




| | | |
|---|--|--------------------|
|  | DATASHEET | Part No. |
| | Ultra-Low ESL/ESR, High Q, RF/Microwave Capacitor | A80B series |

CUSTOMER :

DATA SHEET

| | |
|----------------------|--|
| Product name | : Low ESL/ESR, High Q, RF/Microwave Capacitor |
| Part number | : A80B series |
| Features | : 2828mm/1111inch |
| Revision date | : 2020/04/16 |

| | |
|---|---|
|  | Address : 380, NAMDONGSEO-RO, NAMDONG-GU INCHEON, 21629 KOREA (AMOTECH. CO., LTD) |
| | Contact : TEL) 82-32-821-0363, FAX) 82-32-811-0283 |

| | | |
|--|--|--------------------|
|  A M O T E C H | DATASHEET | Part No. |
| | Ultra-Low ESL/ESR, High Q, RF/Microwave Capacitor | A80B series |

1. Features

- Ultra-low ESR
- High Q
- Stable Class I dielectric
- High Self Resonance Frequencies
- Laser Marking (Optional)
- RoHS Compliant

2. Applications

- VHF/UHF/HDTV Broadcast Transmitters
- Wireless Communications
- Public Safety Radio, Avionics, Telecom
- Satellite Communications
- WiMAX (802.16), Microwave Communication System

3. Circuit Applications

- High Power Filter Networks, Combiners, Couplers
- Matching Networks
- Output Coupling, Antenna Coupling
- DC Blocking and Bypassing



DATASHEET

Part No.

**Ultra-Low ESL/ESR, High Q,
RF/Microwave Capacitor**

A80B series

4. Specifications

| Electrical Specifications | |
|---|--|
| Capacitance | 0.1 to 1000 pF |
| Tolerances | Refer to Cap Value list page4 |
| Working Voltage (WVDC) | See capacitance value table page3 |
| Quality Factor (Q) | 2,000 min. @ 1MHz |
| Operating Temperature Range | -55°C ~ +125°C |
| Temperature coefficient of Capacitances (TCC) | 0 ± 30PPM/°C : -55°C ~ +125°C |
| Insulation Resistance | 0.1 ~ 1000 pF 10 ⁵ MΩ min. at + 25°C at rated WVDC 10 ⁴ MΩ min. at + 125°C at rated WVDC |
| Dielectric Withstanding Voltage (DWV) | 250% of WVDC for 5 seconds |
| Retrace | ±(0.02% or 0.02pF), which is greater |
| Capacitance drift | ±(0.02% or 0.02pF), which is greater |
| Aging | None |
| Piezo Effects | None |

| Mechanical Specifications | |
|---------------------------|---|
| Terminations | T: Sn plated over Ni Barrier W: Sn/Lead Solder plated over Ni Barrier TN: Sn plated over Non-Magnetic Barrier |
| Solderability | Solder coverage > 90% of end termination |
| Terminal Strength | MIL-STD-202, method 211 5 lbs Min., 15 lbs Typ. For 5 seconds in direction perpendicular to the termination surface of the capacitor |

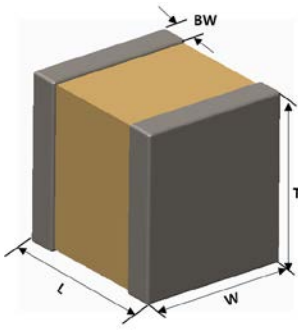
| Environmental Specifications | |
|------------------------------|--|
| Thermal Shock | MIL-STD-202, Method 107, condition A |
| Moisture Resistance | MIL-STD-202, Method 106 |
| Low voltage humidity | MIL-STD-202, Method 103, condition A 1.5VDC with 85°C 85% for 240hours Min. |
| Life Test | MIL-STD-202, Method 108 for 2000 hours, +125°C 200% of WVDC applied |

5. Capacitance Values

| Value | Cap. Code | Cap. Tol. | Rated WVDC | Value | Cap. Code | Cap. Tol. | Rated WVDC | Value | Cap. Code | Cap. Tol. | Rated WVDC | Value | Cap. Code | Cap. Tol. | Rated WVDC |
|-------|-----------|-----------|------------|-------|-----------|-----------|------------|-------|-----------|---------------|------------|-------|-----------|---------------|------------|
| 0.1 | 0R1 | B | 500V | 2.4 | 2R4 | B,C,D | 500V | 20 | 200 | F,G,J, K,M | 500V | 150 | 151 | F,G,J, K,M | 300V |
| 0.2 | 0R2 | | | 2.7 | 2R7 | | | 22 | 220 | | | 160 | 161 | | |
| 0.3 | 0R3 | B,C | | 3 | 3R0 | | | 24 | 240 | | | 180 | 181 | | |
| 0.4 | 0R4 | | | 3.3 | 3R3 | | | 27 | 270 | | | 200 | 201 | | |
| 0.5 | 0R5 | B,C,D | | 3.6 | 3R6 | | | 30 | 300 | | | 220 | 221 | | |
| 0.6 | 0R6 | | | 3.9 | 3R9 | | | 33 | 330 | | | 240 | 241 | | |
| 0.7 | 0R7 | | | 4.3 | 4R3 | | | 36 | 360 | | | 270 | 271 | | |
| 0.8 | 0R8 | | | 4.7 | 4R7 | | | 39 | 390 | | | 300 | 301 | | |
| 0.9 | 0R9 | | | 5.1 | 5R1 | | | 43 | 430 | | | 330 | 331 | | |
| 1 | 1R0 | | | 5.6 | 5R6 | 47 | | 470 | 360 | | | 361 | | | |
| 1.1 | 1R1 | | | 6.2 | 6R2 | 51 | | 510 | 390 | | | 391 | | | |
| 1.2 | 1R2 | | | 6.8 | 6R8 | 56 | | 560 | 430 | | | 431 | | | |
| 1.3 | 1R3 | | | B,C,D | 7.5 | 7R5 | | 62 | 620 | | | 470 | 471 | | |
| 1.4 | 1R4 | | | | 8.2 | 8R2 | | 68 | 680 | | | 510 | 511 | | |
| 1.5 | 1R5 | B,C,D | | 9.1 | 9R1 | 75 | | 750 | 560 | | | 561 | | | |
| 1.6 | 1R6 | | | 10 | 100 | 82 | | 820 | 620 | | | 621 | | | |
| 1.7 | 1R7 | | 11 | 110 | 91 | 910 | 680 | 681 | | | | | | | |
| 1.8 | 1R8 | | 12 | 120 | 100 | 101 | 750 | 751 | | | | | | | |
| 1.9 | 1R9 | | 13 | 130 | 110 | 111 | 820 | 821 | | | | | | | |
| 2 | 2R0 | | 15 | 150 | 120 | 121 | 300V | 910 | 911 | | | | | | |
| 2.1 | 2R1 | | 16 | 160 | 130 | 131 | | 1000 | 102 | | | | | | |
| 2.2 | 2R2 | | 18 | 180 | | | | | | | | | | | |

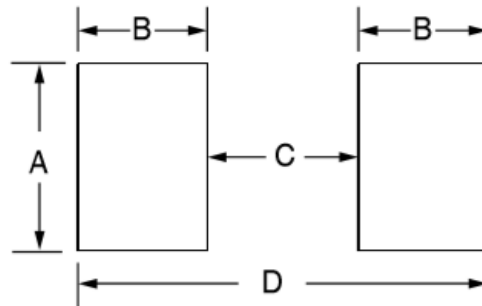
6. Mechanical dimension and solder pad

6.1. Mechanical dimension




| AMOTCH Terminal code. | SPEC | L | W | T | BW |
|-----------------------|-----------|---------------|--------|------|-------|
| T | Size (mm) | 2.79 | 2.79 | 1.78 | 0.38 |
| | Tolerance | +0.51 / -0.25 | ± 0.38 | Max. | ±0.25 |
| W | Size (mm) | 2.79 | 2.79 | 1.78 | 0.38 |
| | Tolerance | +0.51 / -0.25 | ± 0.38 | Max. | ±0.25 |
| TN | Size (mm) | 2.79 | 2.79 | 1.78 | 0.38 |
| | Tolerance | +0.51 / -0.25 | ± 0.38 | Max. | ±0.25 |

6.2. Solder pad



| Pad size | A Min. | B Min. | C Min. | D Min. |
|--------------|--------|--------|--------|--------|
| Normal | 3.30 | 1.27 | 1.91 | 4.45 |
| High density | 2.79 | 0.76 | 1.91 | 3.43 |

| | | |
|---|--|--------------------|
|  | DATASHEET | Part No. |
| | Ultra-Low ESL/ESR, High Q, RF/Microwave Capacitor | A80B series |

7. Part Number Code

- Product Part No.

| Series Name | Size | Capacitance | Cap tolerance | Terminal | Voltage | Laser Marked | Packing info. |
|-------------|----------|-------------|---------------|----------|------------|--------------|---------------|
| <u>A80</u> | <u>B</u> | <u>XXX</u> | <u>X</u> | <u>X</u> | <u>XXX</u> | <u>X</u> | <u>T</u> |

- **Series Name :** A80
- **Size :** B : 2828 mm, 1111 inch
- **Capacitance :** Capacitance Code (Refer to "5. Capacitance Values")
- **Cap tolerance :** "P"-±0.02pF "Q"-±0.03pF "A"-±0.05pF "B"-±0.1pF "C"-±0.25pF "D"-±0.5pF
"F"-±1% "G"-±2% "J"-±5% "K"-±10% "M"-±20%
- **Terminal :** X - Refer to "4. Terminations"
- **Voltage :** WVDC
- **Laser Marked :** X (Optional)
- **Packing info. :** T – Tape & Reel

8. Typical Performance Data (A80B Series)

