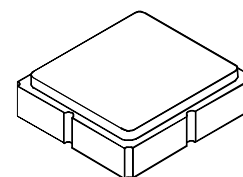


SF2462E

**1582.5/1223 MHz
SAW Filter**



SM3030-8

- **Low-loss SAW Diplexer**
- **3.0 x 3.0 mm Surface-mount Package**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**
- **AEC-Q200 Qualified**

| Maximum Rating | Value | Units |
|---|----------------------|-------|
| Input Power Level | +10 | dBm |
| DC Voltage | 6 | V |
| Operable Temperature Range | -45 to +125 | °C |
| Specification Temperature Range | -40 to +95 | °C |
| Tape and Reel Storage Temperature Range | -40 to +95 | °C |
| Solder Reflow Temperature, 5 Cycles Maximum | 260°C for 10 seconds | |
| Moisture Sensitivity Level | 1 | MSL |

| Characteristic L1 1582.5 MHz | Sym | Note | Min | Typ | Max | Units |
|---|-------------------|------|-----|--------|-----|-------|
| Center Frequency | f_c | | | 1582.5 | | MHz |
| Insertion Loss, 1559 to 1606 MHz | IL _{MAX} | | | 3.8 | 4.8 | dB |
| Group Delay Variation, 1559 to 1606 MHz | | | | 7 | 15 | ns |
| Band 1: 1559 to 1563 MHz | | | | 3 | 15 | |
| Band 2: 1565 to 1585 MHz | | | | 3 | 10 | |
| Band 3: 1598 to 1606 MHz | | | | 2 | 10 | |
| Attenuation, 0 dB Reference | | | | | | dB |
| 880 to 920 MHz | | | 40 | 60 | | |
| 1710 to 1785 MHz | | | 30 | 35 | | |
| 1850 to 1910 MHz | | | 34 | 39 | | |
| 1920 to 1980 MHz | | | 36 | 41 | | |
| 2400 to 2500 MHz | | | 35 | 44 | | |
| Characteristic L2 1223 MHz | Sym | Note | Min | Typ | Max | Units |
| Center Frequency | f_c | | | 1223 | | MHz |
| Insertion Loss 1197 to 1249 MHz | IL _{MAX} | | | 3.6 | 5.0 | dB |
| Group Delay Variation 1197 to 1249 MHz | | | | 7 | 15 | ns |
| Band 1: 1197 to 1217 MHz | | | | 4 | 15 | |
| Band 2: 1217 to 1237 MHz | | | | 4 | 10 | |
| Band 3: 1242 to 1249 MHz | | | | 2 | 10 | |
| Attenuation, 0 dB reference | | | | | | dB |
| 880 to 920 MHz | | | 45 | 50 | | |
| 1710 to 1785 MHz | | | 30 | 34 | | |
| 1850 to 1910 | | | 38 | 43 | | |
| 1920 to 1980 | | | 34 | 45 | | |
| 2400 to 2500 MHz | | | 35 | 40 | | |

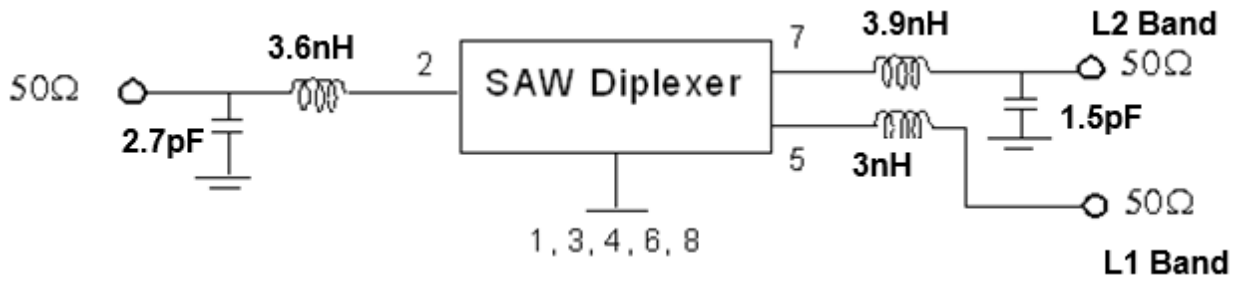
| | | |
|--|---|------------------|
| Case Style | SM3030-8 3.0 x 3.0 mm Nominal Footprint | |
| Lid Symbolization, Y=year, WW=week, S=shift, dot=pin 1 indicator | A4, <u>YWW</u> | |
| Standard Reel Quantity | Reel Size 7 inch | 500 Pieces/Reel |
| | Reel Size 13 inch | 3000 Pieces/Reel |



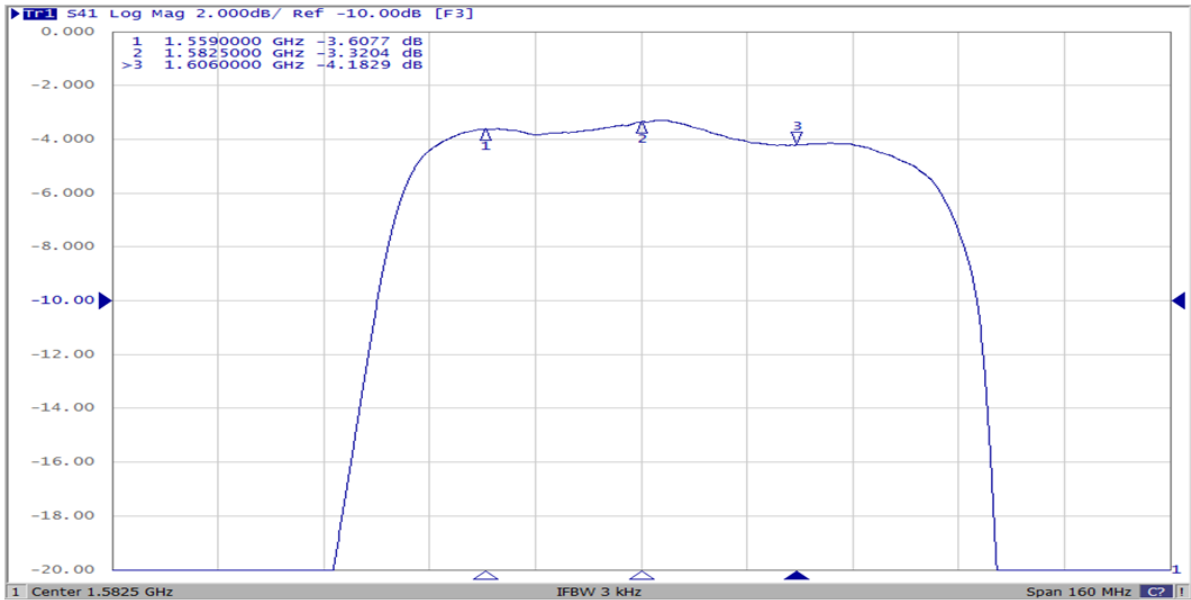
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling. NOTES:

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

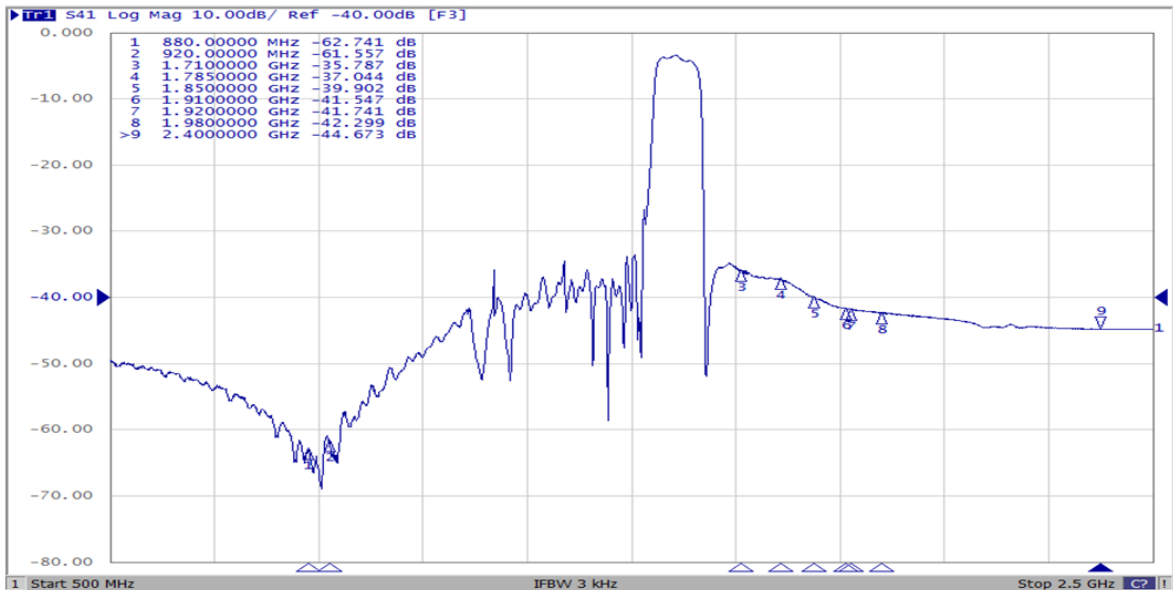
Test Circuit



L1 Characteristics

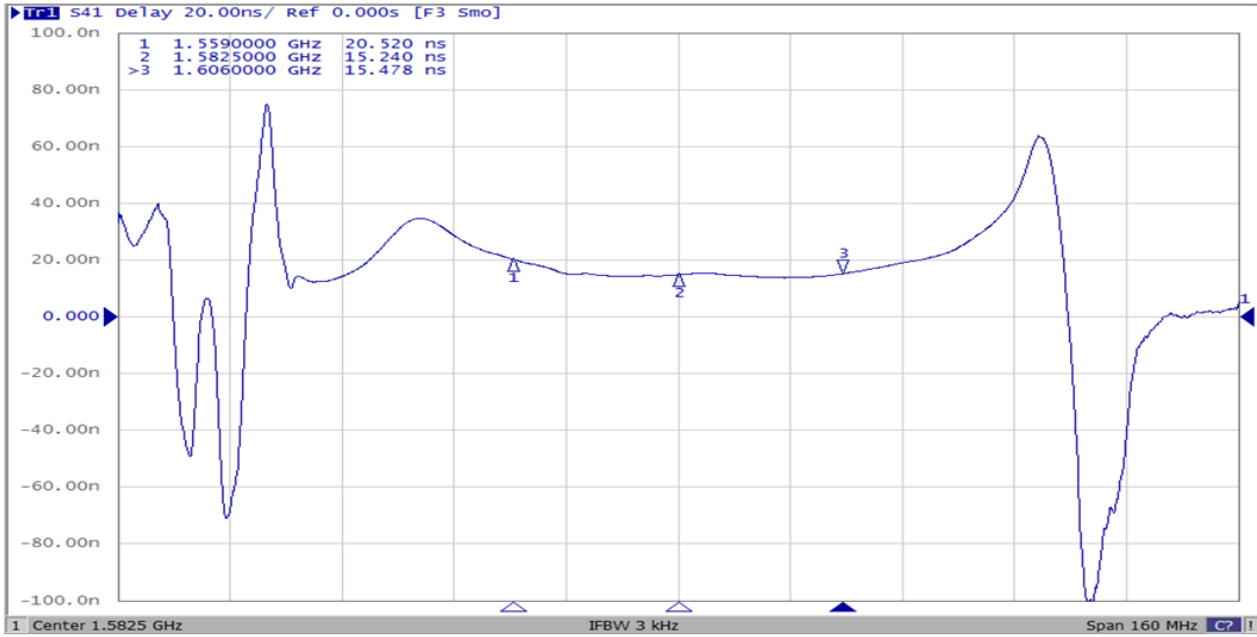


L1 Wideband

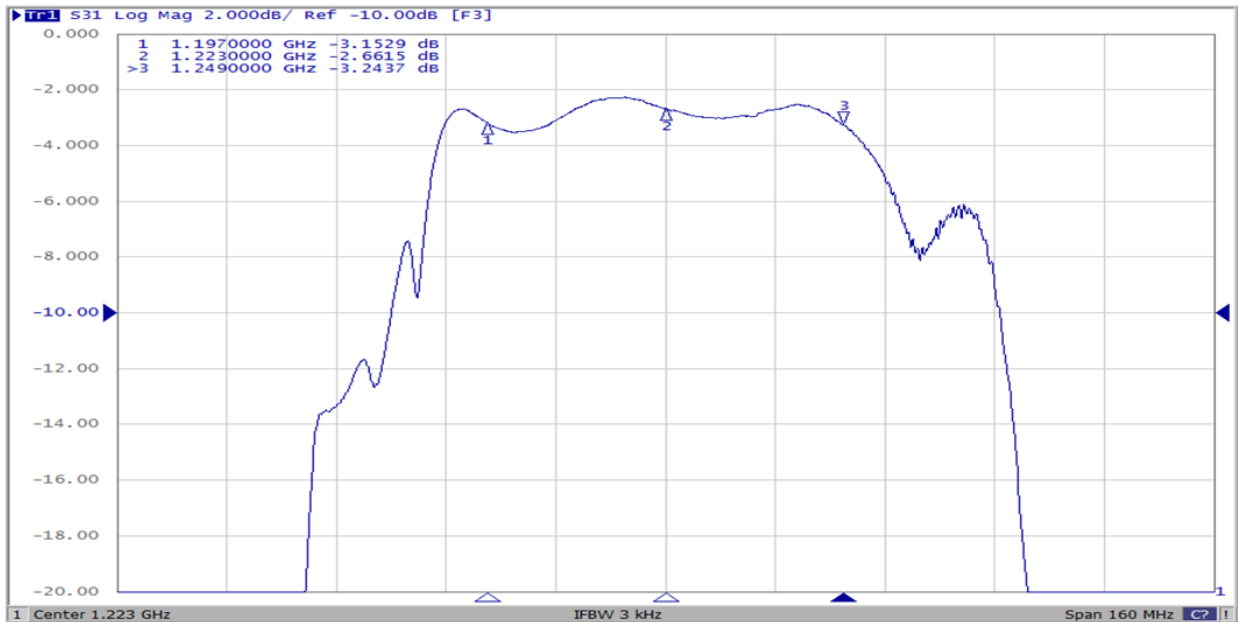


L1 Characteristics (continued)

L1 Group Delay

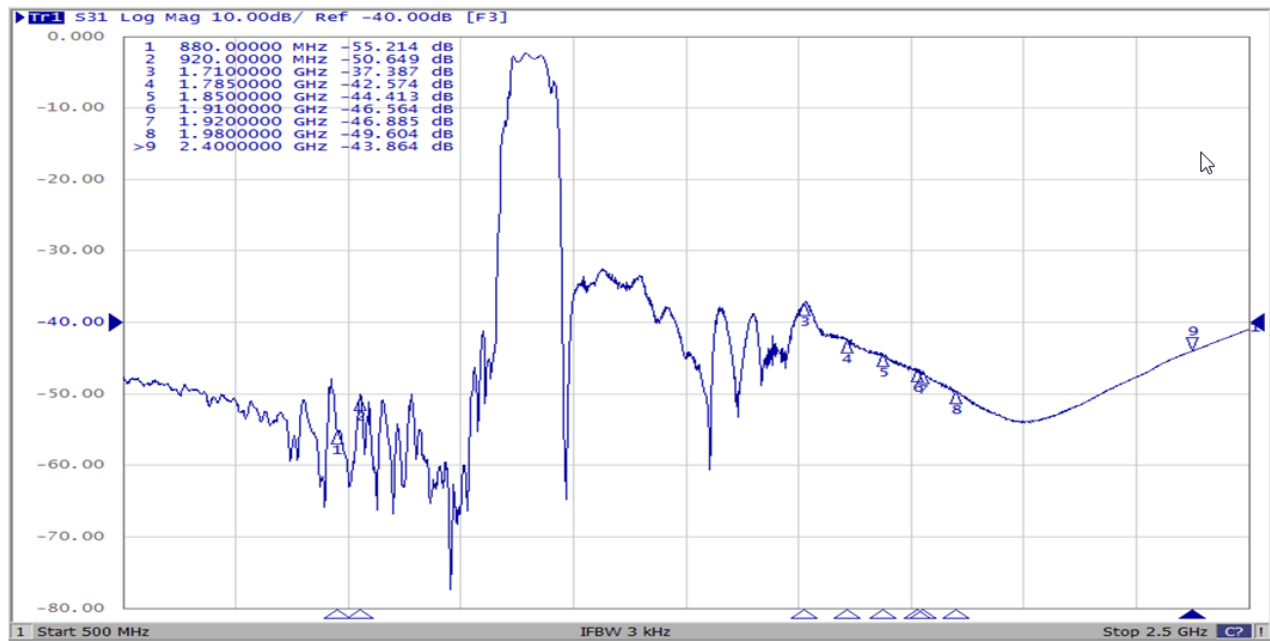


L2 Characteristics

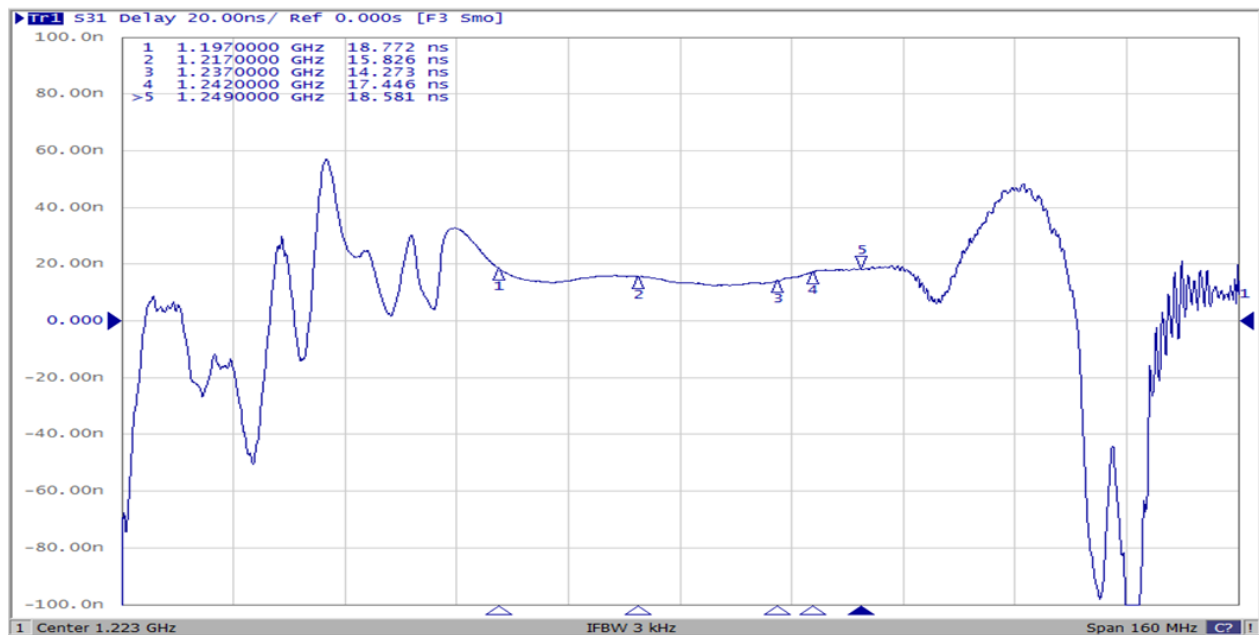


L2 Characteristics (continued)

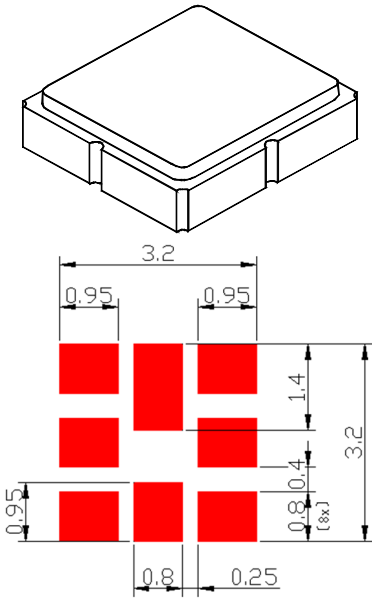
L2 Wideband



L2 Group Delay



8-Terminal Ceramic Surface-Mount Case 3.0 x 3.0 mm Nominal Footprint



PCB Footprint Top View
(dimensions in millimeters)

Case and PCB Footprint Dimensions

| Dimension | mm | | | Inches | | |
|-----------|------|------|------|--------|-------|-------|
| | Min | Nom | Max | Min | Nom | Max |
| A | 2.87 | 3.00 | 3.13 | 0.113 | 0.118 | 0.123 |
| B | 2.87 | 3.00 | 3.13 | 0.113 | 0.118 | 0.123 |
| C | - | - | 1.40 | - | - | 0.055 |
| D | 0.79 | 0.92 | 1.05 | 0.031 | 0.036 | 0.041 |
| E | 0.62 | 0.75 | 0.88 | 0.024 | 0.029 | 0.034 |
| F | 0.47 | 0.60 | 0.73 | 0.018 | 0.024 | 0.029 |
| G | 0.47 | 0.60 | 0.73 | 0.018 | 0.024 | 0.029 |
| H | 1.07 | 1.20 | 1.33 | 0.042 | 0.047 | 0.052 |

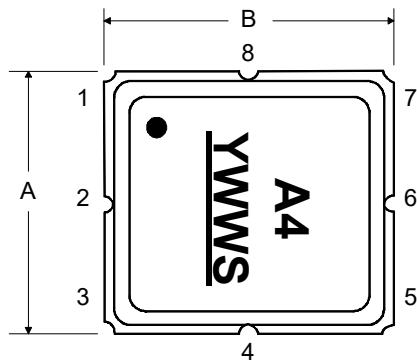
Test Circuit

| Connection | Terminals |
|----------------|---------------|
| Input | 2 |
| L1 Band Output | 5 |
| L2 Band Output | 7 |
| Ground | 1, 3, 4, 6, 8 |

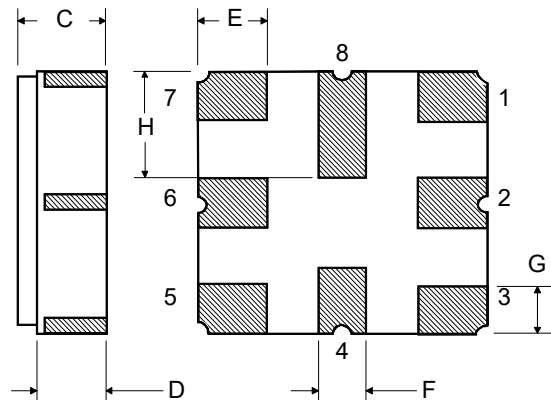
Case Materials

| Materials | |
|--------------------|--|
| Solder Pad Plating | 0.3 to 1.0 μm Gold over 1.27 to 8.89 μm Nickel |
| Lid Plating | 2.0 to 3.0 μm Nickel |
| Body | Al_2O_3 Ceramic |

TOP VIEW

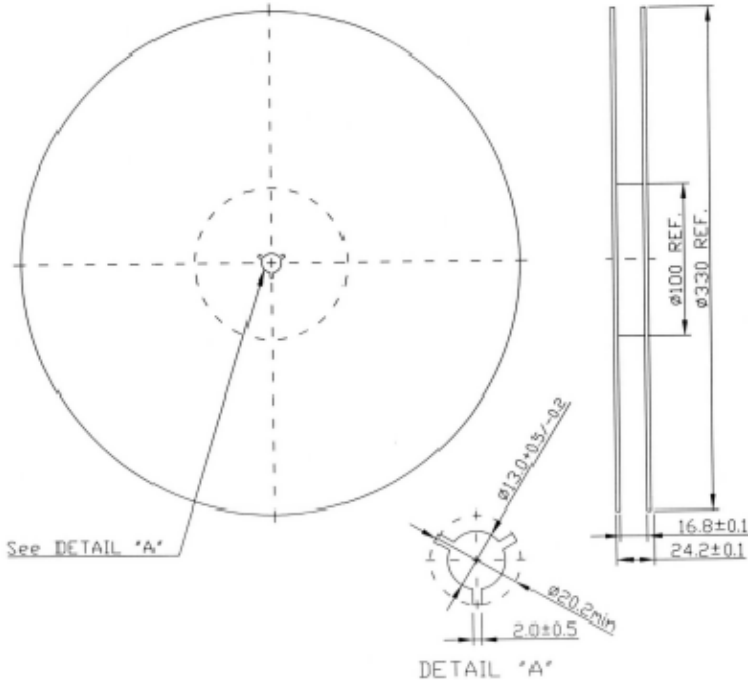


BOTTOM VIEW



Tape and Reel Specifications

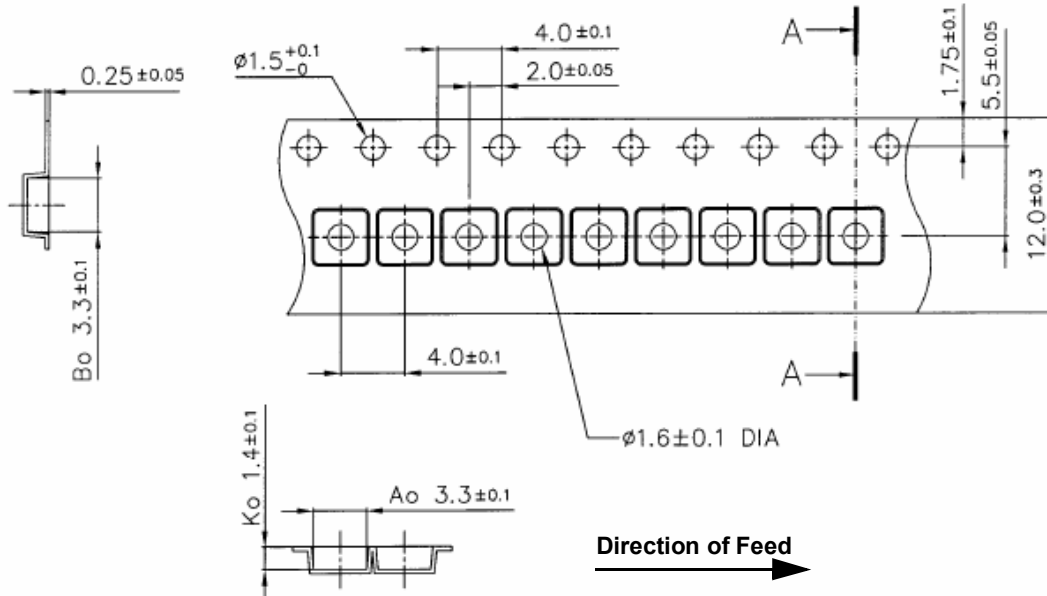
Tape and Reel Standard per ANSI/EIA-481



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

| Carrier Tape Dimensions | |
|-------------------------|---------|
| Ao | 3.30 mm |
| Bo | 3.30 mm |
| Ko | 1.4 mm |
| Pitch | 4.0 mm |
| W | 12.0 mm |

COMPONENT ORIENTATION and DIMENSIONS



Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

