# TSS-3225A

#### Miniature Surface Mount Type Crystal Units

#### **Feature**

Standardized 3.2×2.5mm package. Hermetic sealing by seam welding. Superior mechanical shock and vibration resistance. Well Suited for all Cellular Phones, NFC, Bluetooth, WLAN and Zigbee where small size is important. Product is lead free in construction. Can be mounted to PCB using a lead free solder reflow process.

#### **Standard Specifications**

| Size (mm)                                 | 3.2×2.5, 0.70±0.1                |  |
|---|----------------------------------|--|
| Overtone Order                            | Fundamental                      |  |
| Frequency Range (MHz)                     | 14.4 ~ 60 ( <i>See Table 1</i> ) |  |
| Equivalent Series Resistance ( $\Omega$ ) | 150 max.                         |  |
| Drive Level (µW)                          | 30, 50                           |  |
| Operating Temperature Range               | See Table 2                      |  |
| Frequency Temperature Characteristics     | See Table 2                      |  |
| (in reference to 25 °C)                   |                                  |  |

### **Table 2 Frequency Temperature Characteristics**



Now printing

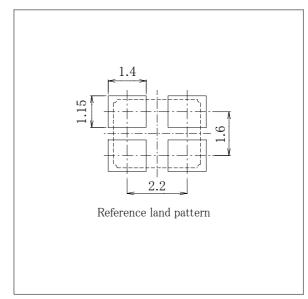
## **Table 1 Typical Frequencies**

| Frequency (MHz) |        |  |
|-----------------|--------|--|
| 14.7456         | 16.000 |  |
| 19.200          | 19.680 |  |
| 19.800          | 24.000 |  |
| 26.000          | 32.000 |  |
| 36.000          | 40.000 |  |
| 44.000          |        |  |

| Temperature Range | Temperature Characteristics(×10 <sup>-6</sup> ) | Frequency Tolerance(×10 <sup>-6</sup> ) |
|-------------------|---|---|
| -10 ~ 60 °C       | ±5  |   |
| -20 ~ 70 °C       | ±10   | $\pm 10 \sim \pm 50$<br>(25 °C ± 3°C)   |
| -30 ~ 85 °C       | ±15   |   |

Products with specific requirements are available request.

## ■Reference Land Pattern



## **Outline Dimensions**

