# SMD Crystal Resonator Plastic Package 309S Series

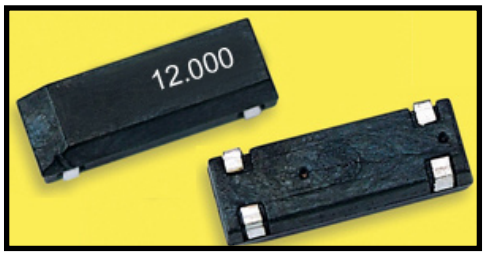
MEC Crystals

## Features:

- High Stability.
- Small package.
- Excellent environmental capability.
- Ideal for application to high-density circuit board.
- Suitable for small telecommunication equipment.
- Enable automatic mounting.
- 2000pcs / Reel
- **RoHs Compliant (Pb Free)**

## Applications:

- Communication equipment.
- AV equipment.
- O A equipment.
- Measuring instruments.




## Electrical Specifications:

| | |
|---|---|
| **Frequency Range** | **3.579MHz ~ 27.000 MHz** |
| **Frequency Tolerance at 25°C** | ±15ppm, ±30ppm, ±50ppm |
| **Frequency Stability (-10°C ~ +60°C)** | ±30ppm, ±50ppm |
| **Operating Temperature Range** | -40°C ~ +85°C |
| **Storage Temperature Range** | -55°C ~ +125°C |
| **Load Capacitance (CL)** | 16.0pF (Typical) or specify |
| **Aging** | ±5.0 ppm / year max. at 25°C |
| **Insulation Resistance** | 500MΩ at DC 100V |
| **Shunt Capacitance** | 5.0pF max. |
| **Drive Level** | 10 ~ 50ΩW |
| **Equivalent Series Resistance** | see chart. |

## Equivalent Series Resistance (ESR) & Mode of Operation (Mode):

| Frequency Range | E.S.R. (Ω) max. | Mode | Frequency Range | E.S.R. (Ω) | Mode |
|---|---|---|---|---|---|
| 3.579 ~ 4.499MHz | 150 | Fundamental | 10.000 ~ 11.999MHz | 80 | Fundamental |
| 4.500 ~ 4.999MHz | 130 | Fundamental | 12.000 ~ 13.999MHz | 70 | Fundamental |
| 5.000 ~ 6.999MHz | 120 | Fundamental | 14.000 ~ 15.999MHz | 50 | Fundamental |
| 7.000 ~ 9.999MHz | 100 | Fundamental | 16.000 ~ 27.000MHz | 35 | Fundamental |

## Part Numbering System:

| 309S | 3.6864 | F | 18 | 30 | 50 |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑥ |

① Series

| 309S |
|---|

② Frequency

| Frequency |
|---|
| ex. 16.000 |

③ Mode of Vibration

| Code | Cut-Mode |
|---|---|
| F | AT Fund |

④ Load Capacitance CL

| Code | Load Capacitance |
|---|---|
| 16 | 16pF |
| 18 | 18pF |
| 20 | 20pF |

⑤ Frequency Tolerance

| Code | Tolerance |
|---|---|
| 10 | ± 10 ppm |
| 20 | ± 20 ppm |
| 30 | ± 30 ppm |

⑥ Frequency Stability

| Code | Stability |
|---|---|
| 30 | ± 30 ppm |
| 40 | ± 40 ppm |
| 50 | ± 50 ppm |

**Remark:** Specifications are subject to change without prior notice. Please confirm with our sales engineer.

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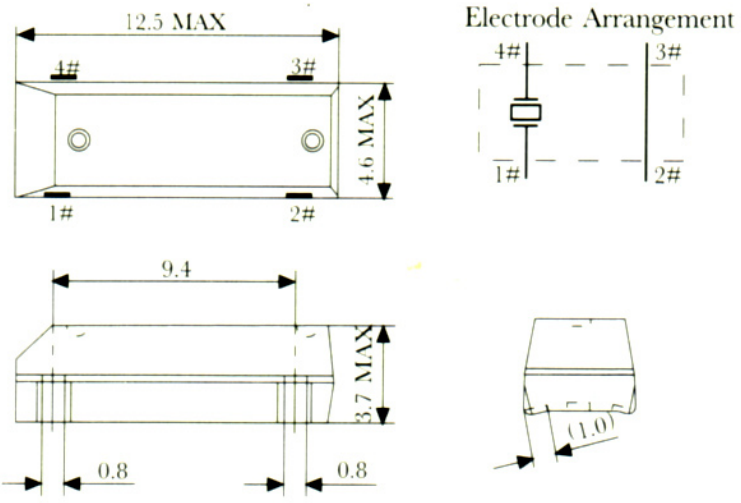
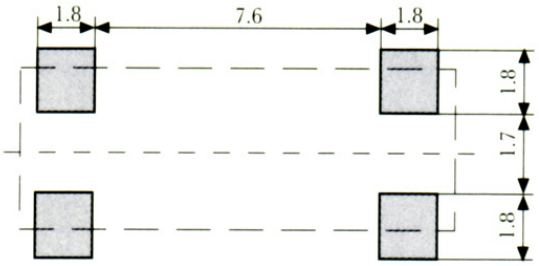
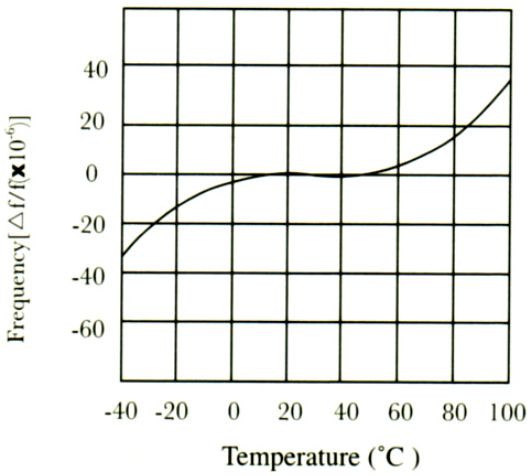
## Dimensions (mm):




## Recommended Soldering (mm):




## Frequency vs. Temperature:

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