

ACT HC49/US SMXE-A and SMXEG-A

Compatible with Eu Directive
2002/EC - RoHS



The ACT HC49/US SMXE-A is a range of low profile, SMD crystals featuring good reliability and aging, with a wide available range of frequencies and frequency tolerances. The device has an industry standard footprint compatible with standard 4 pad plastic encapsulate devices. This product is available non-ground (SMXE-A) or grounded (SMXEG-A). Applications include Computers, Modems, Networking, Telecomms, Industrial, Automotive, Consumer Electronics, Instrumentation and many more.

Specification

Parameter	Symbol	Specification	Condition
Frequency Range	fo	3.579545 ~ 100.00MHz	Fundamental & 3rd O/T
Frequency Tol. (@ 25°C)	Δf/fo	±10 ~ ±100ppm	Please specify
Stability over Temp Range	Tc	See table 2	Please specify
Temp Operating Range	Topr	-10~+60°C, -20~+70°C & -40~+85°C	Please specify
Temp Storage Range	Tstg	-40 ~ +85°C	
Equivalent Series Resistance	ESR	See table 1	
Shunt Capacitance	CO	7pFmax	
Load Capacitance	CL	5 ~ 55pF & Series Resonance	Please specify
Drive Level	DL max	100μW typical	Custom options available - enquire
Drive Level Dependency	DLD	Δ Frequency & ESR	0.01, 0.1, 1, 10, 50, 100 μW steps
Insulation Resistance	IR	500MΩ	min at 100Vdc
Aging	Fa	±3ppm per year @25°C	@ 25°C

Table 1

Frequency (MHz)	ESR (Ω)	Mode	Frequency (MHz)	ESR (Ω)	Mode
3.579545 ~ 5.199	150	AT Fundamental	24.000 ~ 40.320	30	BT Fundamental
6.000 ~ 7.999	60	AT Fundamental	24.000 ~ 29.999	100	3 rd Overtone
8.000 ~ 15.999	50	AT Fundamental	30.000 ~ 49.999	80	3 rd Overtone
16.000 ~ 30.000	90	AT Fundamental	50.000 ~ 100.000	60	3 rd Overtone

DIMENSIONS

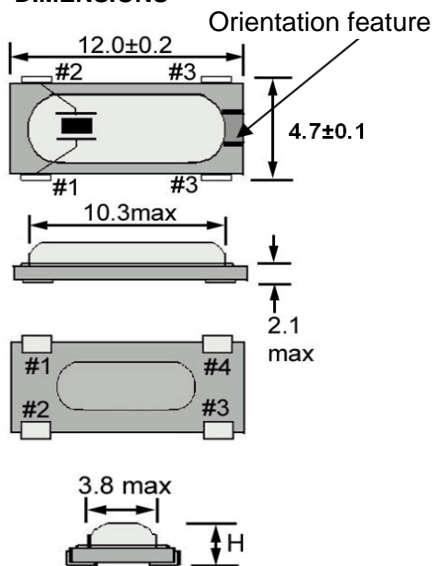


Table 2 Frequency Stabilities VS Operating Temperatures

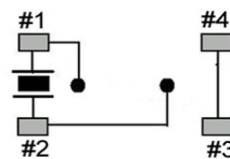
Stability Temp	±10ppm	±15ppm	±20ppm	±25ppm	±30ppm	±50ppm
-10 ~ + 60°C	★	★	★	★	★	★
-20 ~ + 70°C	★	★	★	★	★	★
-40 ~ + 85°C		★	★	★	★	★

Lead Finish Sn/Ag/Cu

Height(H) for **NON GROUNDED**
ACT **SMXE-A**

GH Series	4.0mm max
GK Series	4.3mm max
GM Series (std)	5.6 mm max

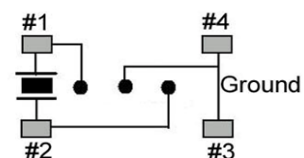
Circuit Diagram for Non Grounded



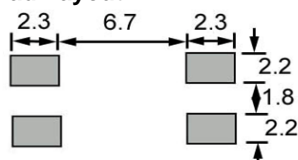
Height(H) for **GROUNDED**
ACT **SMXEG-A**

GB Series	4.0mm max
GC Series	4.3mm max
GE Series (std)	5.6 mm max

Circuit Diagram for Grounded



Pad Layout



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

Customer to specify : Frequency, Tolerance, Operating Temperature, Temperature Stability, Load Capacitance

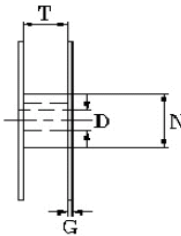
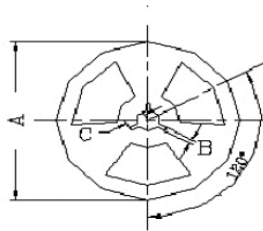
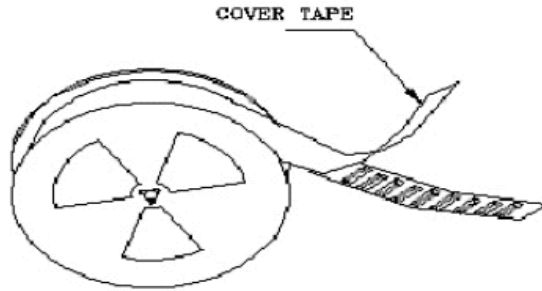
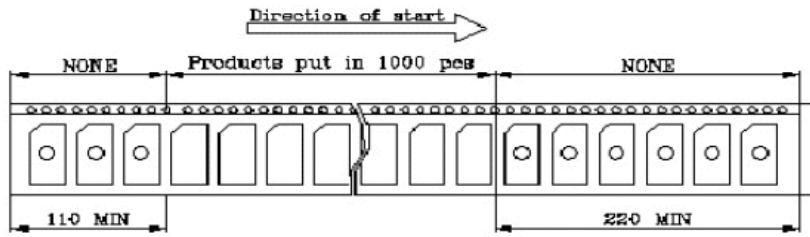
In line with our ongoing policy of product evolution and improvement, the above specification may be subject to change without notice

ISO9001:2000 Registered

For quotations or further information please contact us at
 3 The Business Centre, Molly Millars Lane, Wokingham, Berkshire, RG41 2EY, U
<http://www.actcrystals.com>

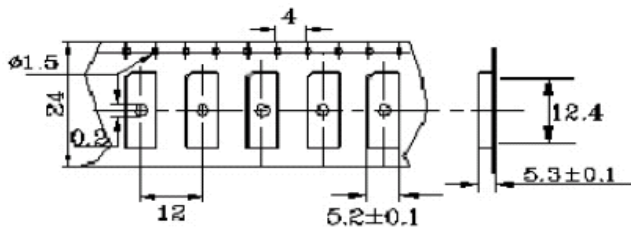
Issue : 3 SCA
 Date : 14/11/06

**ACT HC49/US SMXE-A and SMXEG-A TAPE DIMENSIONS (mm)
 STANDARD REEL QUANTITY 1,000PCS**

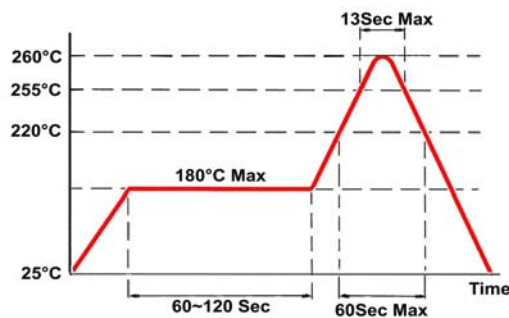


EACH ITEM SIZE

- A=328 ± 2
- B=2.2 ± 0.2
- C=10.5 ± 0.5
- D=13.2 ± 0.2
- T=24.5 ± 0.5
- N=100 ± 0.5
- G=2.6 ± 0.3



Maximum Reflow Profile



Note: No more than 2 re-flow cycles

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