

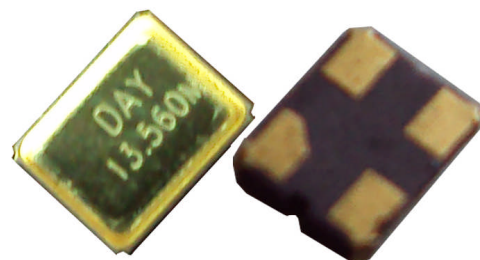
Quartz Crystal Series

2016B

Features

◆RoHS  
Compliant

◆Ceramic/metal package



Electrical Specifications

| Item                      | Specifications             | Remarks            |
|---------------------------|----------------------------|--------------------|
| Nominal Frequency Range   | 24.000MHz to 80.000MHz     | Fund.; AT-Cut      |
| Frequency Tolerance       | ±20ppm(Standard) at 25℃±3℃ | Others are offered |
| Load Capacitance          | Fund.:8pF to 12pF          | Please specify     |
| Series Resistance         | As ESR table               |                    |
| Shunt Capacitance         | 3pF Max                    |                    |
| Drive Level               | 200μW Max                  |                    |
| Operating Temperature     | -20℃ to +70℃(Standard)     | Others are offered |
| Storage Temperature       | -55℃ to +125℃              |                    |
| Stability vs. Temperature | ±20ppm(Standard)           | Others are offered |
| Insulated Resistance      | 500MΩ                      | Minimum            |
| Aging                     | ±2ppm/year                 | Maximum            |

ESR(Series Resistance)

| Frequency(MHz) | Mode     | Ohm Max | Frequency(MHz) | Mode     | Ohm Max |
|----------------|----------|---------|----------------|----------|---------|
| 24.000~26.000  | Fund.;AT | 80      | 40.001~80.000  | Fund.;AT | 50      |
| 26.001~40.000  | Fund.;AT | 60      |                |          |         |

Stability vs. Temperature

| ◆ Standard       |              | 1      | 2      | 3      | 5      | 6      | 7      | Remarks  |
|------------------|--------------|--------|--------|--------|--------|--------|--------|----------|
| ◇ Please specify |              | ±10ppm | ±20ppm | ±30ppm | ±50ppm | ±15ppm | ±25ppm |          |
| B                | -10℃ to +60℃ | ◇      |        |        |        | ◇      |        |          |
| C                | -20℃ to +70℃ | ◇      | ◆      | ◇      | ◇      | ◇      | ◇      | Standard |
| D                | -40℃ to +85℃ |        | ◇      | ◇      | ◆      | ◇      | ◇      |          |

Ordering Information

| Q | R | Type | Pin | XX.XXXX | M | Mode | CL<br>pF | Freq.Tolerance<br>at 25℃ | Operating<br>Temp. | Stability<br>Vs. Temp. | Option |
|---|---|------|-----|---------|---|------|----------|--------------------------|--------------------|------------------------|--------|
|---|---|------|-----|---------|---|------|----------|--------------------------|--------------------|------------------------|--------|

Q:Quartz 21: 2.0\*1.6mm B:4 Center frequency 24.0 to 80.0MHz M: MHz F:Fund.;AT See Table ±10ppm to ±50ppm See Table See Table F:Lead Free Blank:T&R

Example:QR21B24.0000MFF2C2F (Crystal,SMD2.0\*1.6mm,24.0000MHz,4pins,8pF,+/-20ppm,-20 to +70deg,+/-20ppm.T&R,Lead free)

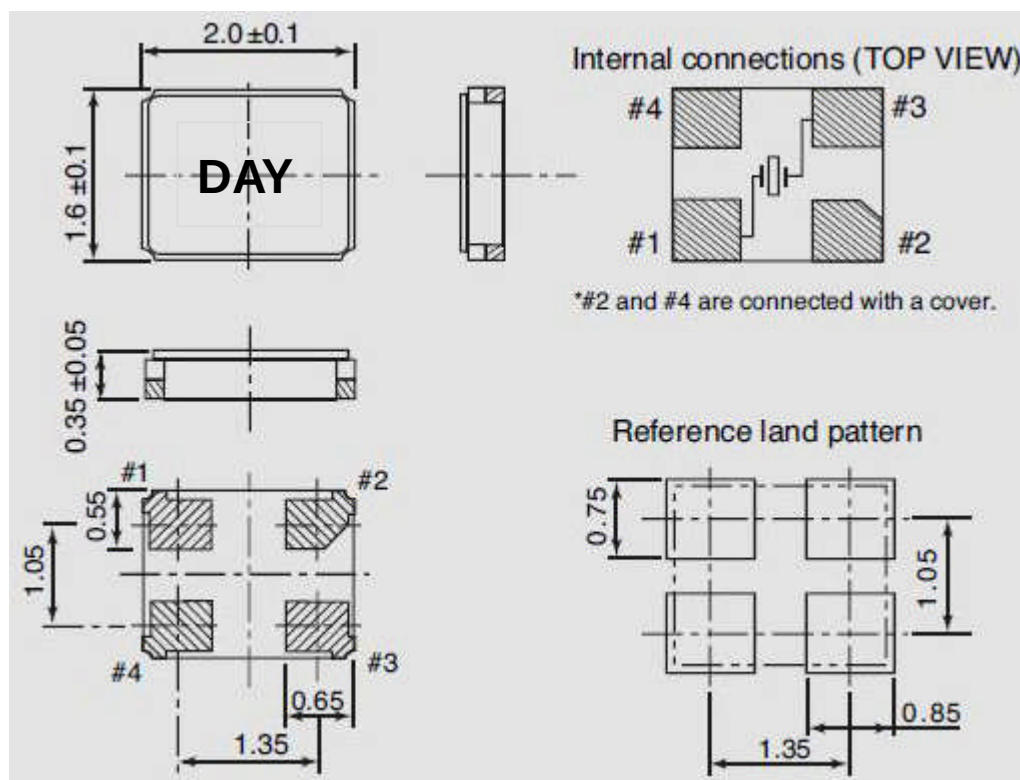
Load Capacitance Codes

|      |   |      |   |       |   |       |   |
|------|---|------|---|-------|---|-------|---|
| 8pF: | F | 9pF: | B | 10pF: | R | 12pF: | T |
|------|---|------|---|-------|---|-------|---|

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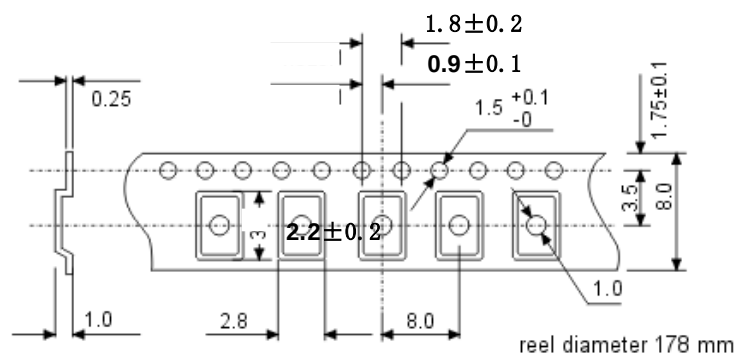
## Dimensions



Unit:mm



## Taping Specification



**3000pcs/Reel**

## Reflow Soldering Profile

