

ECN/PCN No.: 4528

For Manufacturer			
<b>Product Description:</b> Low Frequency SMD Microprocessor Crystal	<b>Abracon Part Number / Part Series:</b> ABC2	<input type="checkbox"/> Documentation only <input checked="" type="checkbox"/> ECN <input type="checkbox"/> EOL	<input checked="" type="checkbox"/> Series <input type="checkbox"/> Part Number
<b>Affected Revision:</b> P	<b>New Revision:</b> Q	<b>Application:</b>	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Non-Safety

**Prior to Change:**

ABC2 Rev P

Frequency Range

3.5MHz to 36MHz Fundamental, AT

27MHz to 70MHz 3<sup>rd</sup> Overtone, AT

**Table 1**

Frequency Ranges	Operation mode	ESR (max)
3.200MHz ~ 3.499MHz	Fundamental	200 Ω
3.500MHz ~ 3.999MHz	Fundamental	140 Ω
4.000MHz ~ 4.399MHz	Fundamental	120 Ω
4.400MHz ~ 4.899MHz	Fundamental	100 Ω
4.900MHz ~ 5.999MHz	Fundamental	80 Ω
6.000MHz ~ 6.999MHz	Fundamental	60 Ω
7.000MHz ~ 7.999MHz	Fundamental	50 Ω
8.000MHz ~ 10.999MHz	Fundamental	45 Ω
11.000MHz ~ 11.999MHz	Fundamental	40 Ω
12.000MHz ~ 14.999MHz	Fundamental	35 Ω
15.000MHz ~ 36.000MHz	Fundamental	30 Ω
27.000MHz ~ 70.000MHz	3rd OT	100 Ω

**Part Numbering Guide**

Operating Temp.
Blank: -10°C ~ +60°C
B: -20°C ~ +70°C
D**: -40°C ~ +85°C

Freq. Tolerance
Blank: ± 50 ppm
2: ± 20 ppm
4: ± 30 ppm

Freq. Stability
Blank: Standard
G*: ± 15 ppm
W*: ± 25 ppm
Y: ± 30 ppm
H: ± 35 ppm
Z: ± 50 ppm
Q: ± 100 ppm

\* Option B and -10 ~60°C only

\*\* Option Y, H, Z and Q only for F≥6.0MHz; Option Z and Q only for F<6.0MHz

**After Change:**

ABC2 Rev Q

Frequency Range

3.2MHz to 30MHz Fundamental Mode, AT

Removal of 3<sup>rd</sup> Overtone, AT

*Limit frequency range to 30MHz*

**Table 1**

Frequency Ranges	Operation mode	ESR (max)
3.200MHz ~ 3.499MHz	Fundamental	200 Ω
3.500MHz ~ 3.999MHz	Fundamental	140 Ω
4.000MHz ~ 4.399MHz	Fundamental	120 Ω
4.400MHz ~ 4.899MHz	Fundamental	100 Ω
4.900MHz ~ 5.999MHz	Fundamental	80 Ω
6.000MHz ~ 6.999MHz	Fundamental	60 Ω
7.000MHz ~ 7.999MHz	Fundamental	50 Ω
8.000MHz ~ 10.999MHz	Fundamental	45 Ω
11.000MHz ~ 11.999MHz	Fundamental	40 Ω
12.000MHz ~ 14.999MHz	Fundamental	35 Ω
15.000MHz ~ 30.000MHz	Fundamental	30 Ω

Removal of 3<sup>rd</sup> Overtone Frequency Range, Limit frequency Range to 30MHz

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Part Numbering Guide

Operating Temp.	Freq. Tolerance	Freq. Stability
Blank: -10°C ~ +60°C	Blank: ± 50 ppm	Blank: Standard
B: -20°C ~ +70°C	2: ± 20 ppm	Y: ± 30 ppm
D**: -40°C ~ +85°C	4: ± 30 ppm	Z: ± 50 ppm
		Q: ± 100 ppm

\*\*Option Q only for F≥6.0MHz; Option Z and Q only for F<6.0MHz

Removal of Frequency Stability Options G, W, and H  
Update note (\*\*) on Operating Temperature Option D

**Cause/Reason for Change:**

Updated electrical specifications to reflect current production capabilities.

**Change Plan**

<b>Effective Date:</b> 1/6/2022	<b>Additional Remarks:</b>
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**Change Declaration:**

<b>Issued Date:</b> 1/6/2022	<b>Issued By:</b>	<b>Issued Department:</b>
<b>Approval:</b>	<b>Approval:</b>	<b>Approval:</b>

**For Abracon EOL only**

<b>Last Time Buy (if applicable):</b> N/A	<b>Alternate Part Number / Part Series:</b> N/A
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<b>Additional Approval:</b>	<b>Additional Approval:</b>	<b>Additional Approval:</b>
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**Customer Approval (If Applicable)**

**Qualification Status:**  
 Approved  Not accepted  
*Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.*

**Customer Part Number:** \_\_\_\_\_ **Customer Project:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_ **Company Representative:** \_\_\_\_\_ **Representative Signature:** \_\_\_\_\_

**Customer Remarks:**

Brand	Affected Part Numbers
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Abracon	ABC2-10.000MHZ-D4Y-T
Abracon	ABC2-10.000MHz-D4Y-T
Abracon	ABC2-10.000MHZ-D4Z
Abracon	ABC2-10.000MHZ-DZ-T
Abracon	ABC2-10.368MHZ-SD4Z
Abracon	ABC2-11.0592MHZ-D4Z
Abracon	ABC2-14.7456MHz-D4Y-T
Abracon	ABC2-16.000MHZ-18-B4H-T
Abracon	ABC2-16.000MHZ-D4Z
Abracon	ABC2-18.432MHZ-D4Z
Abracon	ABC2-20.000MHZ-D4Z-T
Abracon	ABC2-22.1184MHZ-D4Z
Abracon	ABC2-24.576MHZ-D4Z
Abracon	ABC2-25.000MHZ-R50-D-4-Z
Abracon	ABC2-4.000MHZ-18-B4H-T
Abracon	ABC2-49.152MHZ-4-T
Abracon	ABC2-6.000MHZ-20-R70-D4H
Abracon	ABC2-6.000MHZ-20-R70-D-4-H-T
Abracon	ABC2-7.3728MHz-D4Y-T
Abracon	ABC2-8.000MHZ-D4Z
Abracon	ABC2-8.000MHZ-D4Z-T
Abracon	ABC2-8.000MHZ-DZ