## **CARDINAL COMPONENTS**

# **Low Profile Surface Mount Crystals**

Cardinal "AT-Strip" surface mount crystals are among the most readily available on the market today. Many popular frequencies are kept in stock at our facility.





Part Numbering Example: CSM1 Z - A1 B2 C2 200 - 3.579545 D18 - 3

C	S <sub>M</sub> 1	Z	A1*	<b>B2</b>	C <sub>2</sub>	200	3.579545	D18	- 3
S	ERIES	ADDED FEATURES	<b>OPERATING TEMP.</b>	STABILITY	<b>TOLERANCE</b>	RESISTANCE			
		BLANK = BULK PACK						D16,18,20,ETC.	BLANK: FUND.
		Z = TAPE AND REEL	$A1 = -10^{\circ}C \sim +70^{\circ}C$	$B2 = \pm 50$	$C2 = \pm 50$	BELOW		DS = SERIES	-3: 3rd OT
			$A2 = -40^{\circ}C \sim +85^{\circ}C$						-5: 5th OT
			$A3 = -55^{\circ}C \sim +125^{\circ}C$	$B4 = \pm 10$	$C4 = \pm 10$				-7: 7th OT
									-BT: BT Cut

<sup>\*</sup>NOTE: The above ABC combinations cover basic specification options. We tailor our crystal specifications to meet customer requirements. Please contact our sales department if you don't see exactly what you need.

# Specifications: CSM1

Frequency Range:

3.579545 ~ 38.000 MHz AT Cut Fundamental 25.000000 ~ 75.000 MHz AT Cut 3rd Overtone 26.000000 ~ 48.000 MHz BT Cut Fundamental

Operating Temperature: -10°C ~ +70°C Standard

-40°C ~ +85°C

Frequency Stability: ±100 ppm

± 50 ppm Standard

± 30 ppm ± 15 ppm

Frequency Tolerance: ±100 ppm

(at 25°C) ± 50 ppm Standard

± 30 ppm ± 10 ppm

Load Capacitance: Standard 18 pF or series.

Please specify your required load.

Resistance: Maximum resistance corresponds to frequency.

See chart below.

**Standard:** Mode: Fundamental or 3rd Overtone

Shunt Capacitance: 7 pF Max

Aging: ± 5 ppm/year Drive Level: 1.0 mW Max

Optional Features: Tape and Reel (1K per Reel)

Note: Not all combinations of the above tolerances, stabilities, and temperature ranges are available. Consult the factory if your requirement is not standard.

# 12.9 MAX CXX.XXXXXX 1.5 MAX 4.88 RECUMMENDED SULDER PAD LAYOUT 15.0 2.0

### Resistance Chart: All resistances are maximum values.

EQUIVALENT SERIES RESISTANCE (ESR), MODE OF OPERATION (MODE), AND CUT											
Frequency MHz	ESR(Ω)	Mode/cut	Frequency MHz	ESR (Ω)	Mode/cut						
3.579545~4.999	200 Max	Fund./AT	15.000~15.999	60 Max	Fund./AT						
5.000~5.999	150 Max	Fund./AT	16.000~23.999	50 Max	Fund./AT						
6.000~7.999	120 Max	Fund./AT	24.000~30.000	40 Max	Fund./AT						
8.000~8.999	90 Max	Fund./AT	24.000~48.000	40 Max	Fund./BT						
9.000~9.999	80 Max	Fund./AT	24.576~29.999	150 Max	3rd Overtone/AT						
10.000~14.999	70 Max	Fund./AT	30.000~75.000	100 Max	3rd Overtone/AT						

