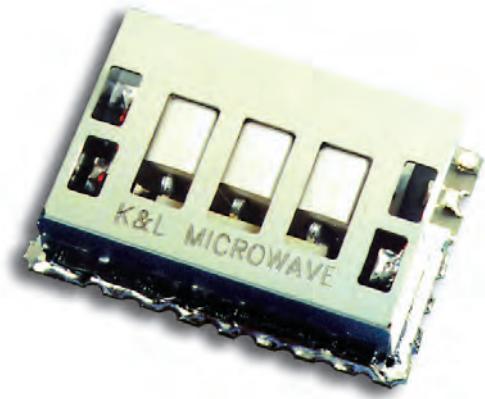
KEL-fil®: 3DR21-1000/U20-1.8

Drop in (PC) Mounting

Special Applications 5.8 GHz Bandpass Filters

◆ Features:

- Low Cost, Small Package, High "Q" Response
- Extremely Temperature Stable
- Clean Out-of-Band Response
- 3 Section Standard, 2-6 Sections also Available, Contact Factory
- Chebyshev Design Response
- Other Package Styles Available, Contact Factory
- See Page 44 for Reflow Profile and Suggested Mounting Inform



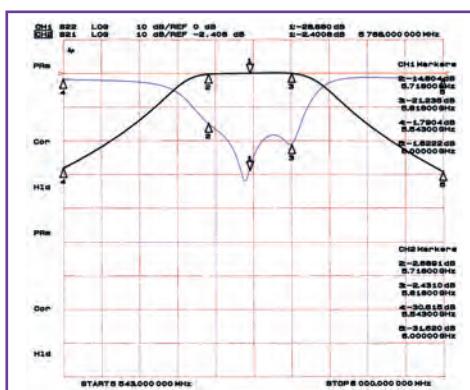
◆ Specifications:

Model Number:	3DT25-5768/x100	Shock:	20 G's, 1/2 Sine, 11 Ms
Center Frequency:	5768 MHz	Operating Temperature:	-40 to +85°C
Operating Bandwidth:	100 MHz	Storage Temperature:	-50 to +125°C
Insertion Loss @ f_0 :	+/-250 MHz	Temperature Stability:	+2 to +11 ppm/°C
-25 dBc Stopband Rejection:	up to 20 GHz	Relative Humidity:	0-95%
VSWR:	2.0:1	Package Style:	Leadless surface mount
Number of Sections:	3	Dimensions:	0.55" L x 0.80" W x 0.20" H (14 x 20.3 x 5mm)
Impedance (Ohms):	50		

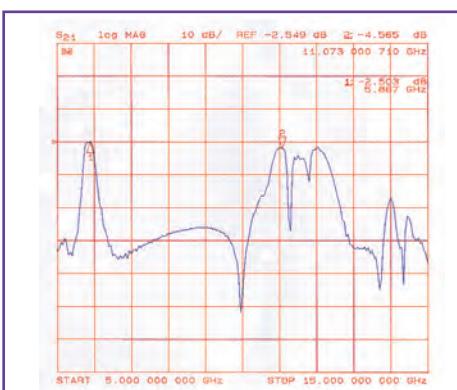
◆ Applications:

- C-band applications:
 - Wireless LAN, LPS (Local Positioning Systems), etc.

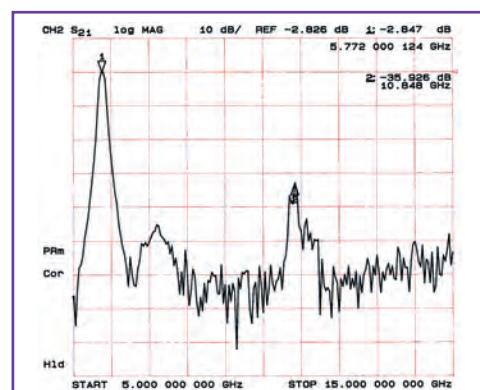
◆ Performance Data



In-Band Response



Typical Out-of-Band Response



Out-of-Band Response with Integrated "Clean-up" Circuit