

## ACT1100 / ACT1700 Standard Clock Oscillators

Compatible with Eu Directive  
2002/EC - RoHS

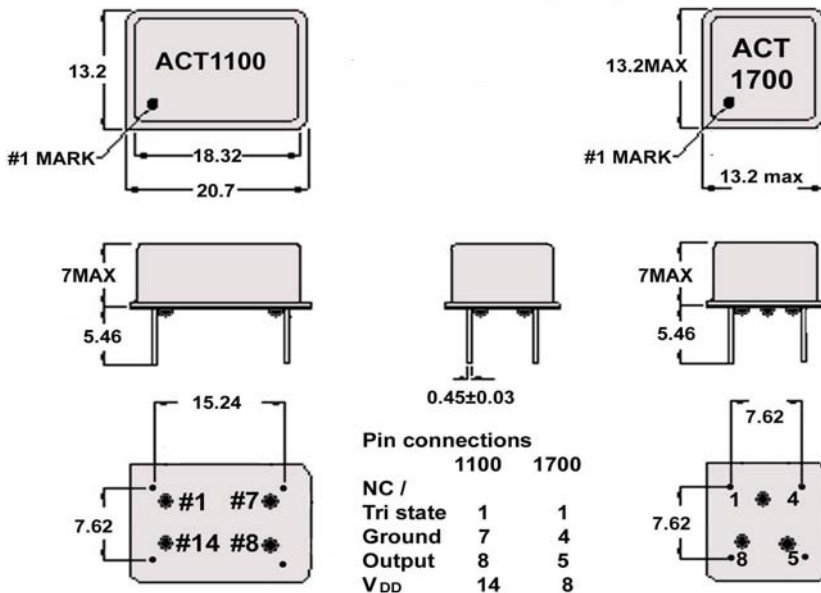
The ACT1100 is a full size through hole oscillator. The ACT1700 is a half size through hole oscillator. The popularity of these families still remains even after the advent of smaller surface mount devices. With wide frequency and operating temperature ranges, these series offer low cost & good reliability for ATM, Networking, Microprocessor and Consumer applications. An option with a supply voltage of 2.5V is available please contact our sales desk for details. For frequencies < 500KHz, >125MHz & ± 10ppm stability please refer to the ACT1100HS/1700HS data.



### Specification

Parameter	Symbol	Specification		Condition
Frequency Range	fo	500KHz ~ 125.0MHz		Please Specify
Frequency Stability	Δf/fo	±25ppm, ±50ppm and ±100ppm		Please Specify
Temp Operating Range	Topr	0 ~ +70°, -10 ~ +70°C		Please Specify
Temp Storage Range	Tstg	-40~85°C		
Supply Voltage	VDD	3.3Vdc ±10%	5.0Vdc ±10%	Please Specify
Supply Current	Iop	15mA max 25mA max	25mA max 35mA max	0.5 - 27MHz 27 - 125MHz
Duty Cycle	TW/t	40/60%, 45/55% TTL 40/60%, 45/55% HCMOS		Measured at +1.4Volts Measured at 50% VDD
Output Level '0'	VOL	TTL 0.4V max, HCMOS .33V max TTL 0.4V max, HCMOS 0.5V max		VDD = 3.3V VDD = 5.0V
Output Level '1'	VOH	TTL 2.4V min, HCMOS 2.97V min VDD TTL 2.4V min, HCMOS 4.5V min VDD		VDD = 3.3V VDD = 5.0V
Output Logic		TTL / HCMOS		
Output Load		TTL 10 Gates CMOS 15 pF		
Rise & Fall Time	tr/ff	TTL 10nSec max, 3nSec typical Measured between 0.4V ~ 2.4V (RL = 390Ω ; CL = 15pF) CMOS 10nSec max, 3nSec typical Measured between 10%~ 90% VDD (CL = 15pF)		
Start-up Time		4mSec max,		
Option on Pin 1		Tri State or No Connection		Please Specify
Aging		±5ppm / year max		@25°C

### Dimensions (mm)



Plating Material on leads  
SnAgCu

Soldering conditions  
please refer to page 3

ACT1100 ( 'V' SERIES )  
 ACT1700 ( 'CL' SERIES )

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

Customer to specify : Frequency, Operating Temperature Range, Frequency Stability, Supply Voltage, Duty Cycle, Output Enable (Tristate) If required  
 In line with our ongoing policy of product evolution and improvement, the above specification may be subject to change without notice

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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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### Reliability tests

Test	Test Method	Measurement Requirements
Leak	Helium bomb: Pressure 200kpa Time 70 min pressure release 5 min measure within 30min	$\leq 4 \times 10^{-9} \text{pa.m}^3/\text{s}$
Drop	750mm height. 3 drops. Onto wood.	Specification as per page 1 must be met.
Shock	Peak acceleration 981m/s <sup>2</sup> Pulse duration 6ms Each of X, Y and Z axis. 3 shocks each axis	
Vibration	10 to 55Hz and return to 10Hz amplitude 1.5mm sweep time 1min. 2 hrs each of X, Y and Z axis. Total test time 6 hrs	
Resistance to Soldering Heat	As per profile fig.1 below and/or soldering iron applied for 5s max tip temperature 350±10°C	
Aging	85±3°C 30 days measurements after at least 1 hr at atmospheric conditions.	
High Temperature Storage	105±3°C 16 hrs measurements after at least 1 hr at atmospheric conditions	
Low Temperature Storage	-55±3°C 2hrs measurements after at least 1 hr at atmospheric conditions	
Thermal Cycling	100cycles to the temperature profile fig 2 below. Measurements after at least 1 hr at atmospheric conditions	
Damp Heat Constant	Temperature 40±2°C RH 90-95% for 56 days. Measurements after at 1 hr at atmospheric conditions	
Solderability	255±5°C for 10±0.5s using Rosin resin methyl alcohol flux Solvent (1:4) dipped to a nominal depth of 0.5mm.	

Fig 1 Temperature cycling

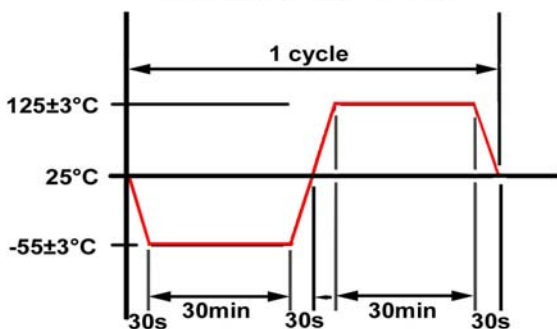
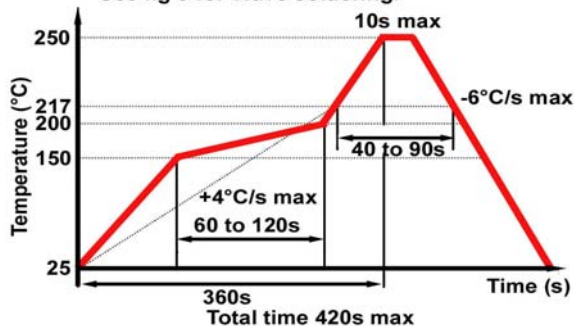


Fig. 2 Soldering Heat Profile For Reliability Testing  
See fig 3 for Wave soldering.



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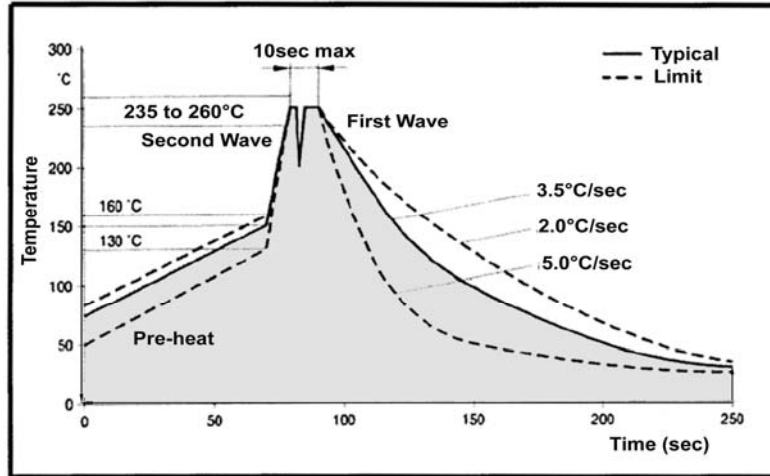
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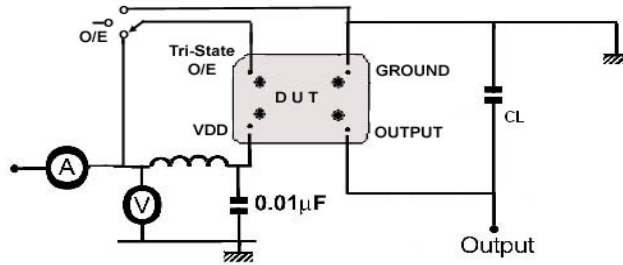
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**Fig. 3 Recommended Wave Soldering Profile**



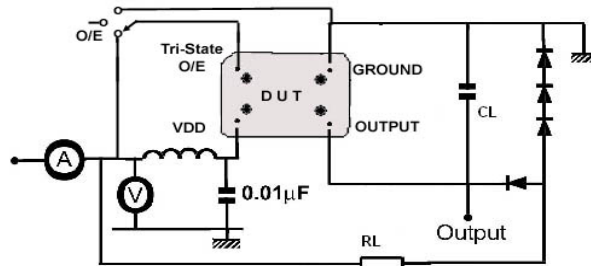
**Application circuits**

**CMOS Test Circuit**



Output to oscilloscope and/or frequency counter

**TTL Test Circuit**



Output to oscilloscope and/or frequency counter

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