

**ACT HC49/US SMXE and SMXEG**  
**ACT HC49SMXE-LH and SMXEG-LH**

The ACT HC49SMXE/EG 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) or grounded (SMXEG), a low height option (4.0mm) is also available (SMXE-LH and SMXEG-LH) for the higher frequencies.

Applications include Computers, Modems, Networking, Telecomms, Industrial, Automotive, Consumer Electronics, Instrumentation and many more.



**Specification**

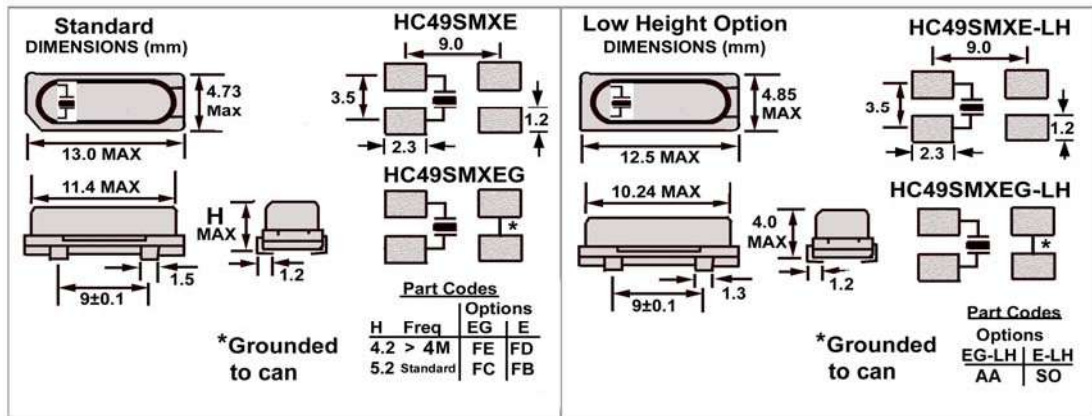
Parameter	Symbol	Unit	Specification		Condition
			Standard	LH option	
Factory Reference			BJ	H2	
Frequency Range	fo	MHz	3.579545~70	8.0~66	Fundamental & 3rd O/T
Frequency Tol. ( @ 25°C )	Δf/fo	ppm	±10 ~ ±100		Please specify
Stability over Temp Range	Tc		See table 2		Please specify
Temp Operating Range	Topr	°C	-10~+60,-20~+70 & -40~+85		Please specify
Temp Storage Range	Tstg	°C	-55~+125   -40 ~ +85		
Equivalent Series Resistance	ESR		See table 1		
Shunt Capacitance	CO	pF	7.0 max		Custom options available - enquire
Load Capacitance	CL	pF	10~32 or Series		Please specify
Drive Level	DL	μW	100 typical 500 max		
Drive Level Dependency	DLD		Δ Frequency & ESR		0.01, 0.1, 1, 10, 50, 100 μW steps
Insulation Resistance	IR	MΩ	500 min		at 100Vdc
Aging	Fa	ppm	±5.0		per year @ 25°C

**Table 2 Available Stabilities**

ppm \ °C	-10 ~ +60	-20 ~ +70	-40 ~ +85
±10	✓	✓	Enquire
±15	✓	✓	✓
±20	✓	✓	✓
±25	✓	✓	✓
±30	✓	✓	✓
±50	✓	✓	✓

**Table 1 ESR**

STANDARD				LOW HEIGHT (-LH)					
Factory Ref BJ		ESR Max Ω	Fundamental	3rd O/T	Factory Ref H2		ESR Max Ω	Fundamental	3rd O/T
Frequency MHz	AT				Frequency MHz	BT			
3.579545~4	180				8.0 ~8.999	80			
4.001~4.999	120				9.0 ~9.999	60			
5~6.999	100				10~12.999	50			
7~14.999	50				13~30	40			
15~23.999	40				30~66	80			
24~33	30				27~40	40			
30~40	40								
30~70	100								



Note: some device specifications may contain high melting point tin lead solder(>80% Pb) in the internal construction.

The use of this solder is excluded from the RoHS legislation

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, Height Option

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:

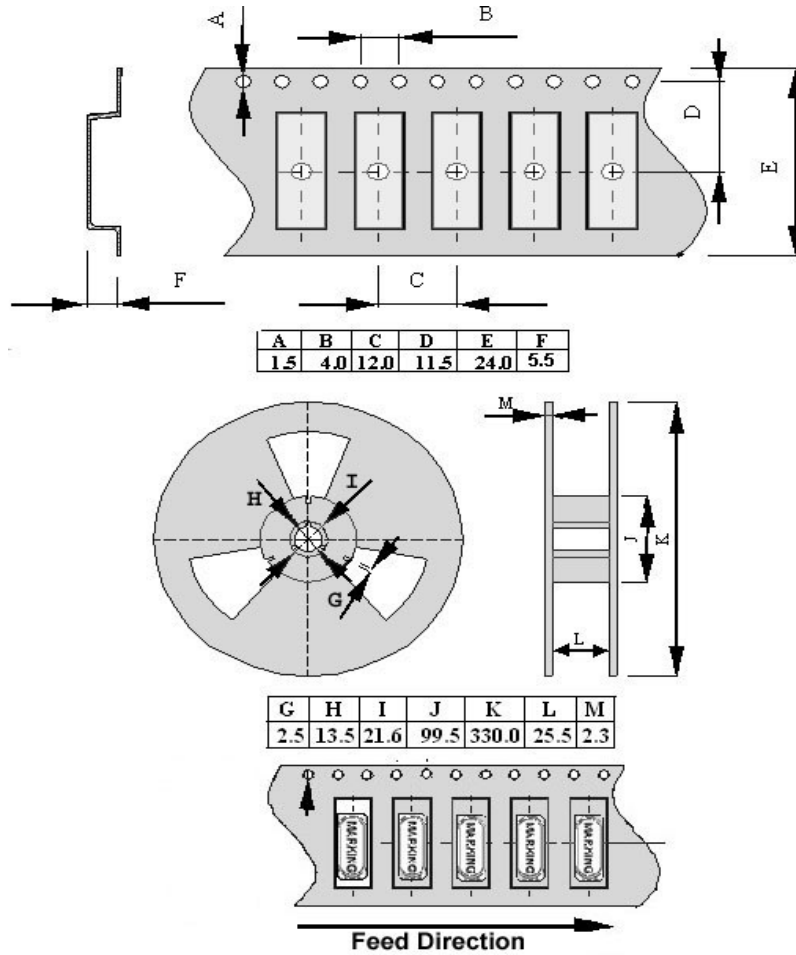
3 The Business Centre, Molly Millars Lane, Wokingham, Berkshire, RG41 2EY, UK

<http://www.actcrystals.com>

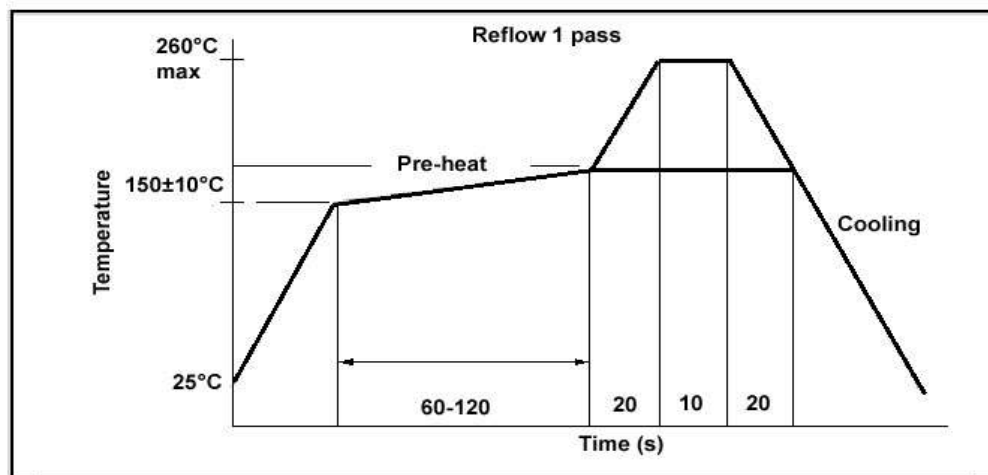
Issue :6 BJ / H2

Date : 14/12/10

STANDARD REEL QUANTITY 1,000PCS



### Maximum Reflow Profile



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**ISO9001:2000 Registered - Registration number 6830/2**

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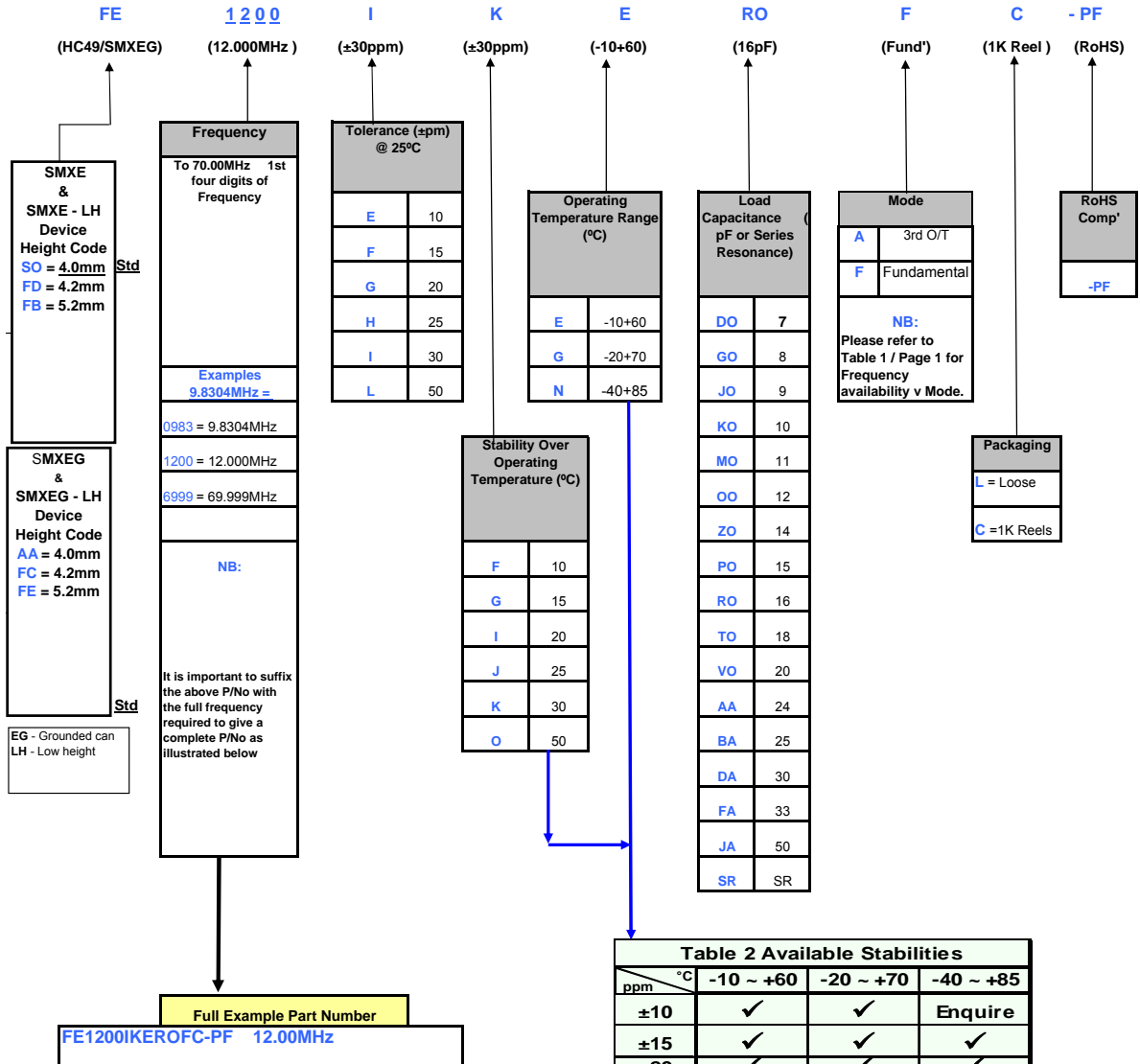
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SERIES : ACT HC49/SMXE / EG /E-LH / EG-LH Part numbering codes SO/FD/FB/BX/BK/AA/FC/FE

Example :



**NOTES :**

- 1) Tighter Tolerances and Stabilities, other Operating Temperature Ranges and CL's may be available as
- 2) ACT are always happy to consider truly custom specification parts which may require non-standard specification parameters, specific testing, customer requested AQL requirements, non standard packaging or taping and reeling and custom marking. Such devices would normally be allocated a custom specification part number which is wholly customer specific.
- 3) A guide to availability of tighter stabilities appears above : Table 2
- 4) Frequencies below 10.000MHz are prefixed with a "0" (eg: 0800MHz = 8MHz. Whereas 10.000MHz is 1000)

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