

SMD 3.2x1.5mm Tuning Fork



Model: FX135

RoHS Compliant / Pb Free

Rev. 2/2/2006 Preliminary

Page 1 of 2

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FEATURES

- Ultra Low Profile
- 0.9mm Height
- Long Term Stability
- Tape and Reel (3,000 pcs.STD)

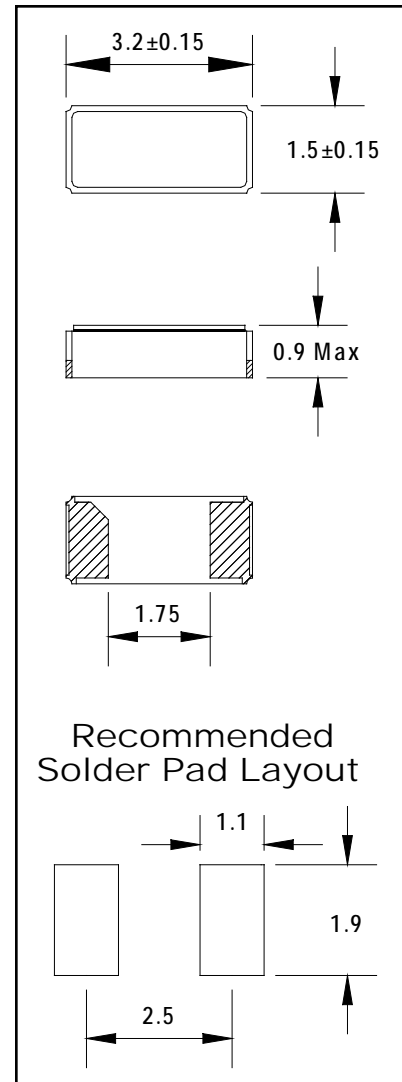
• PART NUMBER [Learn More](#) - Internet Required

Part Number	Model Number	Frequency Stability	Operating Temperature	Frequency
739-Frequency-xxxxx	FX135	-0.045PPM/($\Delta^{\circ}\text{C}$) ²	-40 $^{\circ}\text{C}$ ~ +85 $^{\circ}\text{C}$	32.768 kHz

• STANDARD SPECIFICATIONS

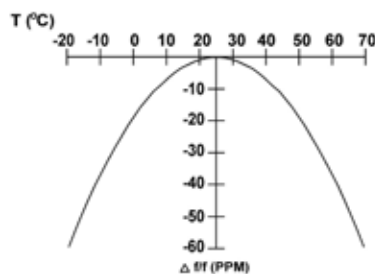
PARAMETERS	MAX (unless otherwise noted)
Frequency	32.768 kHz
Frequency Tolerance @ 25 $^{\circ}\text{C}$	± 20 PPM
Frequency Stability Temperature Coefficient	-0.045 PPM / ($\Delta^{\circ}\text{C}$) ²
Temperature Range	
Turnover (To)	+20 $^{\circ}\text{C}$ ~ +30 $^{\circ}\text{C}$
Operating (TOPR)	-40 $^{\circ}\text{C}$ ~ +85 $^{\circ}\text{C}$
Storage (TSTG)	-55 $^{\circ}\text{C}$ ~ +125 $^{\circ}\text{C}$
Equivalent Series Resistance (Rs)	70 k Ω
Load Capacitance (CL)	12.5 pF(Standard) (Fox P/N: FX135A-327) 9pF (Optional) (Fox P/N: FX135B-327)
Insulation Resistance @ 100VDC	500M Ω Min
Drive Level	1.0uW 0.1uW Typ
Aging per year	± 3 PPM
Maximum Soldering Temp / Time	260 $^{\circ}\text{C}$ / 10 Seconds
Moisture Sensitivity Level (MSL)	1
Termination Finish	Ni/Au

All specifications subject to change without notice.



All dimensions are in millimeters.

Parabolic Temperature Curve

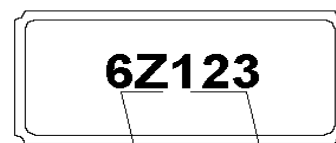


To determine frequency stability, use parabolic curvature (K).
For example: What is stability at 45 $^{\circ}\text{C}$?

- 1) Change in T ($^{\circ}\text{C}$) = 45-25 = 20 $^{\circ}\text{C}$
- 2) Change in frequency = $-0.04 \text{ PPM} \cdot (\Delta \text{C})^2$
 $= -0.04 \text{ PPM} \cdot (20)^2$
 $= -16.0 \text{ PPM}$

FX135 Marking Identification

FX135A (Standard)
FX135B (Optional) Marked the same



Date Code: Y/M
6=2006, Z=Dec. Track Code

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Page 2 of 2

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• TAPE SPECIFICATIONS (millimeters)

MODEL	A	B	C	D	E	F	STD Reel QTY
FX135	∅1.5	4.0	4.0	3.5	8.0	0.85	3,000

• REEL SPECIFICATIONS (millimeters)

MODEL	G	H	I	J	K	L	M
FX135	2.0	∅13	∅21	∅60	∅180	9	1.6

