## ADVANCE INFORMATION



### **Miniature Quartz Crystal**

Technical Data 45 SMT Series





#### Description

The 45 Series SMT consists of a silverplated AT-cut quartz crystal plate, encapsulated in a nitrogen-filled metal holder. The holder is hermetically sealed by resistance welding. The device has a very high mechanical stability, small dimensions and rugged construction.

#### Applications

- · Microprocessors
- Traffic Control
- · Weather Ballons
- · Medical systems
- · Military applications
- Communications systems
- Agrarian applications
- · Machine control
- Environmental applications

#### **ESR & Mode Table**

Freq.	$Max\;ESR{:}\Omega$	$\text{Max ESR:}\Omega$	$Max\;ESR{:}\Omega$
MHz	Fund	3rd OT	5th OT
6	100		
10	55		
15	30		
20	25		
24	25	125	
30	25	90	
50		55	
60		50	125
80		50	110
90		50	100
100			95
120			90
150			90

Frequency Range: 8 MHz to 150 MHz

Temperature Range:

Operating: -40 to +130°C Storage: -55 to +155°C

Temperature

**Stability Tolerance:**  $\pm 10, \pm 15 \text{ and } \pm 20 \text{ ppm from } -20 \text{ to } +70^{\circ}\text{C}$ 

Characteristics at 25°C ±2°C:

Frequency Calibration

Tolerance: ±10 ppm, ±20 ppm Load Capacitance: 5 pF to series resonance

Effective Series

Resistance: 5 to 125 ohms (frequency and overtone dependent),

see ESR & Mode table

Drive Level: 0.1mW correlation, 2.0mW max operating

Shunt Capacitance: 7 pF max

Mechanical:

Shock: MIL-STD-883, Method 2002, Condition B

Solderability: MIL-STD-883, Method 2003

Terminal Strength: MIL-STD-202, Method 211, Conditions A and C

Vibration: MIL-STD-883, Method 2007, Condition A

Solvent Resistance: MIL-STD-202, Method 215

Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition B

**Environmental:** 

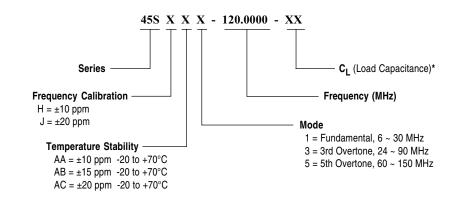
Gross Leak Test: MIL-STD-883, Method 1014, Condition C Fine Leak Test: MIL-STD-883, Method 1014, Condition A

<5 x 10<sup>-8</sup> ATM cc/sec

Thermal Shock: MIL-STD-883, Method 1011, Condition A

Moisture Resistance: MIL-STD-883, Method 1004

#### Part Numbering Guide



<sup>\*</sup>If no  $C_L$  value specified, crystal is calibrated for series resonance. If  $C_L$  value specified, crystal is calibrated for parallel resonance.

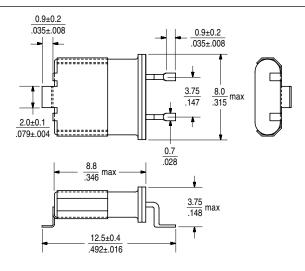
DS-123 REV 07 **1.8.1** 

# ADVANCE INFORMATION

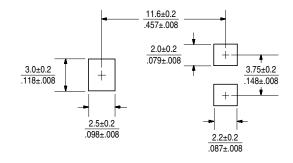
### **Miniature Quartz Crystal**

Technical Data 45 SMT Series

#### **Package Details**



#### **Recommended Land Pattern**



Scale: None (Dimensions in  $\frac{\rm mm}{\rm inches}$  )

All specifications are subject to change without notice.

DS-123 REV 07

1.8.2