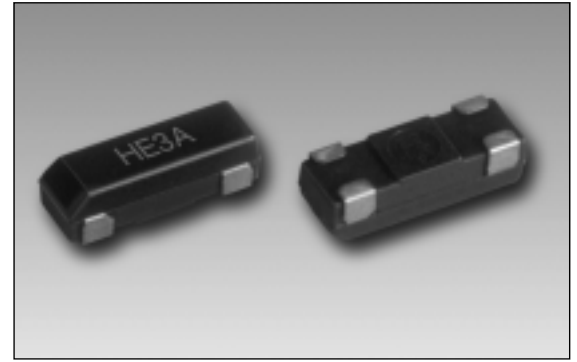


The HE3A is a cylinder type crystal encapsulated in a rugged thermoplastic package; able to withstand SMD solder re-flow techniques and commonly used for integrated circuits. HEC also offers the HH3A variation package, which is the standard HC49US crystal with a compatible footprint to this plastic molded crystal. Both single and dual end pin connections are available, and now you can use this variation with the broad HC49US specification (p. 6)



FEATURES:

- Industry standard footprint
- Optional HC49US package variation

ELECTRICAL SPECIFICATIONS / PART NUMBERING GUIDE

PARAMETERS	CONDITIONS	MINIMUM	STANDARD	MAXIMUM	UNIT
FREQUENCY RANGE	AT Fundamental	3.5795		25.000	MHz
	AT 3rd Overtone	30.000		60.000	
	BT Fundamental	25.100		45.000	
FREQUENCY TOLERANCE	@ 25°C	-50*		+50*	PPM
FREQUENCY STABILITY, ref @ 25°C	AT Fundamental	-50		+50	PPM
	AT 3rd Overtone	-50		+50	
	BT Fundamental	-100		+100	
OPERATING TEMPERATURE		-10°C to +60°C / -40°C to +85°C optional*			°C
STORAGE TEMPERATURE		-30°C to +85°C			°C
SHUNT CAPACITANCE (C ₀)				7.0	pF
LOAD CAPACITANCE (C _L)	Customer specified	10.0	18.0		pF
DRIVE LEVEL	3.57 - 60.00 MHz			0.1	mW
AGING		±5 PPM max. @ 25°C per year			

*Tight tolerances optional - please specify. For **HH3A** specification, please see **HH (HC49US)** specification on page 7.

EQUIVALENT SERIES RESISTANCE (ESR) SPECIFICATIONS

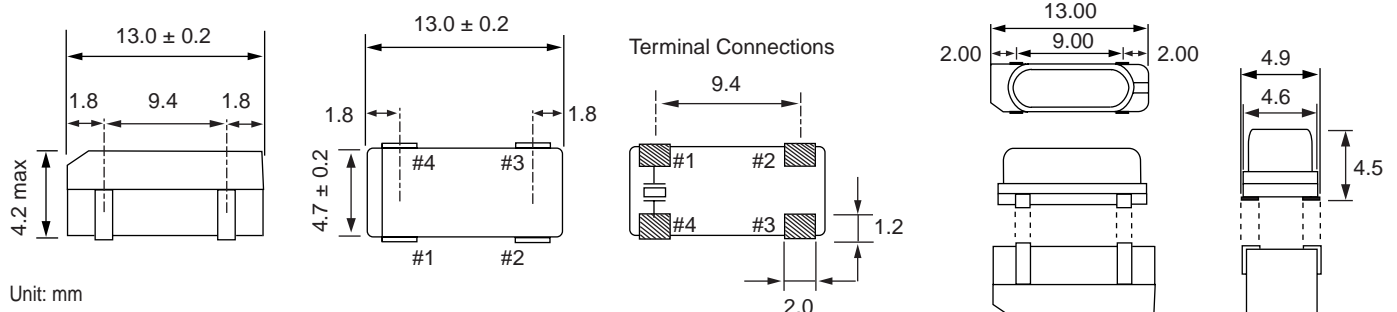
FREQUENCY RANGE (MHz)	OPERATING MODE	ESR (Ω) MAX.	FREQUENCY RANGE (MHz)	OPERATING MODE	ESR (Ω) MAX.
3.579 - 3.999	AT Fund.	200	8.000 - 9.999	AT Fund.	70
4.000 - 4.999	AT Fund.	150	10.000 - 12.999	AT Fund.	60
5.000 - 5.999	AT Fund.	120	13.000 - 30.000	AT Fund.	40
6.000 - 6.999	AT Fund.	100	25.100 - 45.00	BT Fund.	40
7.000 - 7.999	AT Fund.	80	30.000 - 60.000	AT 3rd O/T	100

HE3A	-27.00F	-18	E
HE3A HH3A	Frequency F = Fund. (>25 MHz)	Capacitance Load S = Series	E: -40+85°C XXPPM: Specify other specification

MECHANICAL DRAWING

HE3A PACKAGE

HH3A PACKAGE



Unit: mm