



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



THIN SMD LOW FREQUENCY CRYSTAL UNIT

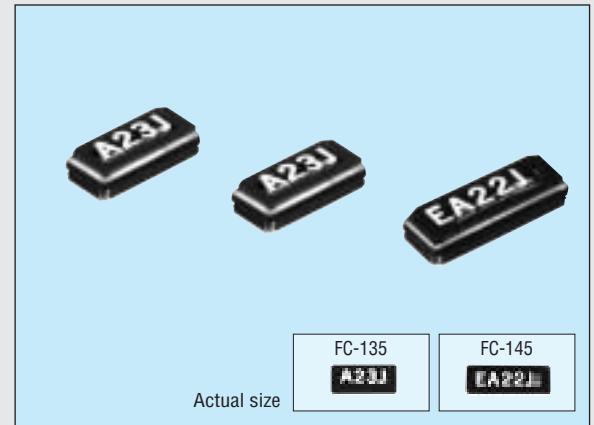
FC-135/145

Product number (please refer to page 1)

Q13FC135xx xx x 00

Q13FC145xx xx x 00

- High-density mounting-type SMD of 0.9 mm Max. thickness.
- Small packaging area and light weight.
- Excellent environmental capability.
- Most suitable for small communications devices.

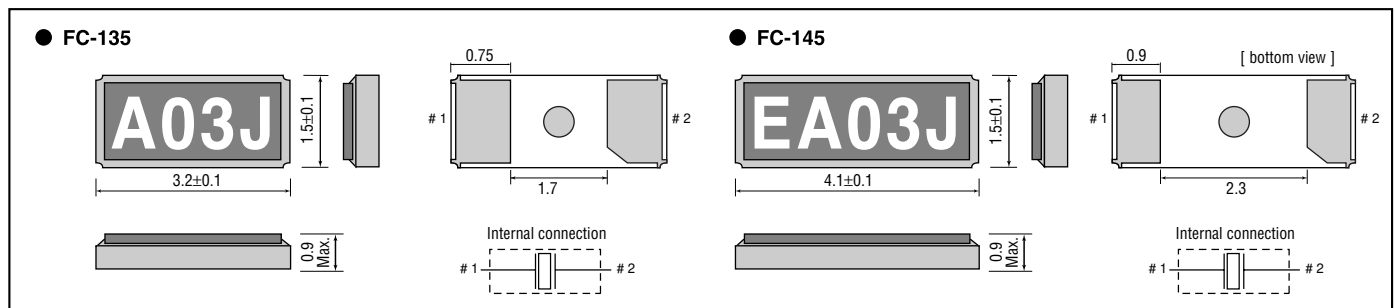


Specifications (characteristics)

Item	Symbol	Specifications	Remarks	
Nominal frequency	f	32.768 kHz	please contact us for inquiries about the available frequency	
Temperature range	Storage temperature	T _{STG}	-55 °C to +125 °C	Stored as bare product after unpacking
	Operating temperature	T _{OPR}	-40 °C to +85 °C	
Maximum drive level	GL	0.5 μW Max.		
Recommended drive level	DL	0.1 μW		
Frequency tolerance(standard)	Δf/f	±20 x 10 ⁻⁶	T _a =+25 °C, DL=0.1 μW Please ask tighter tolerance	
Peak temperature(frequency)	θT	+25 °C ±5 °C		
Temperature coefficient(frequency)	a	-0.04 x 10 ⁻⁶ /°C ² Max.		
Load capacitance	C _L	9.0 pF, 12.5 pF	Please specify	
Series resistance	R ₁	70 kΩ Max.		
Motional capacitance	C ₁	1.7 fF Typ.		
Shunt capacitance	C ₀	1.3 pF Typ.		
Insulation resistance	IR	500 MΩ Min.		
Aging	fa	±3 x 10 ⁻⁶ /year Max.	T _a =+25 °C ±3 °C, first year	
Shock resistance	S.R.	±8 x 10 ⁻⁶ Max.	100 g dummy (Seiko Epson Standard) drop from 1500 mm height on to the concrete 3 directions 10 times.	

External dimensions

(Unit: mm)



Recommended soldering pattern

(Unit: mm)

