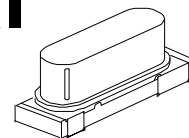




**Pletronics, Inc.**

19013 36th Ave. West • Suite H • Lynnwood, WA 98036, USA

# SM55, SM45, SM40 Crystal



- HC-49/US Low Profile Crystal Mounted on a Surface Mount Platform
- Available in 3 heights, SM55: 5.5mm, SM45: 4.5mm, SM40: 4.0mm
- Solder Pad Compatible with our SM39S and SMD Crystals from Epson, Meiden & Citizen
- Available in Standard 4 pad or Optional 2 pad Pinout Style

**3.200 MHz – 70.000 MHz**

## Standard Specifications

Calibration Frequency Tolerance at 25°C	± 30 PPM is standard, tighter tolerances available
Operating Temperature Range (OTR)	0 to +70°C is standard, but can be extended to -40 to +85°C
Frequency Stability (FS) over OTR	± 50 PPM is standard, tighter tolerances available
Drive Level	50 mW is standard, customer may specify
Aging at 25°C	± 5 PPM per year is standard, customer may specify ± 1 PPM
Shunt Capacitance	7 pF maximum
Pullability	

May be specified by customer in terms of frequency shift required over a certain range of load capacitance (e.g. +100 PPM from CL=12 to CL=18 pF) or as motional capacitance ( fF )

## Part Numbering Guide

Model (Height/Pinout)	SM45	E	--	xx	--	70.0M	
							Frequency in MHz
SM55: 5.5mm/Std							Load Capacitance
SM45: 4.5mm/Std							Parallel Resonance in pF (≥ 10 pF)
SM40: 4.0mm/Std							SR = Series Resonance
SMP55: 5.5mm/2 pad							Temperature Range
SMP45: 4.5mm/2 pad							Blank: 0 to +70°C
SMP40: 4.0mm/2 pad							E: - 40 to +85°C

## ESR Values

Oscillation Mode	Frequency Range (MHz)	Maximum ESR (Ohms)
Fundamental AT Cut	3.200 – 4.999	300
	5.000 – 7.999	120
	8.000 – 11.999	70
	12.000 – 30.000	50
3rd Overtone AT Cut	25.000 – 70.000	100

Consult factory for available frequencies and specs.

Consult factory for lower ESR

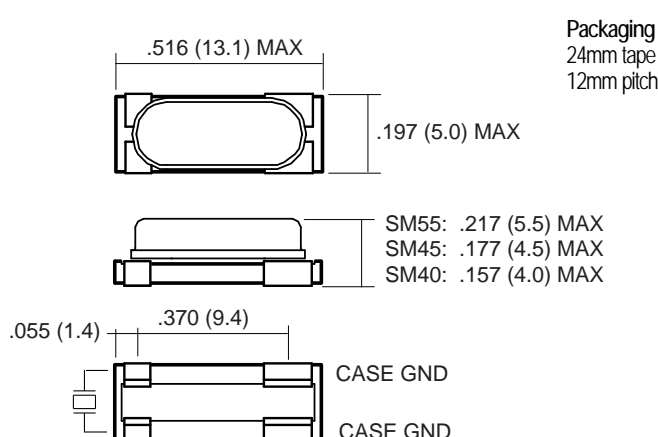
Not all options available for all frequencies. A special part number may be assigned.

## Mechanical: inches (mm)

## not to scale

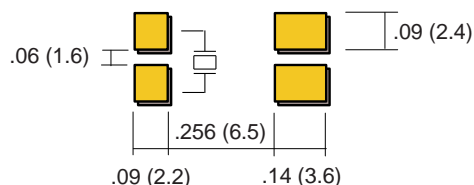
## Solder Pads

Due to part size and factory abilities, part marking may vary from lot to lot and may contain our part number or an internal code.

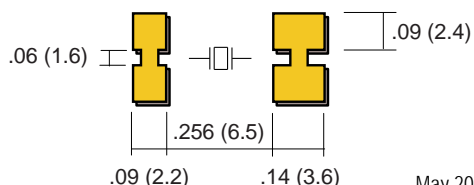


Packaging  
24mm tape  
12mm pitch

## Standard Pinout (SM)



## Optional 2 Pad Pinout (SMP)



May 2002