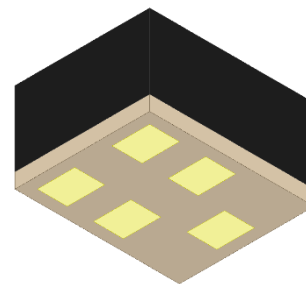
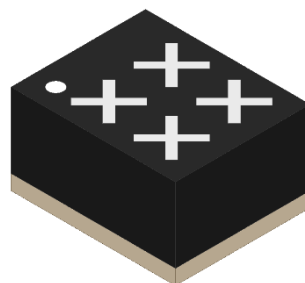


2.4-2.48GHz Band Pass Filter, BAW (Bulk Acoustic Wave)

- Superior attenuation for bands outside passband
- For stringent 2.4GHz coexistence requirements
- Low loss and high out-of-band selectivity
- Small size (1.0x0.9x0.6mm)
- LGA footprint



General Specifications¹

| | |
|----------------------------------|---------------------|
| Passband Frequency (MHz) | 2402 – 2482 |
| Impedance ² (Ω) | 50 |
| Passband Frequency Range 1 (MHz) | 2407.5 – 2426.5 |
| Insertion Loss (dB) | 1.9 Typ. (2.4 Max.) |
| Passband Frequency Range 2 (MHz) | 2412.5 – 2471.5 |
| Insertion Loss (dB) | 1.5 Typ. (2.2 Max.) |
| Frequency Range 4 (MHz) | 2457.5 – 2476.5 |
| Insertion Loss (dB) | 1.7 Typ. (2.5 Max.) |
| Frequency Range 5 (MHz) | 2462.5 – 2482 |
| Insertion Loss (dB) | 2.0 Typ. (3.4 Max.) |
| Insertion Loss Ripple (dB) | 1.6 Typ. (2.2 Max.) |
| Return Loss Input (dB) | 14 Typ. (11 Min.) |
| Return Loss Output (dB) | 14 Typ. (10 Min.) |
| Attenuation | |
| Frequency Range (MHz) | 300 – 925 |
| Attenuation (dB) | 45 Typ. (32 Min.) |
| Frequency Range (MHz) | 1710 – 1880 |
| Attenuation (dB) | 31 Typ. (29 Min.) |
| Frequency Range (MHz) | 1920 – 2170 |
| Attenuation (dB) | 31 Typ. (29 Min.) |

¹ Typical value represents average measurement at 25°C. Min./Max. values represent measurements from -40°C to +85°C

² With matching network

| | |
|-------------------------------|-------------------|
| Frequency Range (MHz) | 2300 – 2370 |
| Attenuation (dB) ³ | 42 Typ. (40 Min.) |
| Frequency Range (MHz) | 2496 – 2505 |
| Attenuation (dB) ⁴ | 27 Typ. (11 Min.) |
| Frequency Range (MHz) | 2505 – 2690 |
| Attenuation (dB) | 40 Typ. (26 Min.) |
| Frequency Range (MHz) | 3300 – 4200 |
| Attenuation (dB) | 48 Typ. (41 Min.) |
| Frequency Range (MHz) | 4800 – 5500 |
| Attenuation (dB) | 46 Typ. (44 Min.) |
| Frequency Range (MHz) | 5500 – 8000 |
| Attenuation (dB) | 46 Typ. (37 Min.) |

Maximum Ratings

| | |
|--|----------------|
| Maximum RF Input Power to Pin 1 (dBm, CW) | +29.5 |
| DC Voltage (V) ⁴ | +5 |
| Operating Temperature (°C) | -40 to +85 |
| Recommended Storage Conditions post-installation (°C) | -40 to +85 |
| | 45% - 60% RH |
| Recommended Storage Conditions and Period for Unused T&R Product | +5 to +35 |
| | 18 Months Max. |

Handling Precautions

| | |
|---|------------------------------------|
| ESD – Human Body Model (HBM) ⁵ | Class 1B (ESDA / JEDEC JS001-2012) |
| ESD – Charged Device Model (CDM) ⁶ | Class C3 (JEDEC JESD22-C101F) |
| MSL – Moisture Sensitivity Level ⁷ | Level 3 (IPC / JEDEC J-STD-020) |

³ Averaged s-parameter value over any 5MHz from -40°C to +85°C

⁴ 168-hour test according to IEC60068-2-67: Damp heat, steady state, accelerated test primarily intended for components

⁵ Class 1B: 500 to <1000V, 25°C ±5°C, Relative humidity: 45% - 60%RH, Voltage shift ±30% at reference point before/after zapping

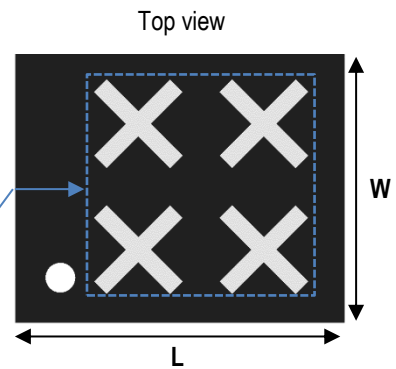
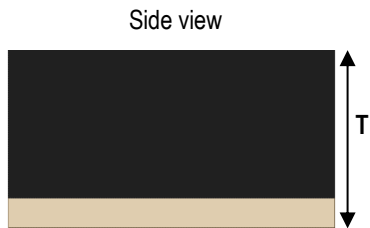
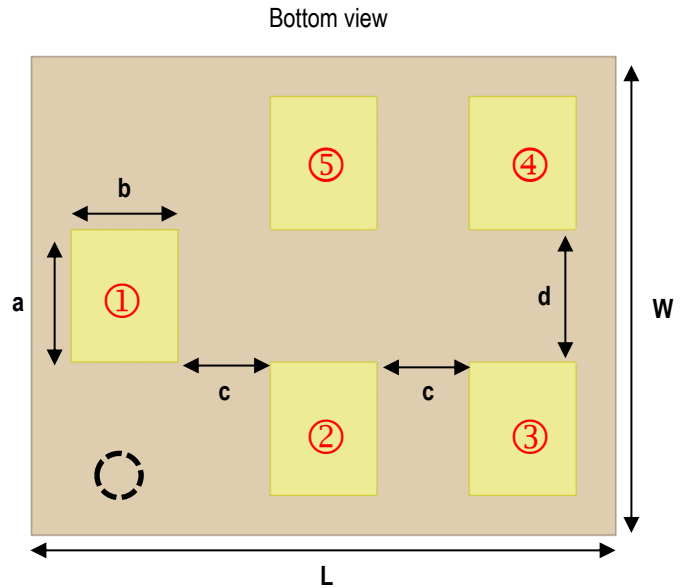
⁶ Class C3: >1000V, 25°C ±5°C, Relative humidity: 45% - 60%RH, Voltage shift ±30% at reference point before/after zapping

⁷ Level 3: 24-hour bake at 125°C, Soak for 192hours at 30°C, 60% RH reflow 3 cycles, Meets specifications after cycling

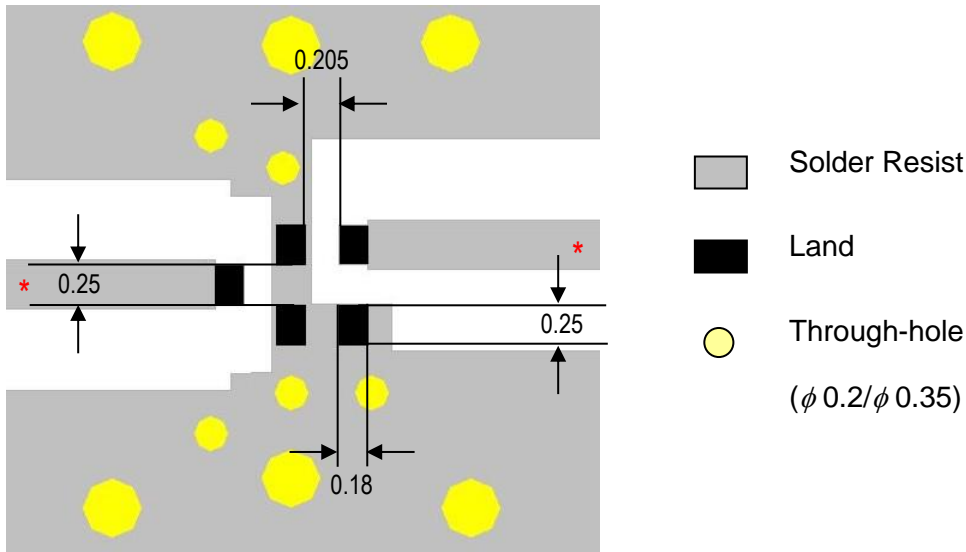
| | Inches | | | Millimeters | | |
|----------|--------|---|-------|-------------|---|------|
| L | 0.043 | ± | 0.002 | 1.10 | ± | 0.05 |
| W | 0.035 | ± | 0.002 | 0.90 | ± | 0.05 |
| T | 0.024 | | Max. | 0.60 | | Max. |
| a | 0.010 | ± | 0.002 | 0.25 | ± | 0.05 |
| b | 0.008 | ± | 0.002 | 0.20 | ± | 0.05 |
| c | 0.007 | ± | 0.002 | 0.175 | ± | 0.05 |
| d | 0.010 | ± | 0.002 | 0.25 | ± | 0.05 |

Terminal Configuration

| Pin Number | Function |
|------------|----------|
| 1 | INPUT |
| 2 | GND |
| 3 | GND |
| 4 | OUTPUT |
| 5 | GND |

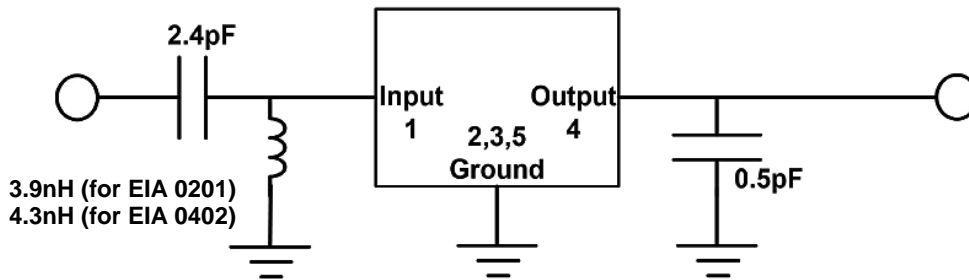


[Code explanation on page 6](#)



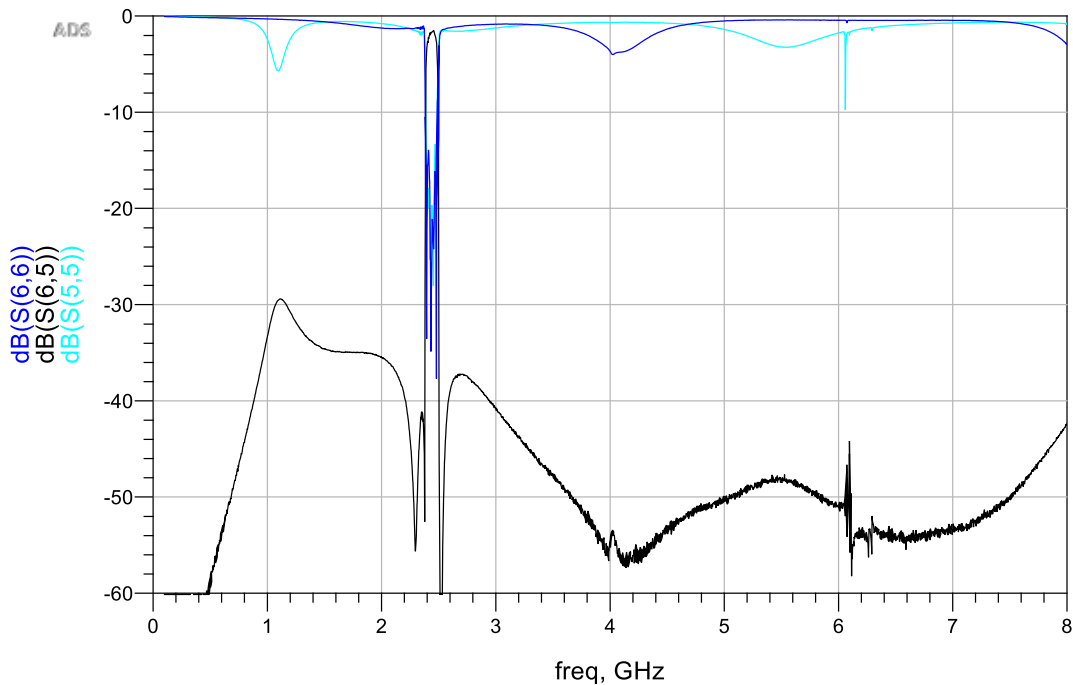
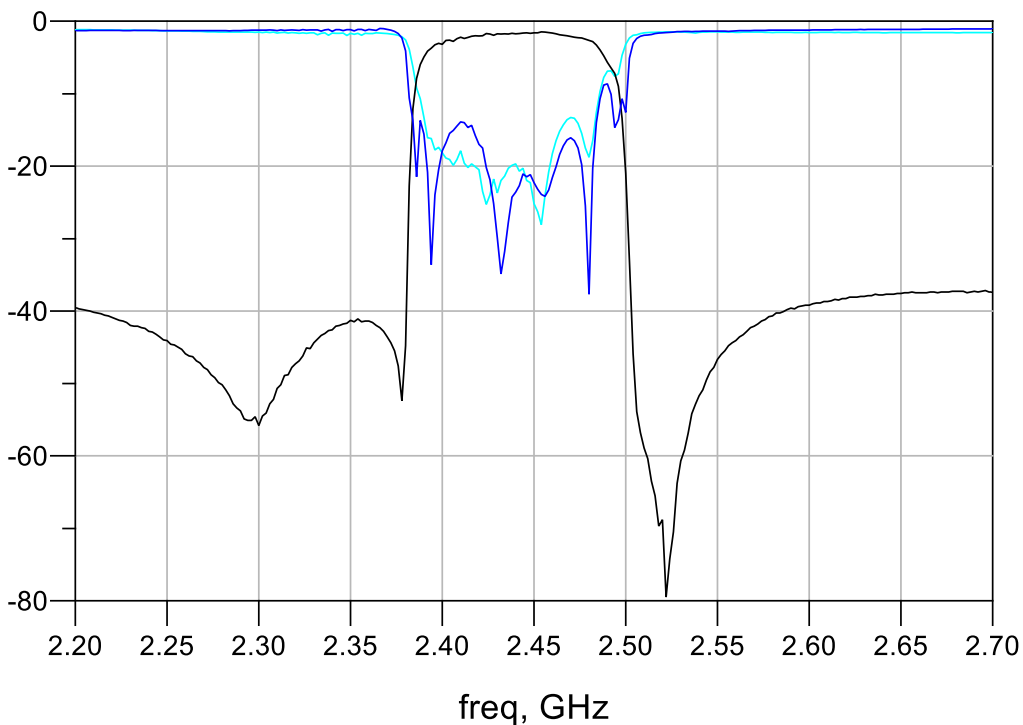
If you'd like the CAD PCB layout or have any questions, contact our application engineers for the CAD PCB layout at <https://www.johansontechnology.com/ask-a-question>

External Matching Circuit

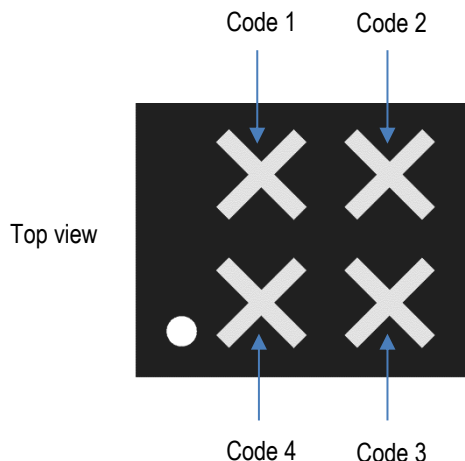


Recommended Part Numbers

| L/C | EIA 0201 | EIA 0402 |
|---------------|---------------------|---------------------|
| 2.4pF | QLCD500Q2R4B1GV001T | QSCF500Q2R4B1GV001T |
| 3.9nH / 4.3nH | LRC0201BC3N9GV001T | LRC0402CS4N3GV001T |
| 0.5pF | QLCD500Q0R5B1GV001T | QSCF500Q0R5B1GV001T |



S-parameter and layout file available upon request. Please contact <https://www.johansontechnology.com/ask-a-question>



Code 1: "P" for production part.

Code 2: Corresponds to the production year and month. Repeats every 4 years.

| | Jan. | Feb. | Mar. | Apr. | May. | Jun. | Jul. | Aug. | Sept. | Oct. | Nov. | Dec. |
|-----------|------|------|------|------|------|------|------|------|-------|------|------|------|
| 2020/2024 | A | B | C | D | E | F | G | H | J | K | L | M |
| 2021/2025 | N | P | Q | R | S | T | U | V | W | X | Y | Z |
| 2022/2026 | a | b | c | d | e | f | g | h | i | j | k | m |
| 2023/2027 | n | p | q | r | s | t | u | v | w | x | y | z |

Code 3: Corresponds to the week within each month ID, using the capital letters A to E to represent the 1st to 5th week of each month.

Code 4: Corresponds to the serial number of the lot in each week using the capitalized and lower-cased letters. Repeats every 4 years.

| | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 001 | 002 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | 011 | 012 |
| A | B | C | D | E | F | G | H | J | K | L | M |
| 013 | 014 | 015 | 016 | 017 | 018 | 019 | 020 | 021 | 022 | 023 | 024 |
| N | P | Q | R | S | T | U | V | W | X | Y | Z |
| 025 | 026 | 027 | 028 | 029 | 030 | 031 | 032 | 033 | 034 | 035 | 036 |
| a | b | c | d | e | f | g | h | i | j | k | m |
| 037 | 038 | 039 | 040 | 041 | 042 | 043 | 044 | 045 | 046 | 047 | 048 |
| n | p | q | r | s | t | u | v | w | x | y | z |

| Part Number Explanation | | |
|-------------------------|---------|---|
| Packaging Style | Bulk | 2442BP08A0080001B |
| | T & R | 2442BP08A0080001T (Qty: 10,000pcs/reel) |
| Evaluation Board | 50Ω SMA | 2442BP08A0080001CE1 |

Important Links

[2442BP08A0080001T Downloads](#)

[2.4GHz Antennas](#)

[Antenna Tuning, Optimization, and Validation Services](#)

[Soldering Information](#)

[MSL Information](#)

[Packaging Information](#)

[RoHS Compliance](#)

| Changelog | |
|-----------|-----------------|
| 1.0 | Initial Release |