



SF2109D

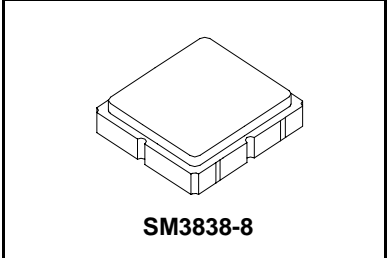
**305.00 MHz
SAW Filter**

- **Low Insertion Loss**
- **3.8 X 3.8 X 1.2 mm Surface-Mount Case**
- **Differential 750 Ohm IN and 900 Ohm OUT**
- **Complies with Directive 2002/95/EC (RoHS)**



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 |
| Operating Temperature | -15 to +85 | °C |
| Suitable for lead-free soldering - Max Soldering Profile | 260°C for 30 s | |



Electrical Characteristics

| Characteristic | Sym | Notes | Min | Typ | Max | Units |
|---|----------------|----------------------|---|-----|-----|-------|
| Center Frequency | f _C | 1 | | 305 | | MHz |
| Insertion Loss | IL | 1 | | 7 | 10 | dB |
| Amplitude Ripple (p-p) | | fc-4.0 to fc+4.0 MHz | | 1.2 | 2.0 | dB |
| Low Side Attenuation (fc-9.28 MHz) | | | 30 | 35 | | dB |
| Low Side Attenuation (fc-5.78 MHz) | | | 25 | 35 | | |
| High Side Attenuation (fc+5.78 MHz) | | | 20 | 26 | | |
| High Side Attenuation (fc+9.28 MHz) | | | 30 | 35 | | |
| Delay Ripple (p-p) | | fc-4.0 to fc+4.0 MHz | | | 300 | ns |
| Group Delay in Passband | | | | | 500 | |
| Case Style | | | SM3838-8 3.8 x 3.8 mm Nominal Footprint | | | |
| Lid Symbolization (Y=year, WW=week, S=shift) See note 4 | | 6 | 607 YWWS | | | |



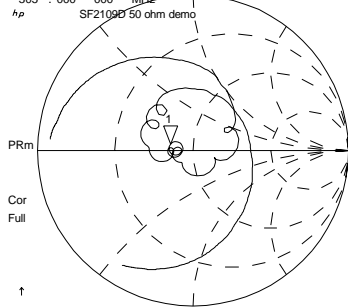
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

Notes:

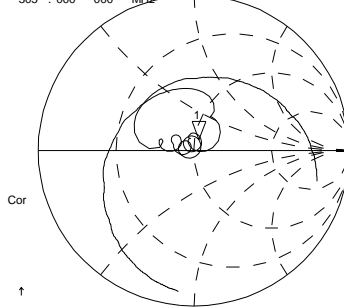
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal 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.
4. The design, manufacturing process, and specifications of this filter are subject to change.
5. Tape and Reel Standard Per ANSI / EIA 481.
6. US and international patents may apply.
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3 Mar 2006 13:02:04

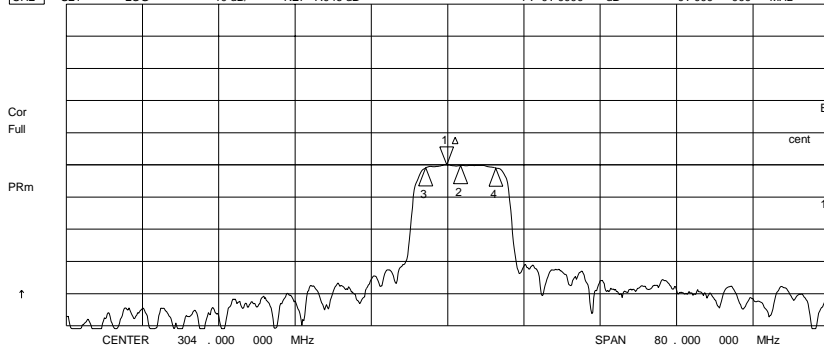
CH1 S11 1 UFS
 1: 37.277 Ω 3.1523 Ω 1.6450 nH
 305.000 000 MHz
 h_p
 SF2109D 50 ohm demo



CH3 S22 1 UFS
 1: 52.984 Ω 7.2871 Ω 3.8026 nH
 305.000 000 MHz



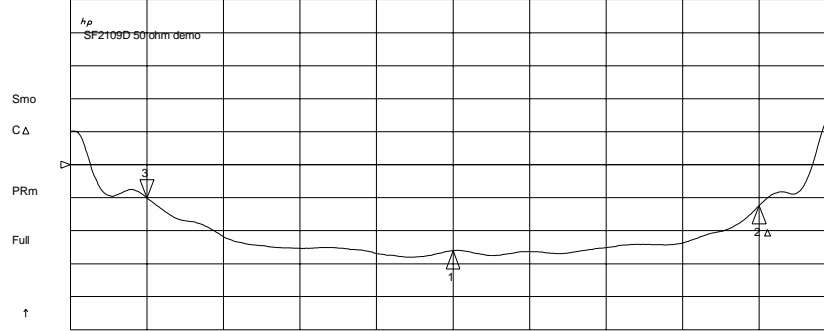
CH2 S21 LOG 10 dB/ REF -7.046 dB 1: 0.0000 dB 0.000 000 MHz



CH2 Markers
 Max Δ REF=1
 BW: 7.378194 MHz
 cent: 305.380082 MHz
 Q: 41.390
 1 loss: -7.0214 dB

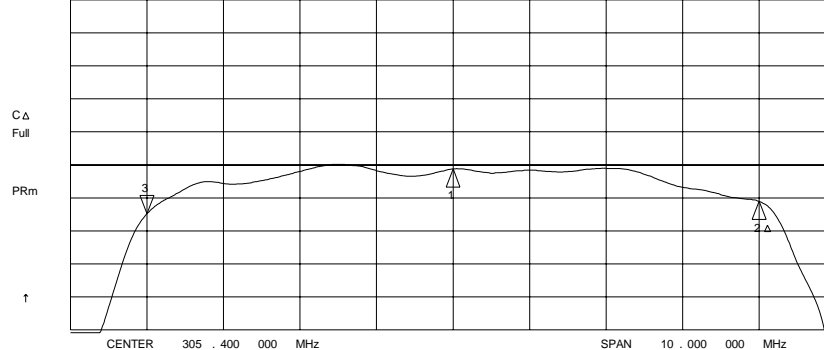
3 Mar 2006 13:05:41

CH1 S21 DEL 100 ns/ REF 500 ns 3: 22.793 ns -8.000 000 MHz

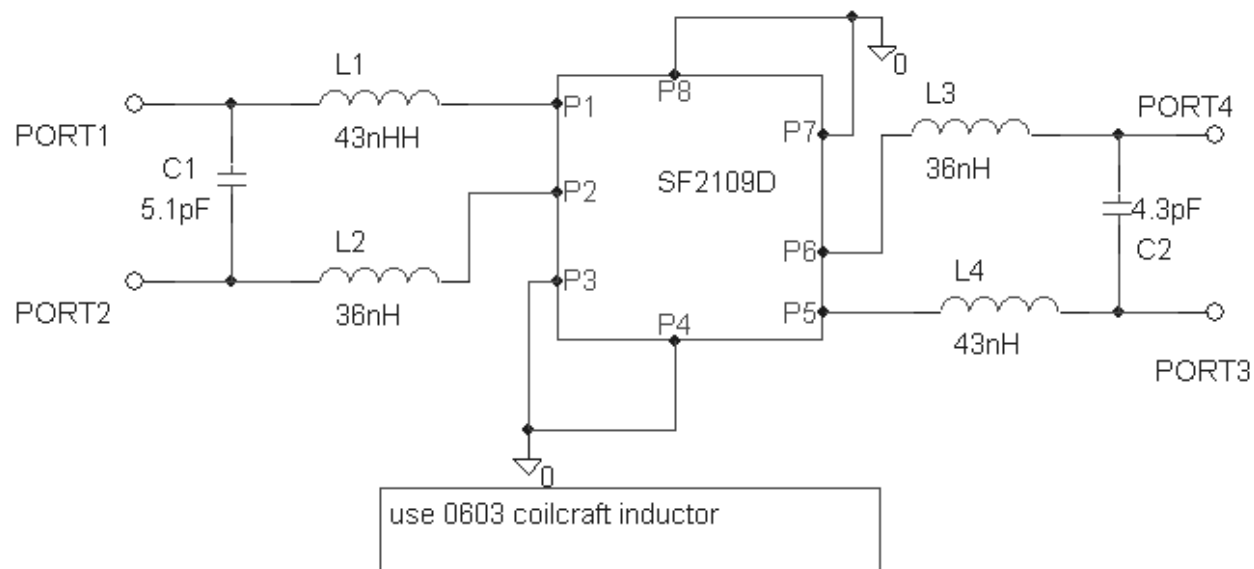
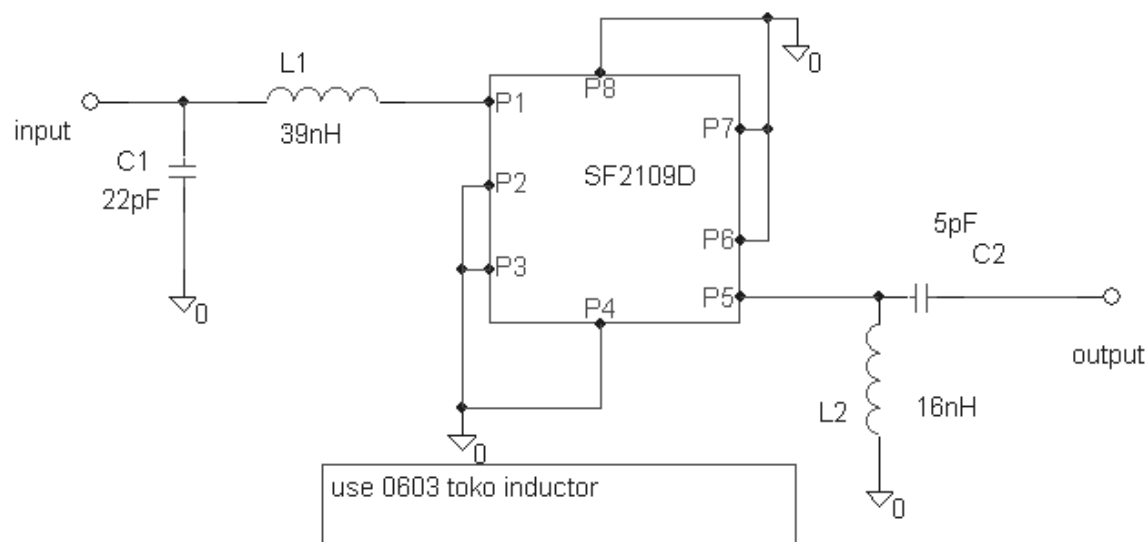


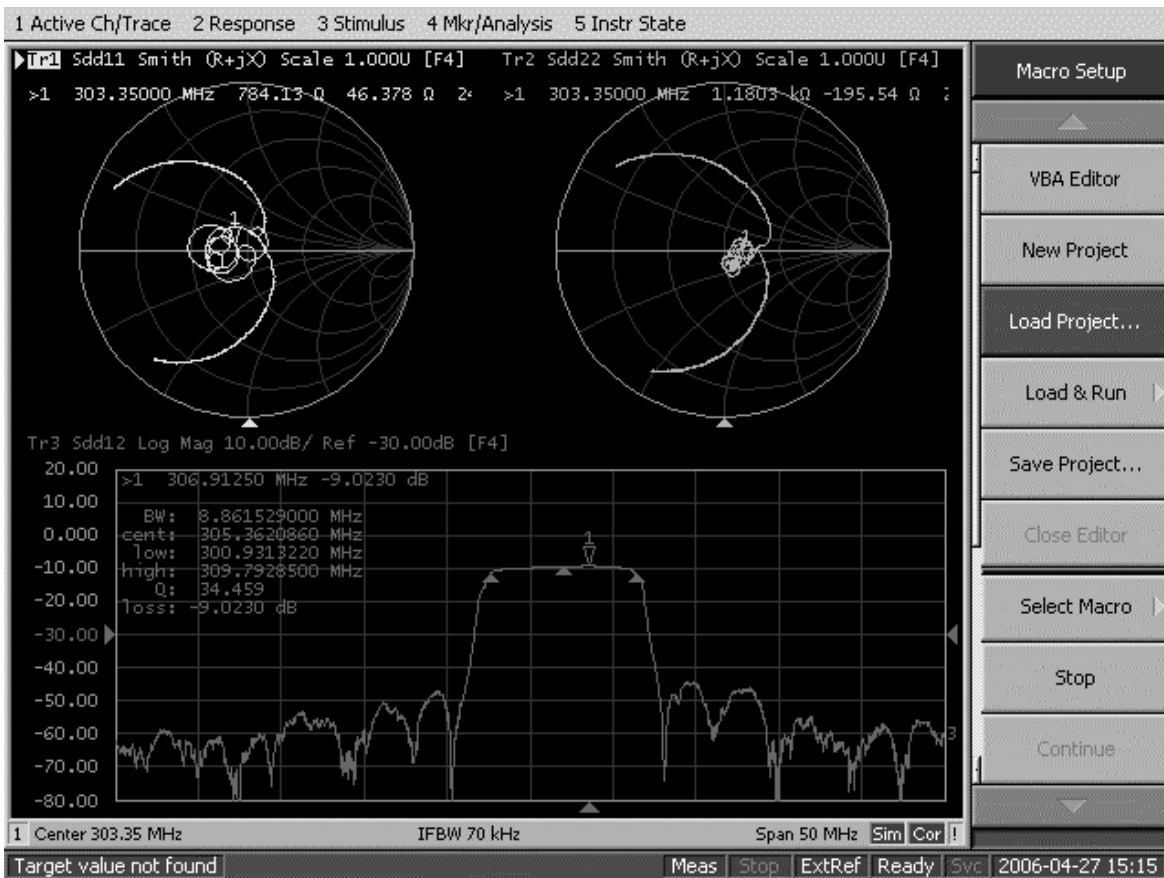
CH1 Markers
 Δ REF=2
 mean: 262.50 ns
 s. dev: 39.617 ns
 p-p: 179.82 ns

CH2 S21 LOG 1 dB/ REF -7.046 dB 3: -.37930 dB -8.000 000 MHz



CH2 Markers
 Δ REF=2
 mean: -7.4435 dB
 s. dev: .32180 dB
 p-p: 1.4982 dB





Macro Setup

VBA Editor

New Project

Load Project...

Load & Run ▶

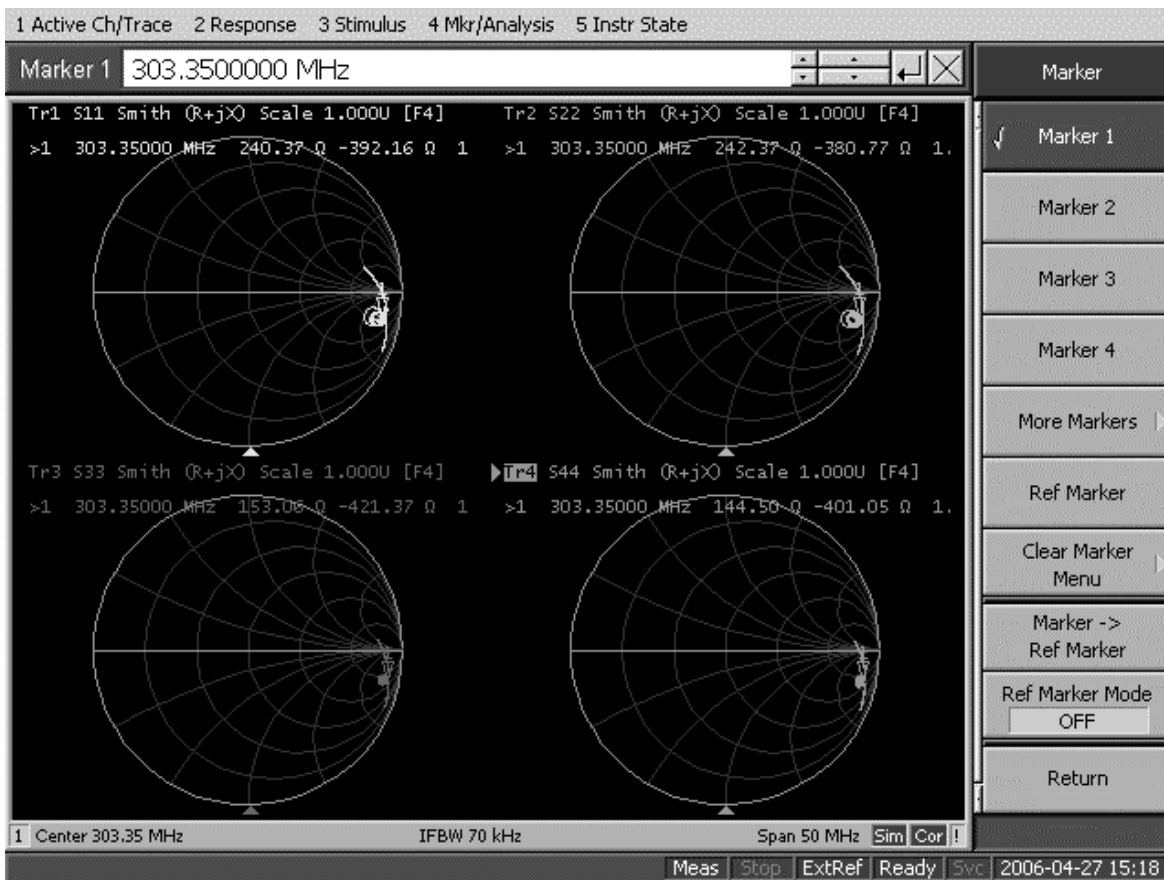
Save Project...

Close Editor

Select Macro ▶

Stop

Continue



Marker

Marker 1

Marker 2

Marker 3

Marker 4

More Markers ▶

Ref Marker

Clear Marker Menu ▶

Marker -> Ref Marker

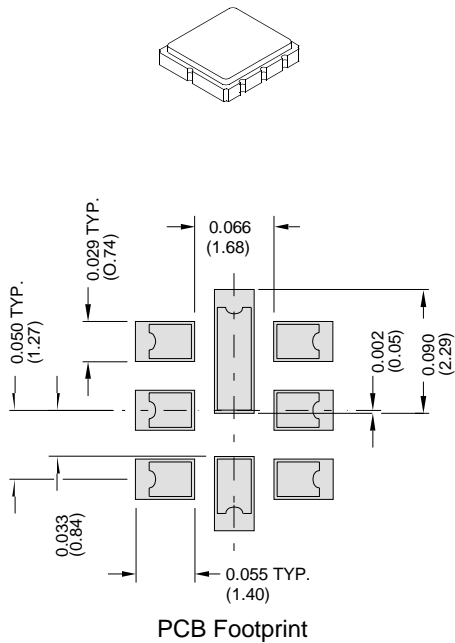
Ref Marker Mode OFF

Return

SM3838-8 Case

8-Terminal Ceramic Surface-Mount Case

3.8 X 3.8 mm Nominal Footprint



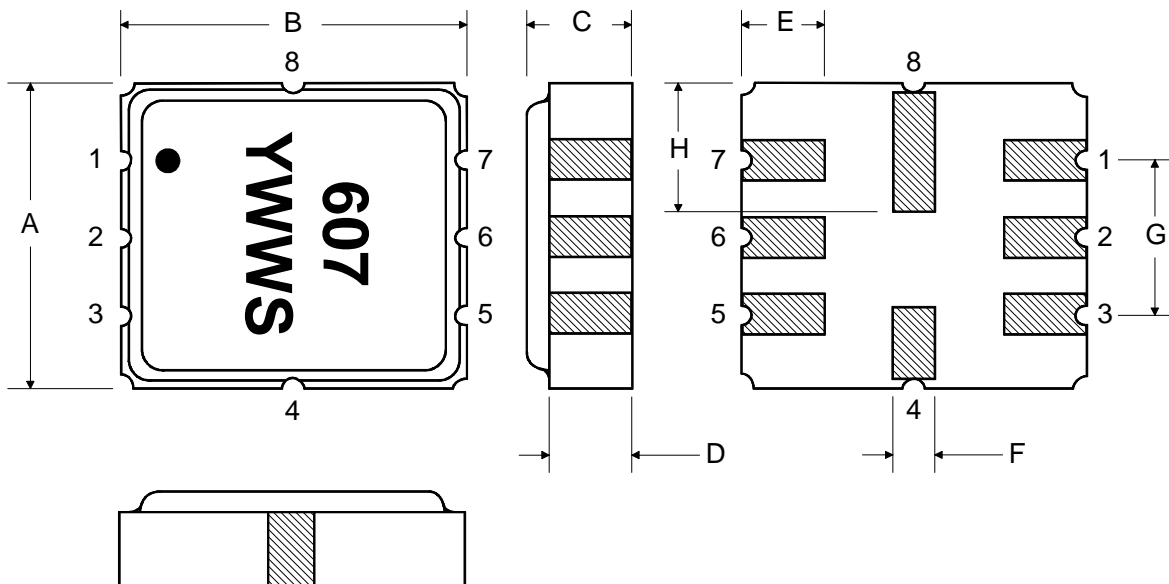
| Case Dimensions | | | | | | |
|-----------------|------|------|------|--------|-------|-------|
| Dimension | mm | | | Inches | | |
| | Min | Nom | Max | Min | Nom | Max |
| A | 3.6 | 3.8 | 4.0 | 0.142 | 0.150 | 0.157 |
| B | 3.6 | 3.8 | 4.0 | 0.142 | 0.150 | 0.157 |
| C | 1.05 | 1.20 | 1.35 | 0.041 | 0.047 | 0.053 |
| D | 0.95 | 1.10 | 1.25 | 0.037 | 0.043 | 0.049 |
| E | 0.90 | 1.00 | 1.10 | 0.035 | 0.040 | 0.043 |
| F | 0.50 | 0.60 | 0.70 | 0.020 | 0.024 | 0.028 |
| G | 2.39 | 2.54 | 2.69 | 0.090 | 0.100 | 0.110 |
| H | 1.40 | 1.75 | 2.05 | 0.055 | 0.069 | 0.080 |

| Electrical Connections | | |
|-------------------------------|---------------------|-------------------------|
| | Connection | Terminals |
| Port 1 | Differential Input | 1, 2 |
| Port 2 | Differential Output | 5, 6 |
| | Ground | All Others |
| Single Ended Operation | | Return is Ground |
| Differential Operation | | Return is Hot |
| Dot Indicates Pin 1 | | |

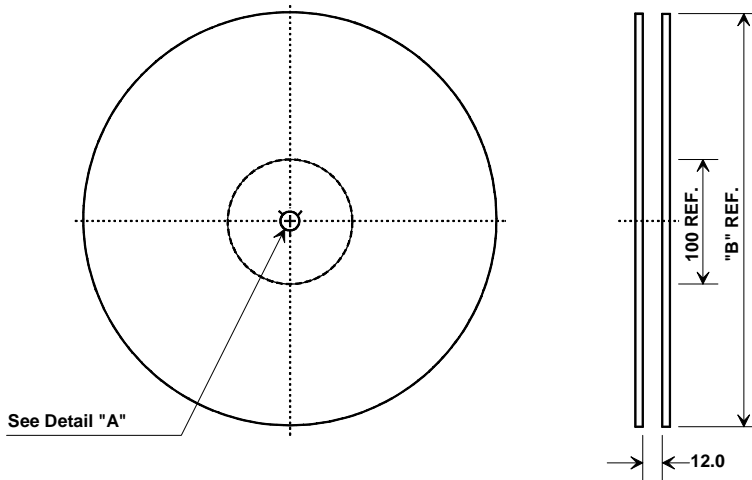
| Materials | |
|------------------------|--|
| Solder Pad Termination | Au plating 30 - 60 ulnches (76.2-152 uM) over 80-200 ulnches (203-508 uM) Ni. |
| Lid | Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 ulnches Thick |
| Body | Al ₂ O ₃ Ceramic |
| Pb Free | |

TOP VIEW

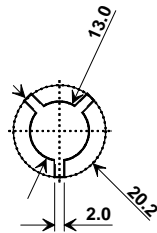
BOTTOM VIEW



Tape and Reel Specifications

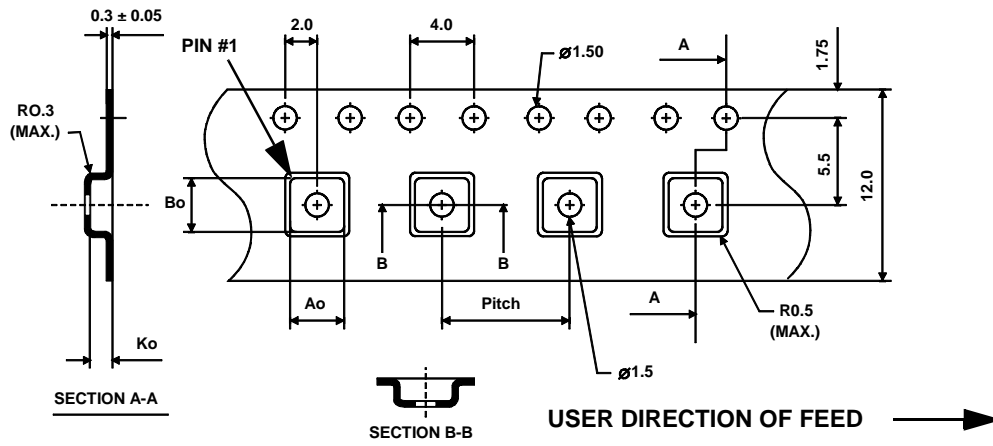


| "B" | | Quantity Per Reel |
|--------|-------------|-------------------|
| Inches | millimeters | |
| 7 | 178 | 500 |
| 13 | 330 | 3000 |



COMPONENT ORIENTATION and DIMENSIONS

| Carrier Tape Dimensions | |
|-------------------------|---------|
| Ao | 4.25 mm |
| Bo | 4.25 mm |
| Ko | 1.30 mm |
| Pitch | 8.0 mm |
| W | 12.0 mm |





Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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