

# 49SX3 SURFACE-MOUNT CRYSTAL

## FEATURES

- SMD package , 4 pad version
- Low cost
- Reduced Height available
- Applications: Computers, Modem, Microprocessor Crystal,...

12.9 x 4.5 x 4.8 mm



| Parameters                   | Symbol | Specification  |
|------------------------------|--------|--|
| Frequency Range              | Fo     | 3.2 MHz ~ 70 MHz   |
| Operation Mode               |        | 3.2 MHz ~ 48.0 MHz Fundamental / AT-cut (see options)<br>27.0 MHz ~ 70.0 MHz 3rd-overtone / AT-cut (see options)<br>24.0 MHz ~ 54.0 MHz Fundamental / BT-cut (see options) |
| Operating temperature Range  | To     | -20° to +70°C (see options)  |
| Frequency Tolerance at 25°C  | Δf/F   | ± 50ppm max. (see options)   |
| Temperature Stability        | Δf/F   | ± 50ppm max. (see options)   |
| Load Capacitance (CL)        | CL     | series or 8 pF to 50 pF (see options)  |
| Equivalent Series Resistance | ESR    | See Table 1  |
| Shunt Capacitance (Co)       | Co     | 7pF Max  |
| Insulation Resistance        | Ri     | 500 MΩ min. (at 100Vdc)  |
| Drive Level                  | DL     | 100μW typical , 500μW max.   |
| Aging                        | Δf/F   | ±5ppm max (at 25°C, first year)  |
| Packing Unit                 |        | 1000pcs / reel   |
| Soldering Condition          |        | 260°C, 10 sec x2 max   |
|                              |        | <b>Customer specifications on request</b>  |

TABLE 1: Standard ESR

| Frequency (MHz) | ESR (Ω) max. | Frequency (MHz)            | ESR (Ω) max. |
|-----------------|--------------|----------------------------|--------------|
| 3.2 - 4.499     | 150          | 13.0 - 48.0                | 40           |
| 4.5 - 6.9       | 100          | 27.0 - 31.99, 3rd overtone | 100          |
| 7.0 - 9.9       | 80           | 32.0 - 70.0, 3rd overtone  | 80           |
| 10.0 - 12.99    | 50           | 24.0 - 54.0, Fund. BT-cut  | 40           |

## OPTIONS & ORDERING INFORMATION

| 49SX3- | .....               | .....               | .....                   | .....                            | .....                    | .....              |                       |
|--------|---------------------|---------------------|-------------------------|----------------------------------|--------------------------|--------------------|-----------------------|
|        | Freq. Tolerance     | Freq. Stability*    | Operating Temp.*        | Load Capacitance                 | Mode                     | Frequency in MHz   | ESR if other than STD |
|        | <b>10</b> = ±10 ppm | <b>10</b> = ±10 ppm | <b>D</b> = -10° / +60°C | Please specify CL in             | <b>F</b> = Fundamental   | Please specify the | Specify a value in Ω  |
|        | <b>15</b> = ±15 ppm | <b>15</b> = ±15 ppm | <b>E</b> = 0° / +70°C   | <b>pF</b> or <b>S</b> for Series | <b>D</b> = 3rd overtone  | frequency in MHz   |                       |
|        | <b>20</b> = ±20 ppm | <b>20</b> = ±20 ppm | <b>F</b> = -20° / +70°C |                                  | <b>FB</b> = Fundamental, |                    |                       |
|        | <b>25</b> = ±25 ppm | <b>25</b> = ±25 ppm | <b>G</b> = -30° / +75°C |                                  | <b>BT</b> -cut           |                    |                       |
|        | <b>30</b> = ±30 ppm | <b>30</b> = ±30 ppm | <b>H</b> = -30° / +85°C |                                  |                          |                    |                       |
|        | <b>50</b> = ±50 ppm | <b>50</b> = ±50 ppm | <b>K</b> = -40° / +85°C |                                  |                          |                    |                       |

\* Note: Not all combinations are possible, please consult us.

## OUTLINE DIMENSIONS

