



TMX CT05

RF SAW Filter – REMOTE CONTROL
Specification (Rev-2)

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Temexpress is a
brand name
of **raKon**

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Features

- ❑ RF SAW Filter
- ❑ 866.5 MHz Center Frequency
- ❑ Wide Passband Width : ± 3.5 MHz
- ❑ 50 Ohms Single Configuration
- ❑ Ceramic package for Surface Mounted Technology

Technical Characteristics

| Electrical Parameters | Unit | Minimum | Typical ⁽¹⁾ | Maximum |
|---|-----------------|----------------|------------------------|---------|
| Center Frequency f_0 | MHz | - | 866.5 | - |
| Passband Width | MHz | - | ± 3.5 | - |
| Insertion Loss in 863.0 MHz-870.0 MHz | dB | - | - | 3.5 |
| Amplitude Ripple in 863.0 MHz-870.0 MHz | dB | - | - | 1.5 |
| Relative Attenuation | | | | |
| 10.0 to 680.0 MHz | dB | 55 | - | - |
| 680.0 MHz to 810.0 MHz | dB | 45 | - | - |
| 810.0 MHz to 845.0 MHz | dB | 40 | - | - |
| 900.0 MHz to 930.0 MHz | dB | 40 | - | - |
| 930.0 MHz to 1200.0 MHz | dB | 45 | - | - |
| Temperature Coefficient of Frequency | ppm/K | | -30 | |
| Source Impedance (single ended) | Ω | - | 50 ⁽²⁾ | - |
| Load Impedance (single ended) | Ω | - | 50 ⁽²⁾ | - |
| Package type & size | | | | |
| Length x Width | mm ² | - | 3.0 x 3.0 | - |
| Height | mm | - | 1.3 | 1.5 |
| Pin Out | | | | |
| Input | 2 | Output | 5 | |
| Case Ground | 1,3,4,6 | To Be Grounded | 1,3,4,6 | |

Notes :

(1) Typical values are nominal performances at room temperature

(2) No external matching circuit is required

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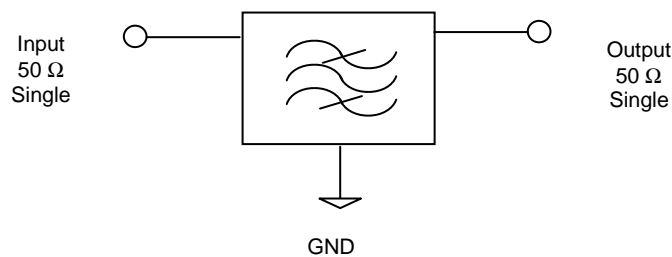
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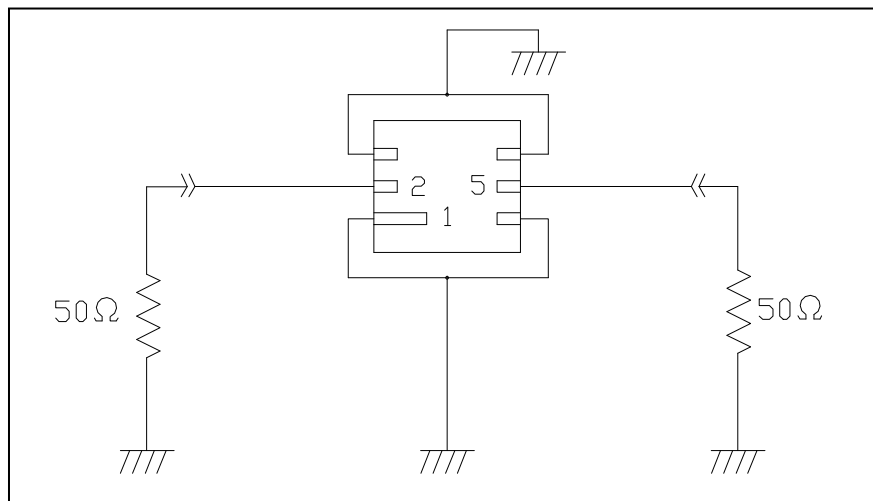
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Matching Network Configuration

50 Ω / 50 Ω CONFIGURATION



Test Circuit



Maximum Ratings

| Rating | Unit | Value |
|-----------------------------------|------------|-------|
| Operating Temperature Range | -20 to +70 | °C |
| Storage Temperature Range | -40 to +85 | °C |
| DC permissive Voltage (max value) | 10 | V |
| Maximum RF Power | 10 | dBm |

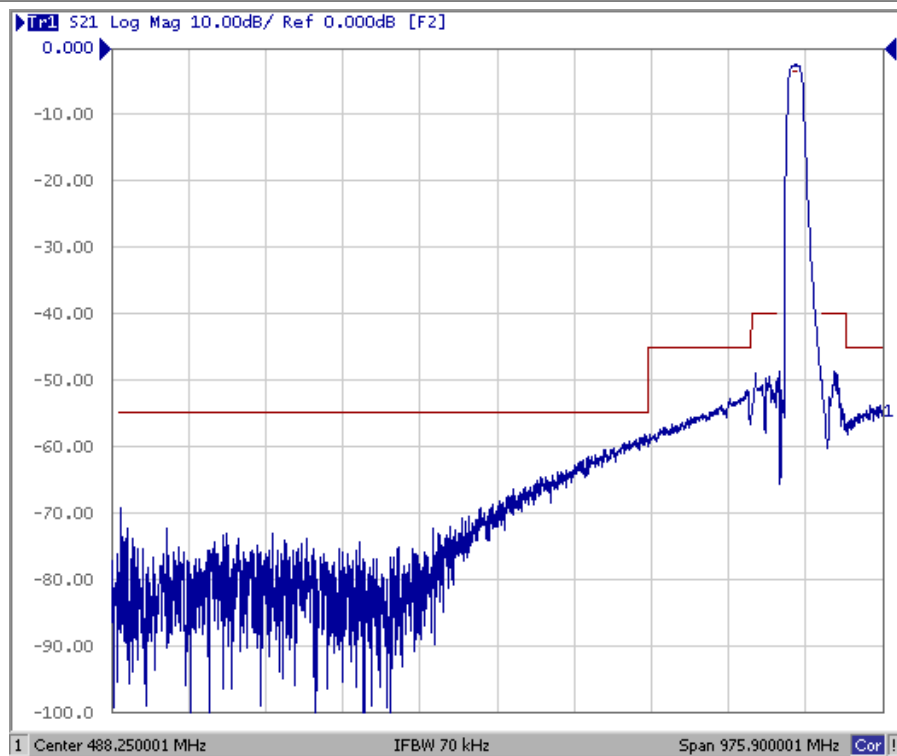
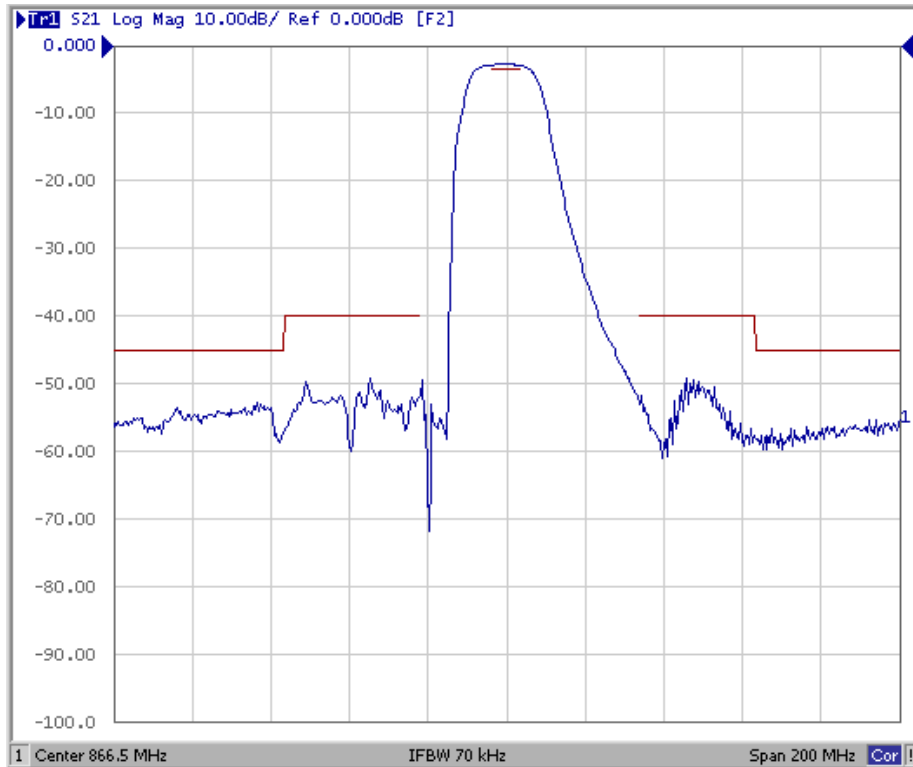
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Nominal Frequency Response : Typical S21 Response



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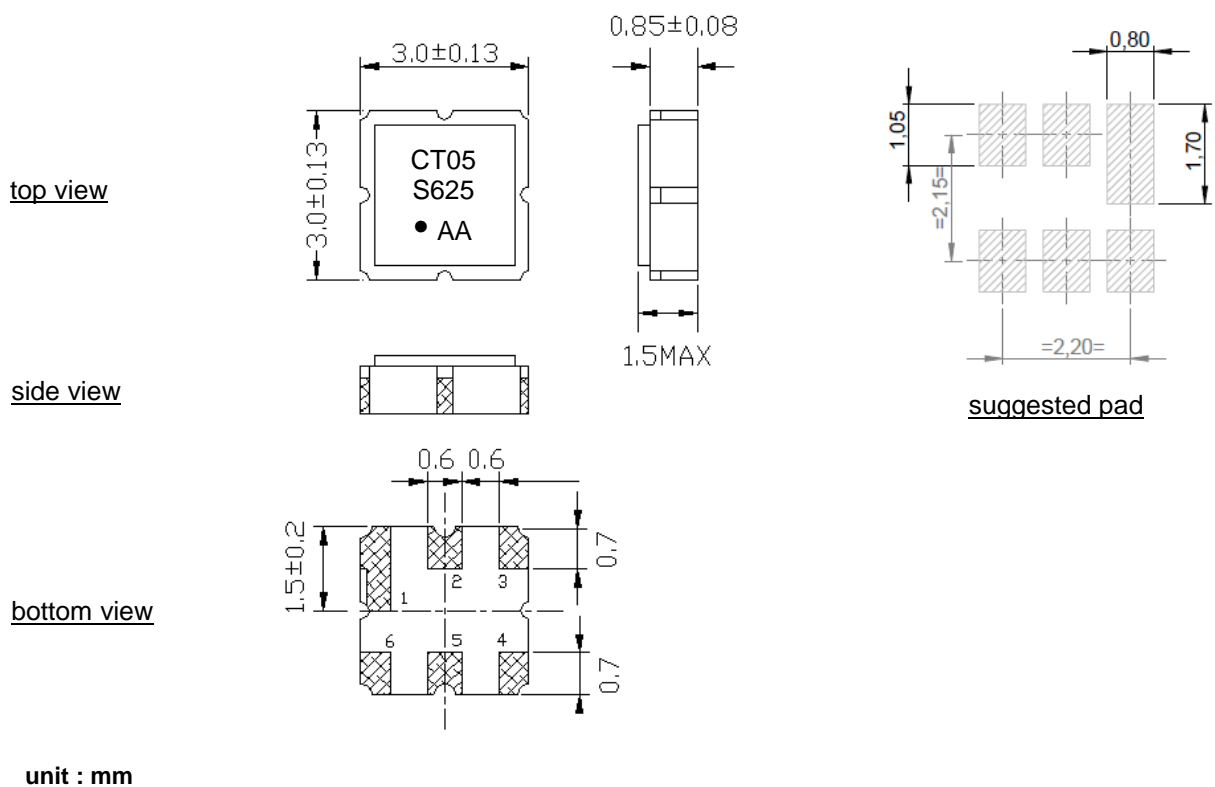
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Package Drawing & Pin out

The product is in conformance with the European RoHs Recast Directive (100/65/EU).



| Pin configuration | |
|-------------------|--------|
| 2 | Input |
| 5 | Output |
| 1,3,4,6 | Ground |

| Marking | | |
|---------|------|--|
| Line 1 | CT05 | Temexpress designation |
| Line 2 | S625 | S is production Code / 6 is Year 2016 & 25 is Week 25 |
| Line 3 | AA | AA" is internal production batch code, it corresponds to the wafer |

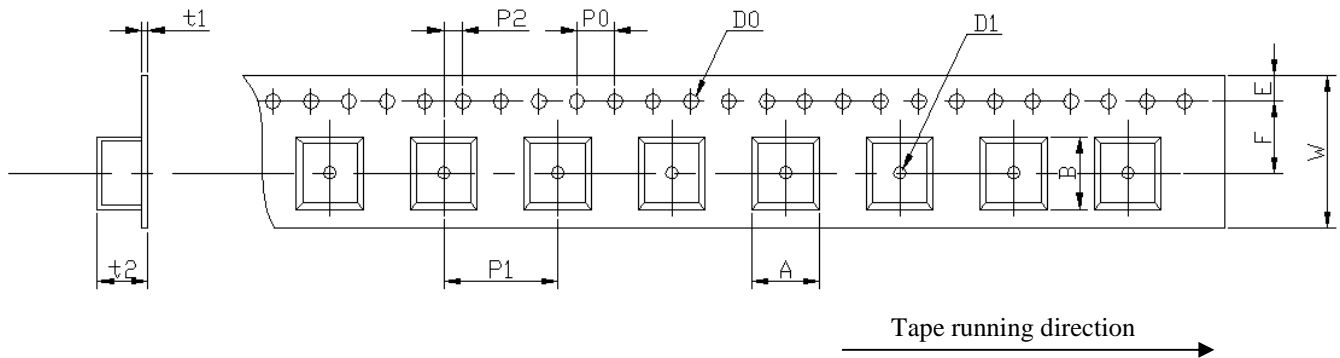
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Tape Specifications

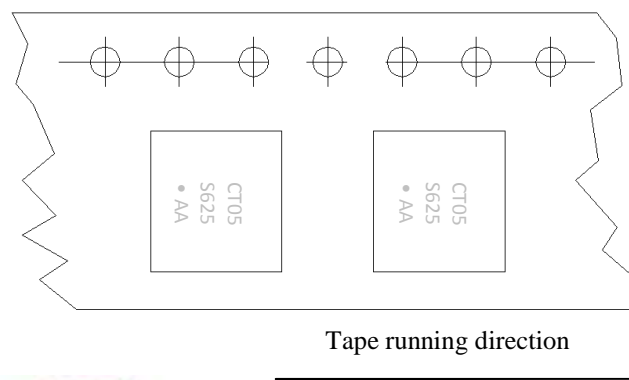
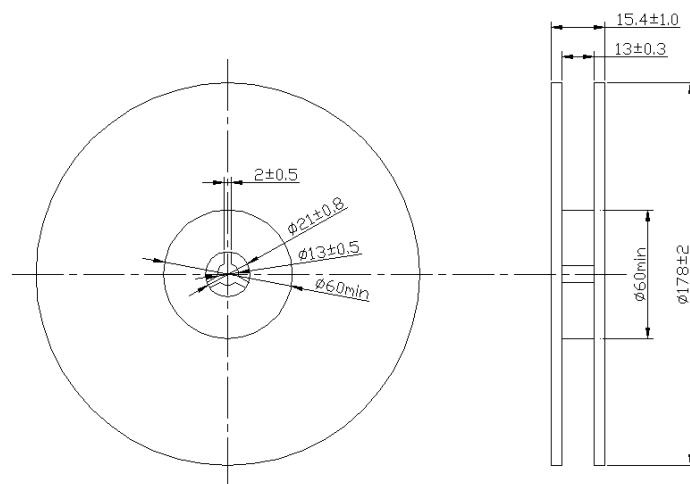


| W | F | E | P0 | P1 | P2 | D0 | D1 | t1 | t2 | A | B |
|---------|----------|-----------|----------|----------|----------|-----------|------------|----------|---------|---------|---------|
| 12 ±0.3 | 5.5 ±0.3 | 1.75 ±0.1 | 4.0 ±0.2 | 4.0 ±0.1 | 2.0 ±0.2 | ∅1.5 ±0.1 | ∅1.5 ±0.25 | 0.31 max | 1.7 max | 3.3 max | 3.3 max |

unit : mm

Reel Specifications

TMX CT05 is packaged in T&R by 3Kpcs/reel



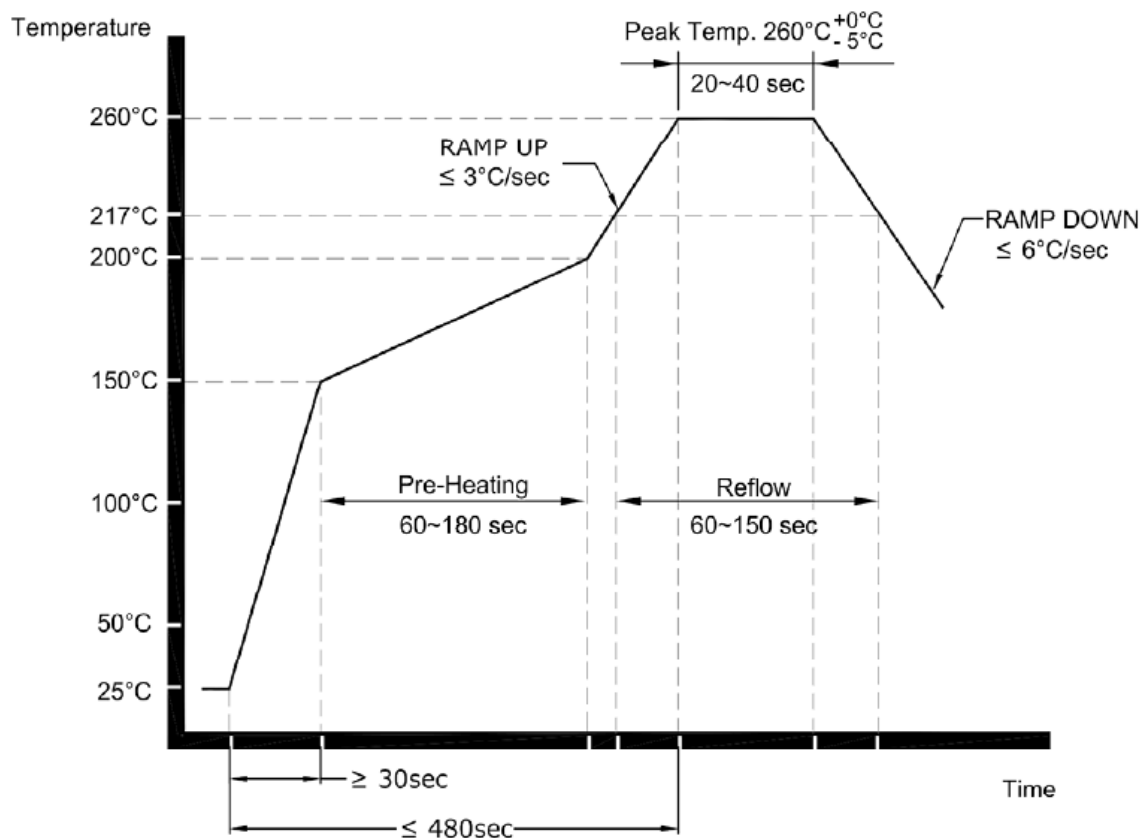
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Recommended reflow soldering profile



Referred to JEDEC J-STD-020C.

The components shall remain within the electrical specifications after it soldered on the 1mm thickness PCB board and dipped in the solder at 260 ± 5 degC during 10 ± 1 seconds.

The components shall remain within the electrical specifications after it soldered by electric iron, solder at 350 ± 10 degC during 3~4 seconds. Recovery time: $2h \pm 0.5h$.

Ultrasonic cleaning may cause deterioration and destruction of the component. Please avoid ultrasonic cleaning.

Only leads of component may be soldered. Please avoid soldering another part of component.

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Reliability Tests

1. **Thermal Shock:**

The components shall remain within the electrical specifications after being kept at the condition of heat cycle conditions: TA=-40°C ±3°C, TB=85°C ±2°C, t1=t2=30min, switch time ≤3min & cycle time: 100 times, recovery time: 2h±0.5h.

2. **The Temperature Storage:**

High Temperature Storage: The components shall remain within the electrical specifications after being kept at the 85°C ±2°C for 500 hours, recovery time: 2h ±0.5h.

Low Temperature Storage: The components shall remain within the electrical specifications after being kept at the -40°C ±3°C for 500 hours, recovery time: 2h ±0.5h.

3. **Humidity test:**

The components shall remain within the electrical specifications after being kept at the condition of ambient temperature 60°C ±2°C, and 90~95% RH for 500 hours.

4. **Drop test:**

The components shall remain within the electrical specifications after random free drops 10 times from height of 1.0 meter onto concrete floor, and the specimens shall meet the electrical specifications.

5. **Vibration Fatigue:**

The components shall remain within the electrical specifications after loaded vibration at 10~55Hz, amplitude 1.5mm, X, Y, Z, direction, during 2 hours.

6. **Mechanical Shock:**

The components shall remain within the electrical specifications after 1000 shocks, acceleration 392 m/s², duration 6ms.

Note: As a result of the particularity of inner structure of SAW products, the components can easily be breakdown by electrostatic shock; so it's mandatory to pay attention to ESD protect during the tests.