



1. Electrical Parameters

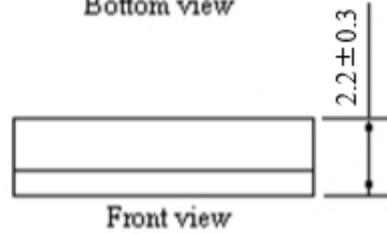
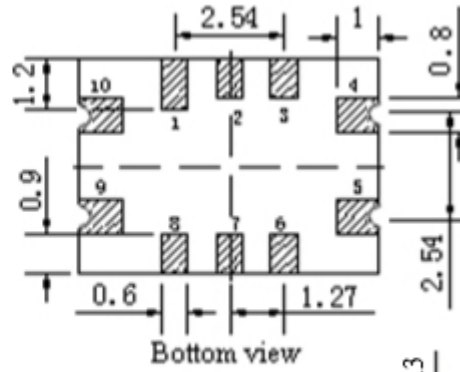
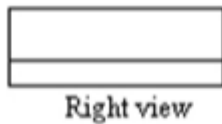
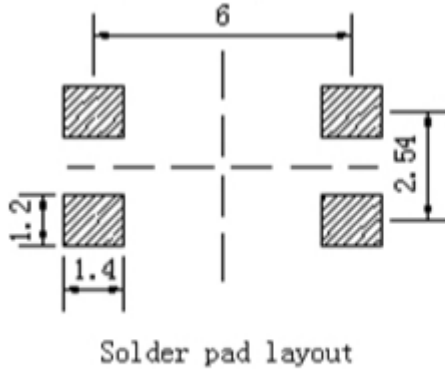
| MODEL: T75A-2104-12.80MHz | | | | | | | |
|---------------------------|---|------------|-------|-------|---------------------------------|--|--|
| Item | Description | Parameters | | | Unit | Test Condition | |
| | | Min. | Typ. | Max. | | | |
| Output | Frequency | 12.80 | | | MHz | | |
| | Output Waveform | HCMOS | | | | | |
| | Output Low Voltage | | | 0.33 | V | $V_{cc}=3.3V, O_{load}=15\text{ pF}$ | |
| | Output High Voltage | 2.97 | | | V | $V_{cc}=3.3V, O_{load}=15\text{ pF}$ | |
| | Duty Cycle | 45 | 50 | 55 | % | @50% | |
| | Rise / Fall Time (10%~90%) | | | 5 | ns | @25°C | |
| | Load | 15 | | | pF | | |
| | Start Time | | | 2 | ms | | |
| Frequency Stabilities | Frequency Tolerance vs. Operating Temperature Range | -0.2 | | +0.2 | $\times 10^{-6}$ | T_A varied from -40°C to 85°C, measurement referenced to frequency observed with $f_{ref} = (f_{max} + f_{min})/2$, $V_{cc}=3.3V, O_{load}=15\text{ pF}$, temperature variable speed less than 2°C per minute. | |
| | Initial Frequency Tolerance | -1.0 | | +1.0 | $\times 10^{-6}$ | Measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V$ within 30 days after ex-works. | |
| | Frequency Tolerance vs. Supply Voltage | -0.05 | | +0.05 | $\times 10^{-6}$ | measurement referenced to frequency observed $T_A=25^\circ\text{C}, V_{cc}$ varied from 3.13V to 3.47V, and $O_{Load}=15\text{ pF}$. | |
| | Frequency Tolerance vs. Load | -0.05 | | +0.05 | $\times 10^{-6}$ | 5% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, O_{Load}=15\text{ pF}$. | |
| | Frequency slope | | | 0.02 | $\times 10^{-6}/^\circ\text{C}$ | $\Delta F/\Delta T$, measured in 1°C steps / 1 minute soak per step. | |
| | Holdover 24hours Drift | | -0.04 | | +0.04 | $\times 10^{-6}/\text{day}$ | $\Delta T \leq \pm 0.5^\circ\text{C}, \Delta V_s \leq \pm 1\%$, after 48 hours of continuous operation. |
| | | | -0.3 | | +0.3 | $\times 10^{-6}$ | Inclusive of the following: - operating temperature -40°C to 85°C - 3.3V±5% - 24 hours aging |
| Overall Stability | | -4.6 | | +4.6 | $\times 10^{-6}$ | Inclusive of the following: - initial tolerance (@25°C) - operating temperature -40°C to 85°C - 3.3V±5% - 15pF load ±5% - Reflow soldering - 20 years aging | |



| | | | | | | |
|-----------------------------|---|--|------|------|--------|--|
| Power Supply | Current Consumption | | | 10 | mA | @25°C, V _{cc} =3.3V, O _{Load} =15pF. |
| | Supply Voltage | 3.13 | 3.3 | 3.47 | V | |
| Phase Noise | Phase Noise @25°C | | -85 | -82 | dBc/Hz | 10Hz |
| | | | -115 | -110 | | 100Hz |
| | | | -135 | -130 | | 1KHz |
| | | | -145 | -140 | | 10KHz |
| | | | -150 | -145 | | 100KHz |
| | | | -150 | -145 | | 1MHz |
| Environmental Conditions | Operable Temperature | -40 | | +85 | °C | |
| | Storage Temperature | -55 | | +105 | °C | |
| | ESD Level | Human Body Model,class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010. | | | | |
| | | Machine Model, class B: 200V to 400V; JEDEC JESD22-A115C. | | | | |
| | Moisture Sensitivity Level | Level 2. | | | | |
| | Vibration | Test Condition: 0.75mm ;acceleration:10g;10Hz~2000Hz, one cycle per 30 min, test 2 hour. (3 times for each 3 directions X ,Y , Z) .IEC 68-2-06 Test Fc. | | | | |
| Shock | 100g; 6ms; half sine wave (3 times for each 3 directions X ,Y, Z),IEC 68-2-27 Test Ea/Severity 50A. | | | | | |
| Full Package Storage | Relative humidity (%) | 20%~70% | | | | |
| | Temperature (°C) | -10~35°C | | | | |

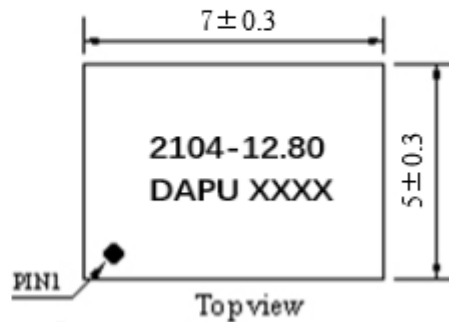


2. Mechanical Structure(mm)



PIN FUNCTION

| PIN | NOTATION | FUNCTION |
|---------------|----------|----------------|
| 1, 2, 3, 6, 8 | NC | Not Connect |
| 4 | GND | GND |
| 5 | OUTPUT | RF Output |
| 7 | NA | No Access |
| 9 | VCC | Supply Voltage |
| 10 | NC | Not Connect |



Note1: Tolerance $\pm 0.1\text{mm}$ without mark

Note2: The first two xx representative: year
The last two xx representative: week

Note3: Referential Weight 0.2g

Note4: NC: No internal Connection
NA: Do Not Connect

Note5: Material composition :

Pad/terminals: Cu (Surface plating: Ni 3-6um, Au 0.1~0.5um)

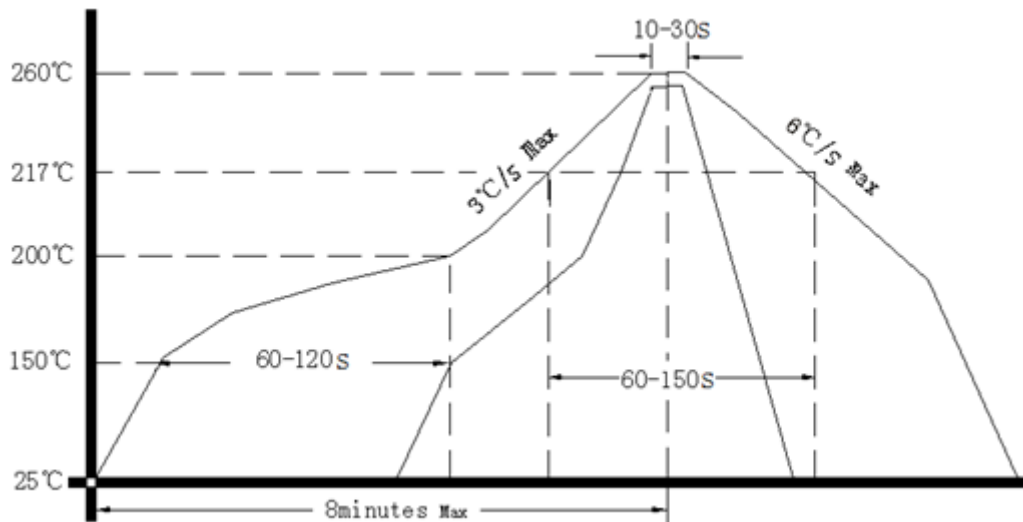
Base: High-TG FR4



3. Test circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)

