

### ● FEATURES

- EXCELLENT CLOCK SIGNAL GENERATOR FOR CPU'S
- 3.5 mm MAXIMUM HEIGHT
- AVAILABLE IN EXTENDED TEMPERATURE RANGE
- SAME PIN LAYOUT AS HC-49/U

### SERIES AS (HC-49/S)



### ● SPECIFICATIONS

|  |                |                                     |
|--|----------------|-------------------------------------|
| FREQUENCY RANGE                            |                | 3.20 MHz TO 70.00 MHz               |
| MODE OF OSCILLATION                        | FUNDAMENTAL    | 3.20 MHz TO 40.320 MHz              |
|  | THIRD OVERTONE | 24.576 MHz TO 70.00 MHz             |
| FREQUENCY TOLERANCE AT 25°C                |                | ±30 PPM TYPICAL<br>±50 PPM MAXIMUM  |
| FREQUENCY STABILITY OVER TEMPERATURE RANGE |                | ±50 PPM TYPICAL<br>±100 PPM MAXIMUM |
| OPERATING TEMPERATURE RANGE                |                | -20° C TO +70° C STANDARD           |
|  |                | -40° C TO +85° C EXTENDED           |
| STORAGE TEMPERATURE RANGE                  |                | -55° C TO +125° C                   |
| AGING                                      |                | ±5 PPM PER YEAR MAXIMUM             |
| LOAD CAPACITANCE                           |                | 10 pF TO 32 pF OR SERIES            |
| EQUIVALENT SERIES RESISTANCE (ESR)         |                | SEE TABLE                           |
| DRIVE LEVEL                                |                | 0.1 mW TYPICAL                      |
| CRYSTAL CUT                                |                | AT STRIP                            |



### ● TYPICAL FREQUENCIES AND ESR CHARACTERISTICS

| FREQUENCY (MHz) | ESR MAX (OHM) | MODE | FREQUENCY (MHz) | ESR MAX (OHM) | MODE | FREQUENCY (MHz) | ESR MAX (OHM) | MODE     | FREQUENCY (MHz) | ESR MAX (OHM) | MODE |
|-----------------|---------------|------|-----------------|---------------|------|-----------------|---------------|----------|-----------------|---------------|------|
| 3.579545        | 180           | FUND | 8.064           | 60            | FUND | 14.7456         | 50            | FUND     | 47.92           | 70            | 3OT  |
| 3.6864          | 150           | FUND | 8.192           | 60            | FUND | 16.00           | 40            | FUND     | 48.00           | 70            | 3OT  |
| 4.00            | 130           | FUND | 8.6436          | 60            | FUND | 16.000312       | 40            | FUND     | 50.688          | 70            | 3OT  |
| 4.032           | 130           | FUND | 9.60            | 60            | FUND | 16.384          | 40            | FUND     | 52.416          | 70            | 3OT  |
| 4.096           | 130           | FUND | 9.8304          | 60            | FUND | 19.6608         | 40            | FUND     | 56.448          | 70            | 3OT  |
| 4.194304        | 130           | FUND | 10.00           | 50            | FUND | 20.00           | 40            | FUND     | 60              | 70            | 3OT  |
| 4.433619        | 130           | FUND | 10.24           | 50            | FUND | 24.00           | 40            | FUND     | 70.00           | 70            | 3OT  |
| 4.9152          | 130           | FUND | 10.244          | 50            | FUND | 24.576          | 40/80         | FUND/3OT |                 |               |      |
| 5.0688          | 100           | FUND | 10.245          | 50            | FUND | 27.00           | 40/80         | FUND/3OT |                 |               |      |
| 6.00            | 80            | FUND | 11.00           | 50            | FUND | 28.63636        | 40/80         | FUND/3OT |                 |               |      |
| 6.144           | 80            | FUND | 11.0592         | 50            | FUND | 29.00           | 40/70         | FUND/3OT |                 |               |      |
| 6.176           | 80            | FUND | 11.2896         | 50            | FUND | 32.00           | 40/70         | FUND/3OT |                 |               |      |
| 7.15909         | 70            | FUND | 12.00           | 50            | FUND | 32.768          | 40/70         | FUND/3OT |                 |               |      |
| 7.3728          | 70            | FUND | 12.288          | 50            | FUND | 36.00           | 40/70         | FUND/3OT |                 |               |      |
| 7.680           | 70            | FUND | 12.80           | 50            | FUND | 40.00           | 40/70         | FUND/3OT |                 |               |      |
| 8.00            | 60            | FUND | 14.31818        | 50            | FUND | 40.320          | 40/70         | FUND/3OT |                 |               |      |

OTHER FREQUENCIES ARE AVAILABLE

### ● PART NUMBERING SYSTEM

| HOLDER TYPE |             | FREQUENCY | LOAD CAPACITANCE                         | MODE*                                     |
|-------------|-------------|-----------|--|---|
| AS          | HC-49 SHORT | IN MHz    | 10 TO 32 pF FOR PARALLEL<br>S FOR SERIES | F<br>3OT<br>FUNDAMENTAL<br>THIRD OVERTONE |

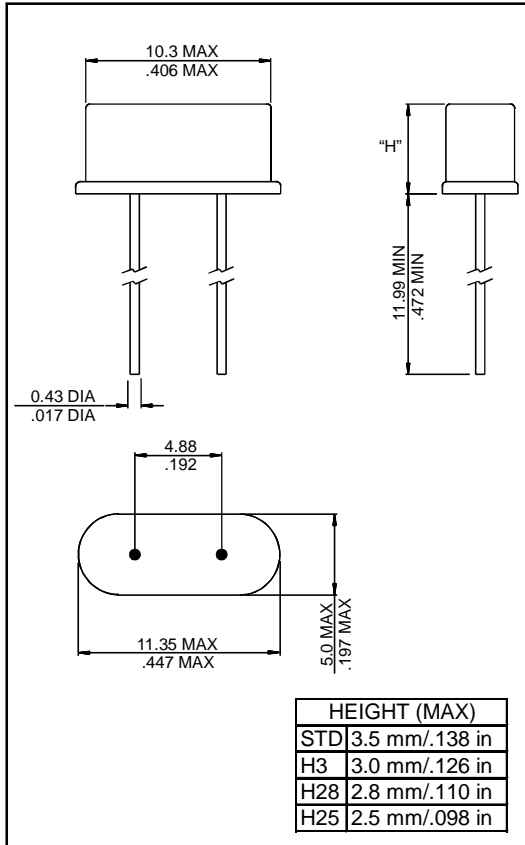
| TOLERANCE/STABILITY**             | EXTENDED TEMPERATURE | MECHANICAL OPTIONS |                          | HEIGHT**                 |  | TAPE AND REEL |
|-----------------------------------|----------------------|--------------------|--------------------------|--------------------------|--|---------------|
| (PPM/PPM)<br>EXAMPLES: 1020, 1010 | EXT                  | 3PIN<br>SP         | THREE PIN BASE<br>SPACER | STD<br>H32<br>H30<br>H25 | 4.6 mm (STANDARD)<br>3.2 mm (CUSTOM)<br>3.0 mm (CUSTOM)<br>2.5 mm (CUSTOM) | TR            |

\* ONLY FOR FREQUENCIES OVER 24.576 MHz \*\* INCLUDED IN THE PART NUMBER ONLY IF DIFFERENT FROM THE STANDARD.

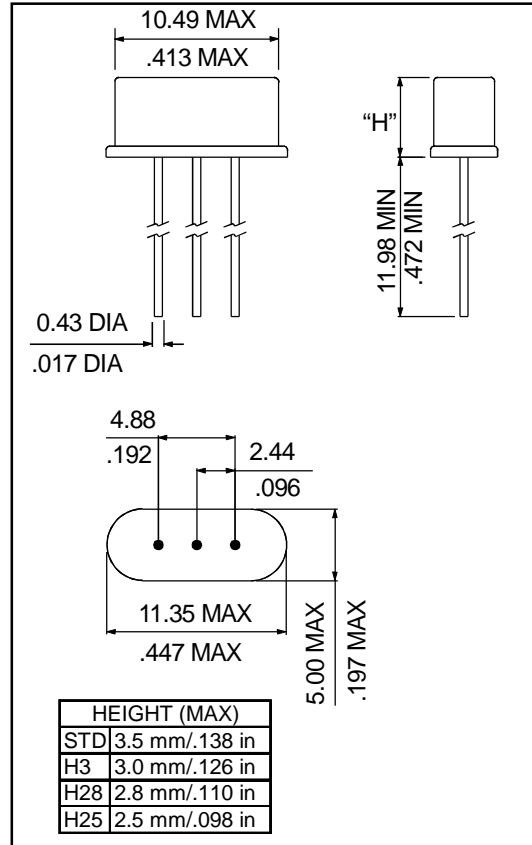
EXAMPLES: AS-10.000-20-F-3PIN-TR, AS-32.000-18-3OT-1010-EXT-SP-H30-TR

● OUTLINE DRAWINGS

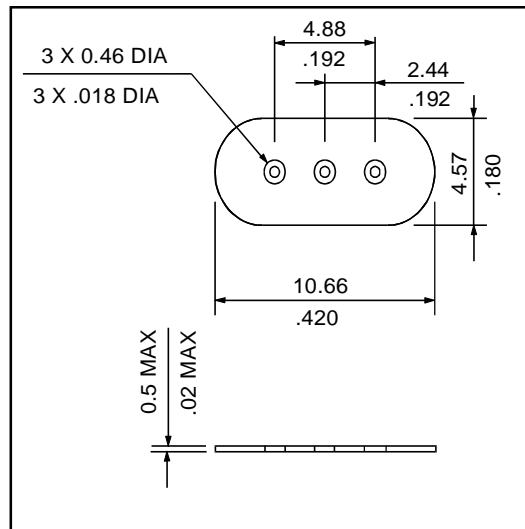
### SERIES AS HC-49/S



TYPE AS (HC-49/S)



TYPE AS-3PIN (HC-49/S CENTER GROUND PIN)  
OPTION: 3-PIN



PLASTIC SPACER  
OPTION: SP