

## SERIES 1612

### ● FEATURES

- ULTRA SMALL ULTRA THIN
- AUTOMATIC MOUNTING POSSIBLE
- REFLOW POSSIBLE
- EXCELLENT FOR HIGH DENSITY APPLICATIONS



### ● SPECIFICATIONS

| PARAMETER                            | VALUE                                              |
|--------------------------------------|----------------------------------------------------|
| FREQUENCY RANGE                      | 26.000 MHz TO 60.000 MHz                           |
| MODE OF OSCILLATION                  | AT CUT, FUNDAMENTAL                                |
| FREQUENCY TOLERANCE AT 25°C          | ±15 PPM, or ±30 PPM                                |
| FREQUENCY STABILITY OVER TEMPERATURE | ±15 PPM, or ±30 PPM                                |
| OPERATING TEMPERATURE RANGE          | -10°C TO +60°C STANDARD<br>-40°C TO +85°C EXTENDED |
| STORAGE TEMPERATURE RANGE            | -40°C TO +85°C                                     |
| AGING                                | ±2 PPM PER YEAR or<br>±5 PPM PER YEAR              |
| LOAD CAPACITANCE                     | 8 pF to 10 pF                                      |
| EQUIVALENT SERIES RESISTANCE         | SEE TABLE 1                                        |
| SHUNT CAPACITANCE                    | 5.0 pF MAXIMUM                                     |
| DRIVE LEVEL                          | 50 µW MAX                                          |
| REFLOW CONDITIONS                    | 260°C ±5°C FOR 10s MAXIMUM                         |

TABLE 1

| FREQUENCY (MHz)  | MODE | MAXIMUM ESR (OHMS) |
|------------------|------|--------------------|
| 26.000 TO 40.999 | FUND | 150                |
| 41.000 TO 60.999 | FUND | 100                |

### ■ PART NUMBERING SYSTEM

| TYPE  | - | FREQUENCY | - | LOAD CAPACITANCE        | - | MODE | - |
|-------|---|-----------|---|-------------------------|---|------|---|
| R1612 | - | IN MHz    | - | 8 TO 10 pF FOR PARALLEL | - | F    | - |

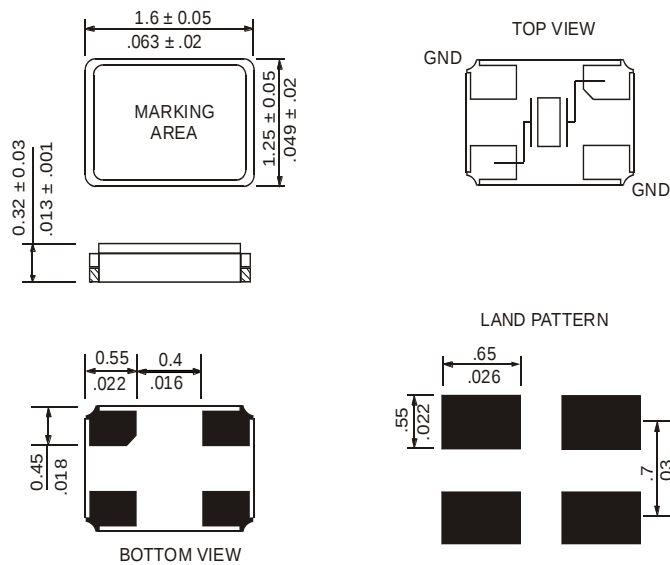
| TOLERANCE/STABILITY (PPM/PPM) | - | EXTENDED TEMPERATURE                   | - | TAPE & REEL |
|-------------------------------|---|----------------------------------------|---|-------------|
| PPMPPM<br>Example: 1020, 2050 | - | Blank FOR STANDARD<br>EXT FOR EXTENDED | - | TR          |

#### EXAMPLE: R1612-24.000-8-F-1530-TR

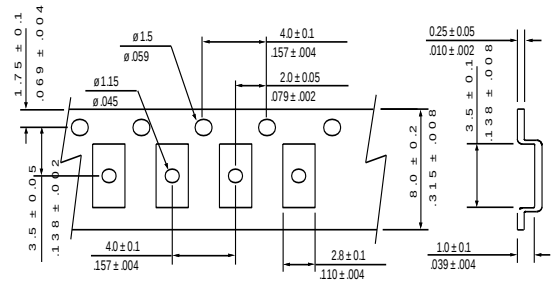
Surface Mount Crystal, 1.6 x 1.2 mm, 24.000 MHz, 8 pF load, Fundamental mode, ±15 ppm Tolerance, ±30 ppm Stability, from -10°C to +60°C, Tape and reel packaging

**SERIES 1612**

- **MECHANICAL SPECIFICATION**



- **CARRIER TAPE DIMENSIONS**



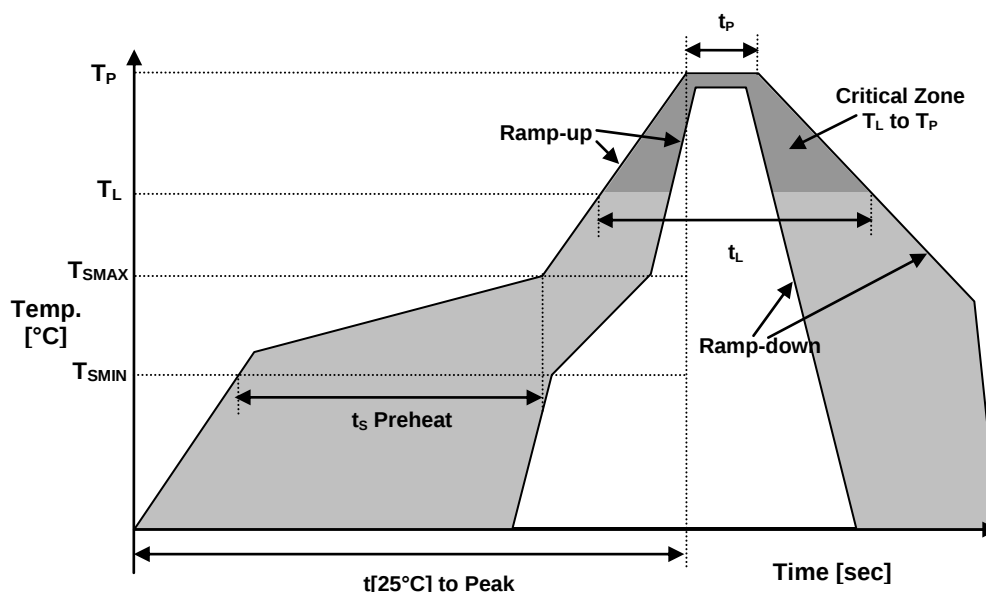
**NOTE: REFER TO EIA-481 FOR NON-SPECIFIED DIMENSIONS**

- **PACKAGING**

180 mm REEL DIAMETER  
8 mm TAPE WIDTH, 4 mm PITCH  
QUANTITY: 3000 PIECES PER REEL

IN ACCORDANCE WITH EIA-481

## REFLOW PROFILE



| Reflow profile                                 |                               |              |
|------------------------------------------------|-------------------------------|--------------|
| Temperature Min Preheat                        | $T_{SMIN}$                    | 150°C        |
| Temperature Max Preheat                        | $T_{SMAX}$                    | 200°C        |
| Time ( $T_{SMIN}$ to $T_{SMAX}$ )              | $t_s$                         | 60-180 sec.  |
| Temperature                                    | $T_L$                         | 217°C        |
| Peak Temperature                               | $T_P$                         | 260°C        |
| Ramp-up rate                                   | $R_{UP}$                      | 3°C/sec max. |
| Ramp-down rate                                 | $R_{DOWN}$                    | 6°C/sec max. |
| Time within 5°C of Peak Temperature            | $t_p$                         | 10 sec.      |
| Time $t[25^\circ\text{C}]$ to Peak Temperature | $t[25^\circ\text{C}]$ to Peak | 480 sec.     |
| Time                                           | $t_L$                         | 60-150 sec.  |

## ENVIRONMENTAL

| PARAMETER                  | VALUE         |
|----------------------------|---------------|
| MOISTURE SENSITIVITY LEVEL | 1             |
| RoHS                       | 6/6 LEAD FREE |
| REACH SVHC                 | COMPLIANT     |
| HALOGEN-FREE               | COMPLIANT     |
| ESD CLASSIFICATION LEVEL   | N/A           |
| TERMINATION FINISH         | Au            |

