



Quartz Crystal - HC-49S - H3.2

Pin Type - 11.5 x 4.6 x 3.2mm

• Features

- Low cost & wide applications
- Tight tolerance and Stability
- RoHS compliant

• General Specification

| | |
|-----------------------------|-------------------------|
| Type | HC-49S - H3.2 |
| Frequency Range | 3.200MHz to 90.000MHz |
| Frequency Tolerance at 25°C | ± 10ppm to ± 100ppm * |
| Frequency Stability | ± 10ppm to ± 100ppm * |
| Operating Temperature | -10°C to +60°C * |
| Load Capacitance | 6pF to 32pF / Series |
| Shunt Capacitance | 7pF max * |
| Storage Temperature | -40°C to +85°C * |
| Drive Level | 100µW * |
| Aging | ± 5ppm max first year * |

* Can be changed according to Customer's requirement.

• Drive Level Codes (µW)

| | | | | | |
|---------|---------|--------|---------|---------|--------|
| A = 100 | B = 200 | D = 50 | E = 300 | G = 500 | I = 10 |
|---------|---------|--------|---------|---------|--------|

• Load Capacitance Codes

| | | | | | |
|------------|------------|-----------|----------|----------|------------|
| 12pF = A | 12.5pF = B | 14pF = C | 16pF = D | 17pF = E | 18pF = F |
| 20pF = G | 25pF = H | 30pF = I | 32pF = J | 33pF = K | Series = L |
| 13pF = M | 27pF = N | 50pF = O | 10pF = P | 15pF = Q | 22pF = R |
| 15.8pF = S | 8.5pF = T | 8.2pF = U | 40pF = V | 9pF = W | 11pF = X |
| 13.8pF = Y | 19.6pF = Z | 6pF = a | 7pF = d | 8pF = e | 19pF = f |

• Operating Temperature Codes (°C)

| | | | | | |
|----------------|----------------|----------------|----------------|----------------|----------------|
| A = -10 to +60 | B = -20 to +70 | C = -10 to +70 | I = -40 to +85 | X = -30 to +80 | W = -10 to +50 |
|----------------|----------------|----------------|----------------|----------------|----------------|

• Frequency Tolerance & Frequency Stability Codes (ppm)

| | | | | | |
|---------|---------|---------|---------|----------|--------|
| P = ±10 | S = ±20 | T = ±30 | U = ±50 | V = ±100 | W = ±5 |
|---------|---------|---------|---------|----------|--------|

Pls contact us for the parameters you could not find in these tables.

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• Frequency Stability vs. Operating Temperature

| | ± 10ppm | ± 20ppm | ± 30ppm | ± 50ppm | ± 100ppm |
|---------------|---------|---------|---------|---------|----------|
| -10°C - +60°C | ⊙ | ⊙ | ● | ⊙ | ⊙ |
| -10°C - +70°C | ⊙ | ⊙ | ● | ⊙ | ⊙ |
| -20°C - +70°C | ⊙ | ⊙ | ● | ● | ⊙ |
| -40°C - +85°C | | | ⊙ | ● | ⊙ |

⊙ Available ● Standard

• ESR (Series Resistance Rs) vs Standard Frequency, Vibration Mode & Codes

| Frequency Range (MHz) | ESR Max (Ω) | Code | Vibration Mode | Code |
|--------------------------|----------------|------|----------------|------|
| 3.200 - 3.579 | 250 | a | AT Fund | A |
| 3.580 - 4.000 | 150 | 1 | AT Fund | A |
| 4.001 - 5.000 | 120 | 2 | AT Fund | A |
| 5.001 - 6.000 | 100 | 0 | AT Fund | A |
| 6.001 - 7.000 | 80 | 2 | AT Fund | A |
| 7.001 - 8.000 | 60 | 4 | AT Fund | A |
| 8.001 - 9.999 | 60 | 1 | AT Fund | A |
| 10.000 - 13.999 | 50 | 2 | AT Fund | A |
| 14.000 - 35.328 | 40 | 4 | AT Fund | A |
| 24.000 - 34.999 | 100 | b | 3rd OT | a3 |
| 35.000 - 90.000 | 80 | 0 | 3rd OT | a3 |

Remark: ESR can be adjusted to other frequencies than typical mentioned. In such case, please approach Company for verification.

• Marking

Frequency + N (Company brand: Newxtal) + Date code (Year Code + Month Code)

Year Code:

| | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Month Code:

| | | | | | | | | | | | |
|-----|-----|-------|-------|-----|------|------|-----|------|-----|-----|-----|
| Jan | Feb | March | April | May | June | July | Aug | Sept | Oct | Nov | Dec |
| A | B | C | D | E | F | G | H | I | J | K | L |

For Example: 8.000N16I

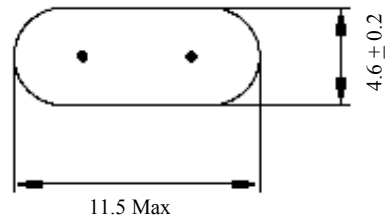
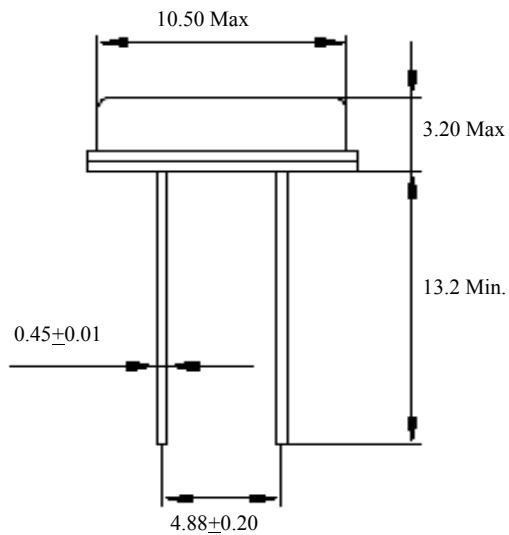
Quartz Crystal - HC-49S - H3.2

Ordering Information

| Drive Level | Load Capacitance | Operating Temperature | Frequency Tolerance | Frequency Stability | ESR | Type | Vibration Mode | Frequency | Lead-free | Packing |
|-------------|------------------|-----------------------|---------------------|---------------------|--------------|------------------|----------------|-----------|-----------|------------|
| (μ W) | (pF) | ($^{\circ}$ C) | (ppm) | (ppm) | (Ω) | | | (MHz) | | |
| See Tables | | | | | | F = HC-49S, H3.2 | See Table | xx.xxxM | LF | Blank=bulk |
| 100 | 20 | -10 to +60 | ± 30 | ± 30 | 60 | | AT Fund | | Lead-free | |
| A | G | A | T | T | 4 | F | A | | LF | |

For Example: **AGATT4EA-8.000MLF**

Dimensions

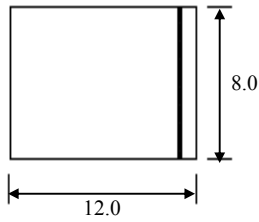


in mm

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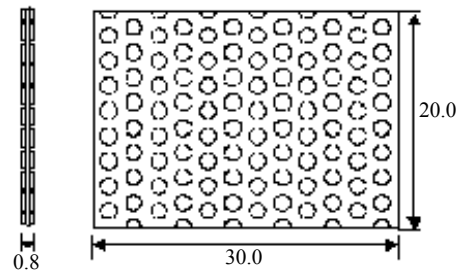
Bulk Packing Specification

1. Plastic Bag:



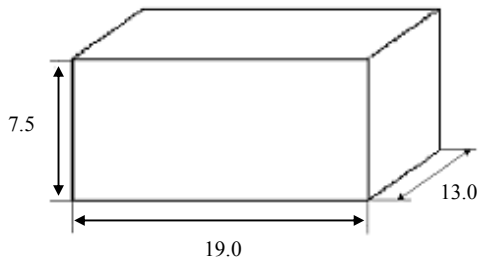
A plastic bag contains: 200pcs

2. Bubbles Bag



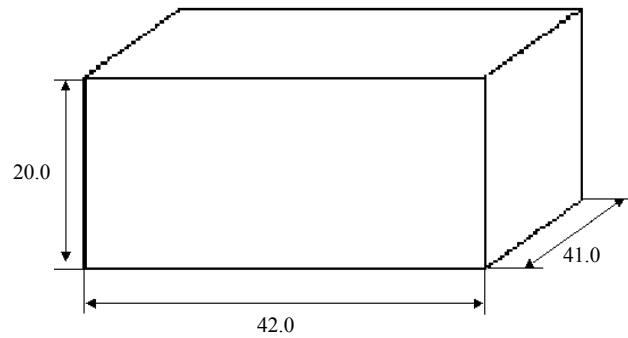
A bubbles bag contains:
10 plastic bags - 2,000pcs

3. Inside Paper Box



An inside box contains:
1 bubbles bag - 2,000pcs

4. Outside Paper Carton



An outside carton contains:
10 inside boxes - 20,000pcs

in cm

Wave Soldering Profile

