

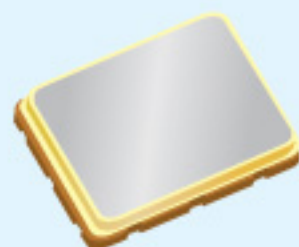
CRYSTAL OSCILLATOR



HUAFENG
CRYSTAL

HCO-53 Series

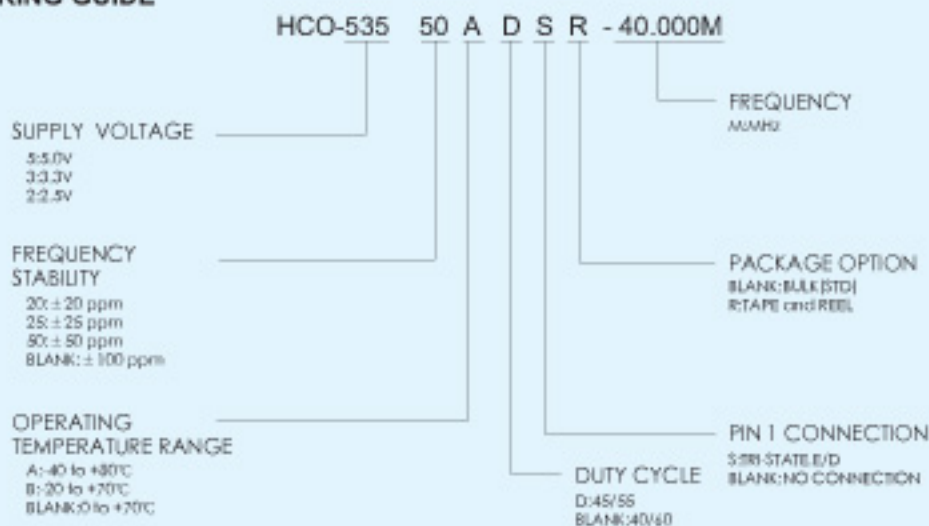
- Ceramic SMD small package
- 2.5V,3.3V,5.0V supply voltage
- HCMOS/TTL output
- Stability to ± 20 ppm
- Tri-state function available
- Reflow soldering is possible
- Available on tape and reel



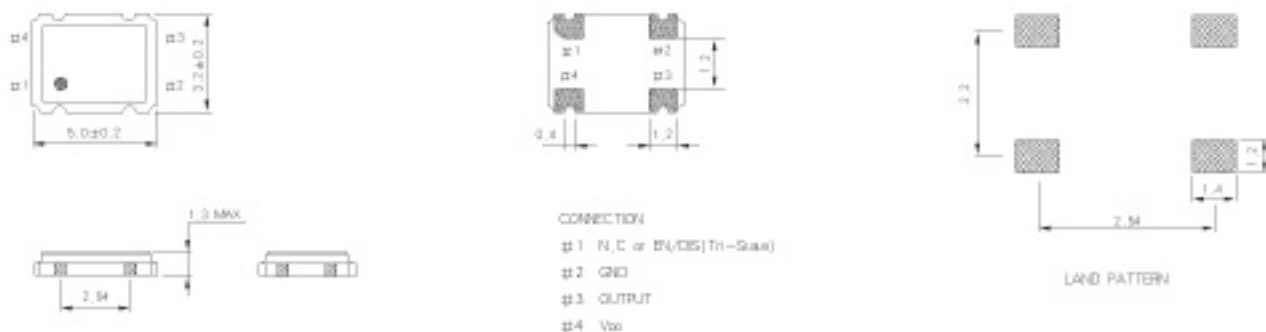
ELECTRICAL SPECIFICATIONS

Frequency Range		1.000 to 44.736MHz
Operating Temperature Range	$\pm 100, \pm 50$ ppm or $\pm 25, \pm 20$ ppm	0 to +70°C or -40 to +85°C 0 to +70°C
Storage Temperature Range		-55 to +125°C
Frequency Tolerance/Stability	Inclusive of Operating Temperature Range, Supply Voltage, and Load	$\pm 100, \pm 50$ ppm or $\pm 25, \pm 20$ ppm Max
Supply Voltage (V _{DD})		5.0V _{DD} $\pm 10\%$ 3.3V _{DD} $\pm 10\%$ 2.5V _{DD} $\pm 10\%$
Input Current	1.000 to 44.736MHz	30mA Max
Output Voltage Logic High(V _{OH})	w/HCMOS Load	90% of V _{DD} Min
Output Voltage Logic Low(V _{OL})	w/HCMOS Load	10% of V _{DD} Max
Rise/Fall Time	1.000 to 34.999MHz 35.000 to 44.736MHz	10nsec Max 5nsec Max
Duty Cycle	at 50% of Waveform w/HCMOS Load or 1.4V _{DD} w/TTL Load	50 \pm 10%(STD) 50 \pm 5%(Optional)
Load Drive Capability		10TTL Load or 15pF HCMOSL Load(STD)
Pin 1 Tri-State Input Voltage	No Connection V _{IH} > 0.7V _{DD} V _{IL} < 0.3V _{DD}	Enables Output Enables Output Disables Output:High Impedance
Aging(at 25°C)		± 3 ppm, ± 5 ppm/year Max
Start-up Time		10msec Max
Period Jitter:Absolute		± 100 psec Max
Period Jitter:One Sigma		± 25 psec Max

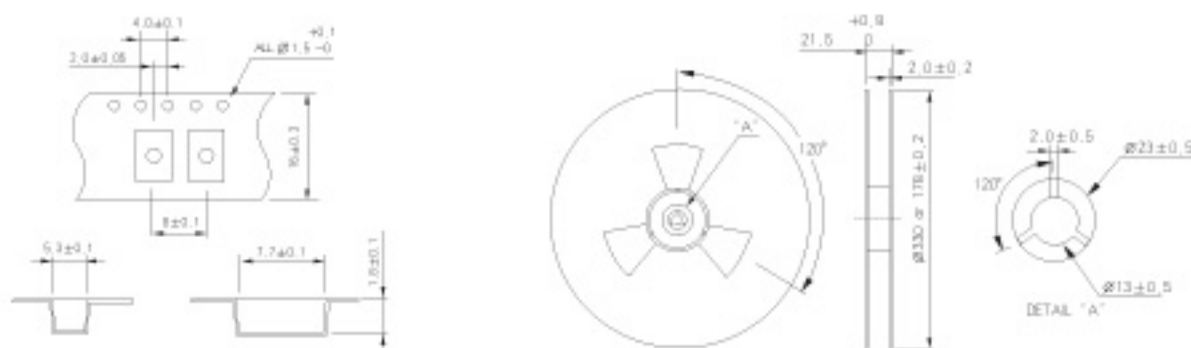
PART NUMBERING GUIDE



MECHANICAL DIMENSIONS



TAPE AND REEL DIMENSION



ENVIRONMENTAL / MECHANICAL SPECIFICATIONS

PARAMETER	SPECIFICATIONS
Seal Integrity	Bubble test in Perfluorocarbon at +125°C ± 5°C for 60 seconds minimum.
Solderability	Sn63 Solder dip at +230°C ± 5°C for 5 seconds/95% coverage.
Marking Permanency	10 Strokes with brush after 1 minute soak in solvent, 3 times.
Shock	Random drop on hard wooden plate 3 times from a height of 50cm.
Thermal Shock	10 Cycles from -55°C to 125°C