

ACT9301

The ACT9301 family is a miniature SMD clock oscillator in a ceramic package with a seam welded metal lid. The metal lid is grounded via the package to assist with EMI emission control. This 3.2x2.5mm packaged device is available in frequencies from 1.5 to 125 MHz. Taped and reeled packaging and loose quantities are available for purchase, to suit high and low volume requirements. The device is offered in a variety of voltages between 1.8 and 5V for a CMOS Output and 5V for a TTL output..



Specification

| Parameter | Symbol | Specification | Condition |
|---------------------------|--------------------------------|--|------------------------------------|
| Frequency Range | f_0 | 1.5 ~125MHz | Please specify |
| Frequency stability | $\Delta f/f_1$ | +/-50ppm over -40 ~ +85°C ** | Others available please specify |
| | | +/-25ppm over -20 ~ +70°C ** | |
| | | +/-20ppm over -10 ~ +70°C ** | |
| Storage Temperature Range | Tstg | -55 ~ 125°C | |
| Output | | CMOS | TTL |
| Supply Voltage | Vdd | 5.0V 3.3V 2.8V 2.5V 1.8V | 5.0V |
| Output Load | N/C _L | 15(*50)pF 15(*30)pF 15(*30)pF 15(*30)pF 15pF | 10TTL |
| Output Level '0' | V _{OL} | 0.1 Vdd max | |
| Output Level '1' | V _{OH} | 0.9 Vdd min | |
| Supply Current max | I _{op} | 45mA 30mA 30mA 30mA 20mA 45mA | |
| Duty Cycle | T _w /t | 40/60% Standard (45/55% Available) | |
| Enable Voltage High | V _{IH} | 70% Vdd min | |
| Enable Voltage Low | V _{IL} | 10% Vdd max | |
| Standby Current | I _{ST} | 10µA max | |
| Output Disable Time | T _{DIS} | 100ns max | |
| Output Enable Time | T _{EN} | 100ns max | |
| Rise and Fall Time | T _r /T _f | 10ns max | |
| Start-up Time | T _{OSC} | 10ms max | |
| Aging | $\Delta f/f_0$ | +/-3.0ppm max | |
| Phase Jitter | | 10ps max | |
| Re-flow condition | | 260°C 10 sec max | |

** Inclusive of 25°C Tolerance, Operating Temperature, Vdd, load, first year aging, shock and vibration

* Dependant on frequency f_0 .

Lead Free -RoHS comp.

Pad surface Material Au

Please note that all parameters can not necessarily be specified in the same device.

Customer to specify: Frequency, Stability, Operating temperature range, Output and supply voltage

In line with our ongoing policy of product evolution the above specification may be subject to change without notice.

ISO9001:2000 Registered

For quotations or further information please contact us at:

3 The Business Centre: Molly Millars Lane, Wokingham, Berkshire, RG41 2EY, UK

<http://www.actcrystals.com>

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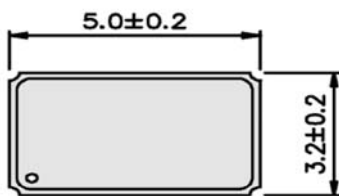
Date 25/08/2005

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Standard frequencies (MHz)

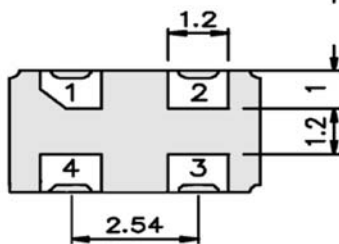
| | | | | | |
|--------|--------|---------|---------|--------|--------|
| 1.8432 | 12.0 | 20.0 | 24.5454 | 28.636 | 48.0 |
| 3.6864 | 13.5 | 22.0 | 24.576 | 36.0 | 50.0 |
| 4.069 | 14.318 | 22.5792 | 25 | 40.0 | 80.0 |
| 7.3728 | 16.0 | 24.0 | 27 | 44.0 | 106.25 |

Dimensions (mm)

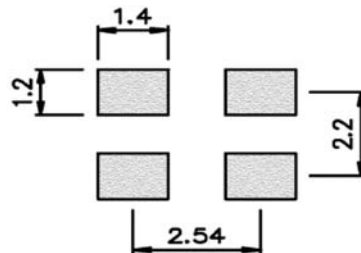


Pin Functions:

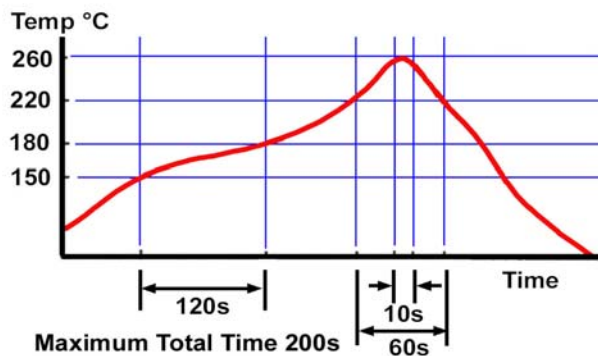
1. STAND BY
2. GND
3. OUT PUT
4. VDD



Recommend Land Pattern



Recommended Reflow Profile



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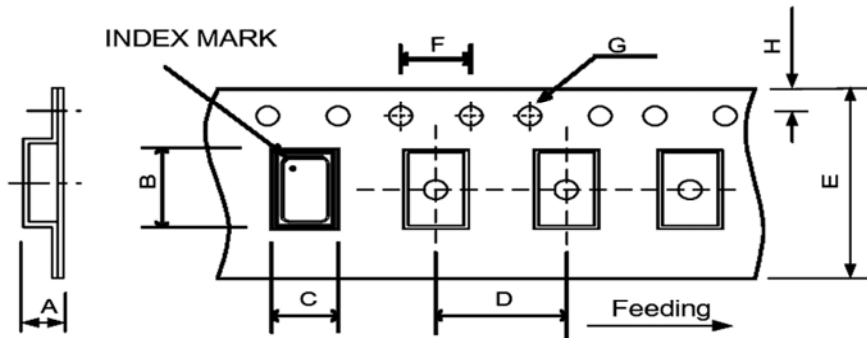
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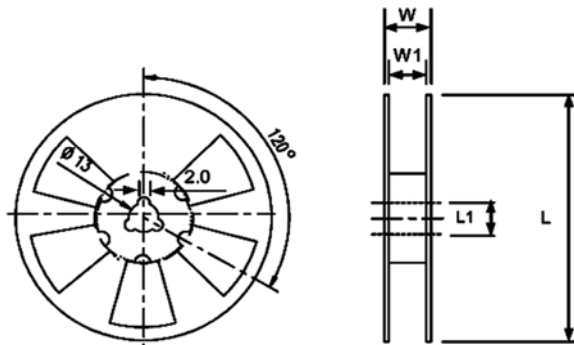
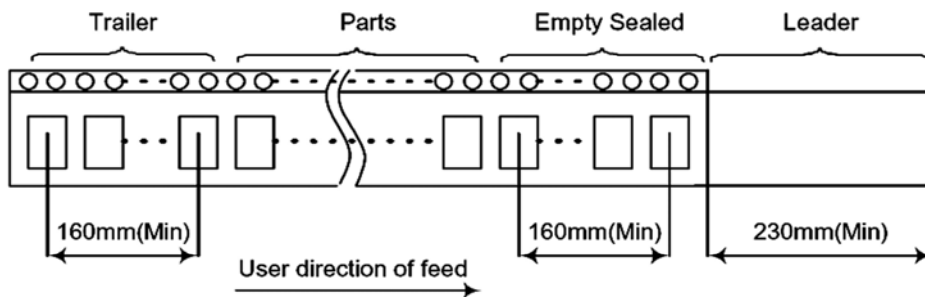
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Tape and Reel Dimensions



| DIMENSIONS | A | B | C | D | E | F | G | H | (UNIT : mm) |
|------------|------|------|------|------|-------|------|------|------|-------------|
| | 1.40 | 5.40 | 3.60 | 8.00 | 12.00 | 4.00 | 1.55 | 1.75 | |



| DIMENSIONS | L | L1 | W | W1 | pcs / Reel (UNIT : mm) |
|------------|-----|----|------|----|--|
| | 180 | 13 | 16.5 | 12 | Standard Reel Quantity is 1,000 pcs per reel |

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