***Laptech Precision manufacture a very wide range of precision SC cut crystals both as standard units and to custom requirements. These resonators are used in the production of OCXO with extreme tolerances and produce some of the finest oven controlled oscillator specifications.***

***Manufactured from (5 ~ 150)MHz, 3rd or 5th overtone and supplied either as finished blanks or sealed in a variety of enclosures.***

*SC cut resonators have many advantages compared with traditional AT cut designs including significantly lower short and long term ageing, higher temperature inflexion points and greatly improved phase noise as a result of an increase in Q, reduced G sensitivity and less vulnerability to shock, vibration, mechanical and thermal stress.*

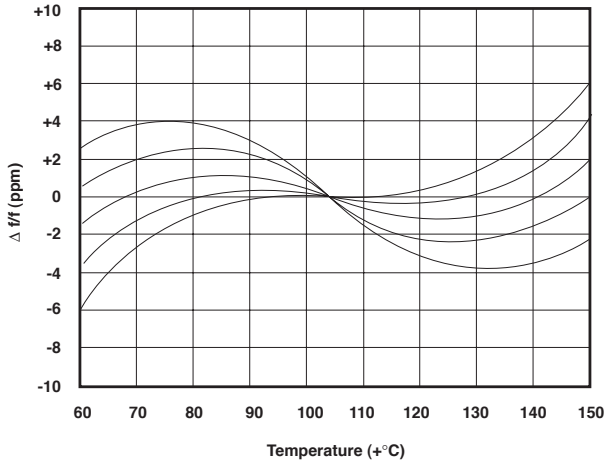
*Processed from Y bar mono-crystalline quartz material the SC cut is a combination of dual angle co-ordinates: a phi angle of 22.5° and a theta angle of -34.3°C. Variations in these coordinates provide subtle variations to the resonator performance including the production of a high temperature modified SC cut with an inflexion point at +103°C.*

***Available enclosures include leaded HC-43/U, low profile HC35/U and HC-37/U, glass HC-26/U and the miniature vacuum seal braze smd SMP8.***

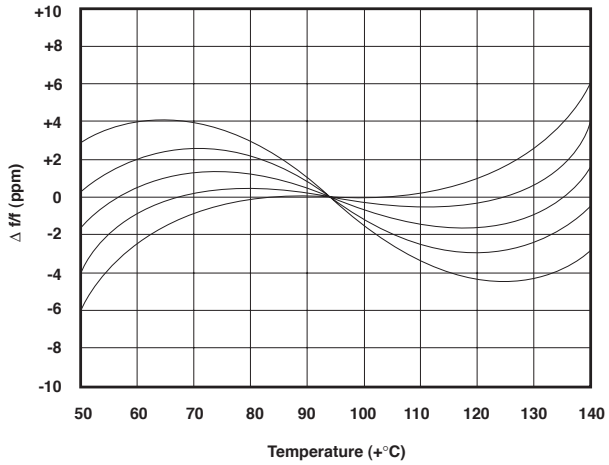
## Specification data:

| | |
|---|---|
| ***Environment*** | *high vacuum* |
| ***Application*** | *OCXO* |
| ***Quartz orientation*** | *SC cut or modified SC cut* |
| ***Frequency range*** | *(5 ~ 110)MHz 3rd overtone* |
| | *(15 ~ 150)MHz 5th overtone* |
| ***Calibration tolerance*** | *from ±1.5ppm* |
| ***Load*** | *anti resonant,* |
| *typical(15 ~ 25)pF* | |
| | *custom specified* |
| ***Shunt capacitance $C_o$*** | *3.5pF nominal* |
| ***Suggested drive level*** | *(5 ~ 150)µW* |
| ***Q factor*** | *up to 1000K* |
| ***Ageing*** | *from $2x10^{-10}$ per day* |
| ***Insulation resistance*** | *500Meg. Ω min.* |
| | *at 100Vd.c.* |

## Typical SC cut temperature characteristics:




***Modified SC - high temperature turnover point***




***SC - standard temperature turnover point***

*© 2011 Laptech Precision Inc., 230 Simpson Avenue, Bowmanville, Ontario, Canada, L1C 2J3*
*Telephone: +1 905 623 4101, Fax: +1 905 623 3886*
*e-mail: sales@laptech.com website: www.laptech.com*

*ISO9001: 2008*
*A1511CAN*