



Apr. 2021 Ver.1.5
TDK Corporation

Multilayer Triplexer

For JB-MB-HB / 5G-LM / 5GHz Triplexer

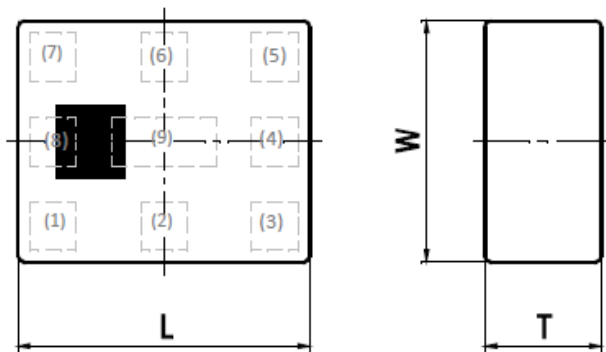
TPX Series 2.5x2.0mm [EIA 1008] TYPE

P/N: **TPX255925MT-7062B1**

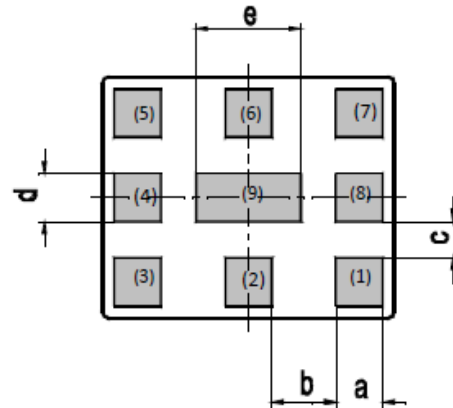
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■ SHAPES AND DIMENSIONS

[Top View]



[Bottom View]



Dimensions (mm)

| L | W | T | a | b | c | d | e |
|---------|---------|------|---------|---------|---------|---------|---------|
| 2.50 | 2.00 | 0.65 | 0.40 | 0.55 | 0.30 | 0.40 | 0.90 |
| +/-0.15 | +/-0.15 | Max | +/-0.10 | +/-0.10 | +/-0.10 | +/-0.10 | +/-0.15 |

Terminal functions

| | |
|-----|-------------|
| (1) | Common Port |
| (2) | GND |
| (3) | 5GHz |
| (4) | GND |
| (5) | 5G-LM |

| | |
|-----|----------|
| (6) | GND |
| (7) | JB-MB-HB |
| (8) | GND |
| (9) | GND |

■ TERMINATION FINISH

| Material |
|----------|
| Ag |

TPX255925MT-7062B1

■ ELECTRICAL CHARACTERISTICS

(Measurement)

Low-Band

| Parameter | Frequency (MHz) | TDK Spec. | | |
|--|-----------------|--------------|------|------|
| | | Min. | Typ. | Max. |
| Insertion Loss (dB) | 617 to 960 | - | 0.13 | 0.50 |
| | 1166 to 1186 | - | 0.14 | 0.50 |
| | 1427 to 1511 | - | 0.21 | 0.50 |
| | 1559 to 1563 | - | 0.22 | 0.50 |
| | 1574 to 1576 | - | 0.22 | 0.50 |
| | 1598 to 1606 | - | 0.22 | 0.50 |
| | 1710 to 1785 | - | 0.23 | 0.50 |
| | 1805 to 1885 | - | 0.23 | 0.50 |
| | 1930 to 1990 | - | 0.24 | 0.50 |
| | 2300 to 2496 | - | 0.48 | 0.60 |
| | 2496 to 2690 | - | 0.79 | 0.95 |
| Insertion Loss (dB) (-40 to +90 °C) | 617 to 960 | - | - | 0.55 |
| | 1166 to 1186 | - | - | 0.55 |
| | 1427 to 1511 | - | - | 0.55 |
| | 1559 to 1563 | - | - | 0.55 |
| | 1574 to 1576 | - | - | 0.55 |
| | 1598 to 1606 | - | - | 0.55 |
| | 1710 to 1785 | - | - | 0.55 |
| | 1805 to 1885 | - | - | 0.55 |
| | 1930 to 1990 | - | - | 0.55 |
| | 2300 to 2496 | - | - | 0.70 |
| | 2496 to 2690 | - | - | 1.05 |
| Return Loss (dB) (Low-Band Port) | 617 to 2690 | 10 | 20 | - |
| | | | | |
| Attenuation (dB) | 3300 to 3700 | 16 | 19 | - |
| | 3700 to 3800 | 22 | 32 | - |
| | 3800 to 4200 | 22 | 32 | - |
| | 4400 to 5000 | 28 | 30 | - |
| | 5150 to 5925 | 26 | 28 | - |
| | 5925 to 12750 | 10 | 18 | - |
| Characteristic Impedance (ohm) | | 50 (Nominal) | | |

Ta = +25+/-5°C

TPX255925MT-7062B1**ELECTRICAL CHARACTERISTICS**

(Measurement)

Middle-Band

| Parameter | Frequency (MHz) | TDK Spec. | | |
|--|-----------------|--------------|------|------|
| | | Min. | Typ. | Max. |
| Insertion Loss (dB) | 3300 to 4200 | - | 1.29 | 1.48 |
| Insertion Loss (dB) (-40 to +90 °C) | 3300 to 4200 | - | - | 1.60 |
| Return Loss (dB) (Middle-Band Port) | 3300 to 4200 | 10 | 15.9 | - |
| Attenuation (dB) | 500 to 1606 | 22 | 28 | - |
| | 1606 to 2400 | 25 | 28 | - |
| | 2400 to 2500 | 25 | 27 | - |
| | 2500 to 2690 | 25 | 27 | - |
| | 2700 to 3150 | 0.5 | 2.3 | - |
| | 4400 to 4900 | 1 | 2.0 | - |
| | 4900 to 5150 | 8 | 14 | - |
| | 5150 to 5925 | 19 | 20 | - |
| | 6250 to 6550 | 15 | 37 | - |
| | 6600 to 8400 | 15 | 37 | - |
| | 8400 to 9900 | 20 | 41 | - |
| 9900 to 12600 | 20 | 38 | - | |
| 13200 to 16800 | 20 | - | - | |
| Characteristic Impedance (ohm) | | 50 (Nominal) | | |

Ta = +25+/-5°C

High-Band

| Parameter | Frequency (MHz) | TDK Spec. | | |
|--|-----------------|--------------|------|------|
| | | Min. | Typ. | Max. |
| Insertion Loss (dB) | 5150 to 5925 | - | 0.75 | 0.85 |
| Insertion Loss (dB) (-40 to +90 °C) | 5150 to 5925 | - | - | 0.95 |
| Return Loss (dB) (High-Band Port) | 5150 to 5925 | 12 | 18.0 | - |
| Attenuation (dB) | 100 to 960 | 35 | 59.0 | - |
| | 1166 to 1249 | 35 | 54.0 | - |
| | 1427 to 1610 | 35 | 51.0 | - |
| | 1695 to 2200 | 25 | 47.0 | - |
| | 2300 to 2370 | 25 | 45.0 | - |
| | 2400 to 2484 | 25 | 43.0 | - |
| | 2496 to 2690 | 29 | 37.0 | - |
| | 3300 to 4200 | 17 | 26.0 | - |
| | 10300 to 11850 | 15 | 39.0 | - |
| | 15450 to 17775 | 8 | - | - |
| Characteristic Impedance (ohm) | | 50 (Nominal) | | |

Ta = +25+/-5°C

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■ ELECTRICAL CHARACTERIST

(Measurement)

Common

| Parameter | Frequency (MHz) | TDK Spec. | | |
|--------------------------------------|-----------------|--------------|------|------|
| | | Min. | Typ. | Max. |
| Isolation (dB) | | | | |
| Middle to Low (JB-MB-HB to 5G-LM) | 617 to 960 | 22 | 28 | - |
| | 1166 to 1606 | 22 | 29 | - |
| | 1695 to 1710 | 25 | 32 | - |
| | 1710 to 2200 | 25 | 34 | - |
| | 2300 to 2690 | 23 | 25 | - |
| | 3300 to 4200 | 17 | 19 | - |
| High to Low (JB-MB-HB to 5 GHz) | 617 to 960 | 25 | 57 | - |
| | 1166 to 1606 | 25 | 49 | - |
| | 1695 to 1710 | 25 | 49 | - |
| | 1710 to 2690 | 25 | 41 | - |
| | 3300 to 4200 | 22 | 37 | - |
| | 5150 to 5925 | 28 | 29 | - |
| Middle to High (5G-LM to 5 GHz) | 617 to 960 | 10 | 37 | - |
| | 1166 to 1606 | 10 | 32 | - |
| | 1710 to 2690 | 10 | 22 | - |
| | 3300 to 4200 | 17 | 18 | - |
| | 5150 to 5925 | 17 | 21 | - |
| Characteristic Impedance (ohm) | | 50 (Nominal) | | |

Ta = +25+/-5°C

■ MAXIMUM RATINGS

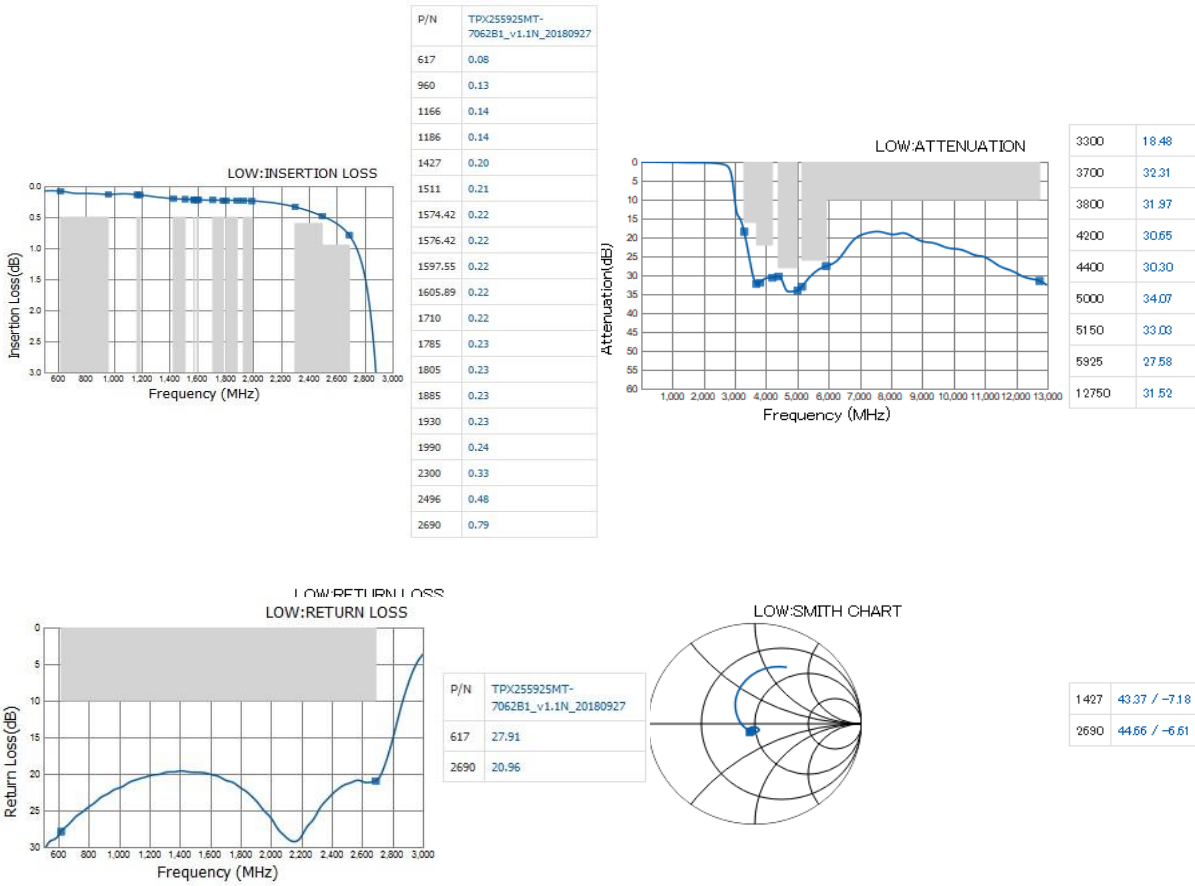
| Parameter | TDK Spec | Conditions | |
|---|----------------|-------------------------------|------|
| | | | Min. |
| Operating temperature (°C) | -40 to +90 °C | | |
| Storage temperature (°C) | -40 to +90 °C | | |
| Power Handling (dBm) *1 | Frequency[MHz] | | |
| | 1427 to 2960 | - 30 | CW |
| | 3300 to 4200 | - 30 | CW |
| | 5150 to 5925 | - 30 | CW |
| Human Body Model : HBM @Each Port (V) | -1000 1000 | 100pF / 1500ohm | |
| Machine Model : MM @Each Port (V) | -150 150 | 200pF / 0ohm | |
| Charged Device Model : CDM @Each Port (V) | -500 500 | Relative humidity : 60%RH max | |

*1: Refer to 3GPP TS 38.101-1 V15.2.0

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FREQUENCY CHARACTERISTICS

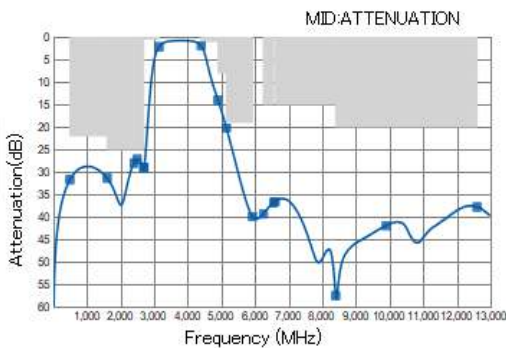
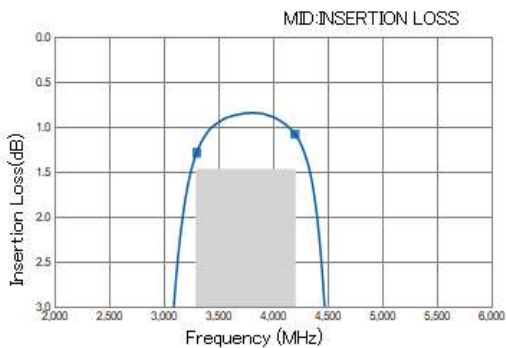
TDK spec.



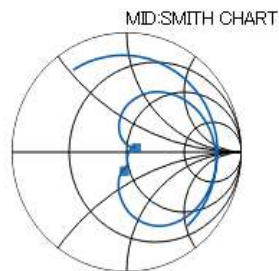
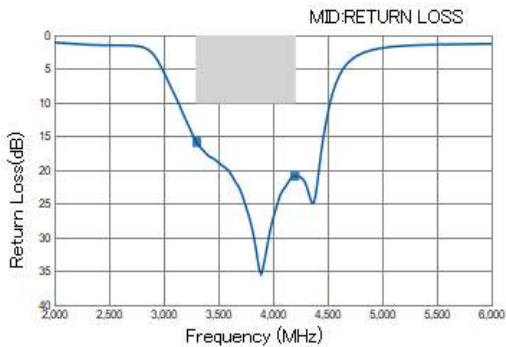
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FREQUENCY CHARACTERISTICS

■ TDK spec.



| | |
|-------|-------|
| 500 | 31.78 |
| 1606 | 31.44 |
| 2400 | 28.11 |
| 2500 | 27.21 |
| 2690 | 29.12 |
| 2700 | 28.99 |
| 3150 | 2.23 |
| 4400 | 1.96 |
| 4900 | 14.06 |
| 5150 | 20.26 |
| 5925 | 39.92 |
| 6250 | 39.34 |
| 6550 | 36.88 |
| 6600 | 36.60 |
| 8400 | 57.56 |
| 9900 | 42.00 |
| 12600 | 37.85 |

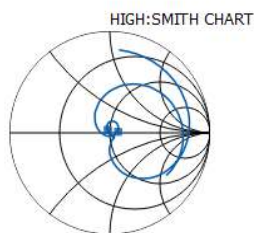
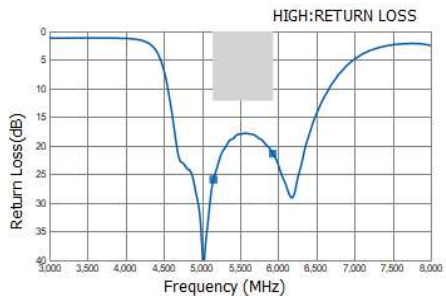
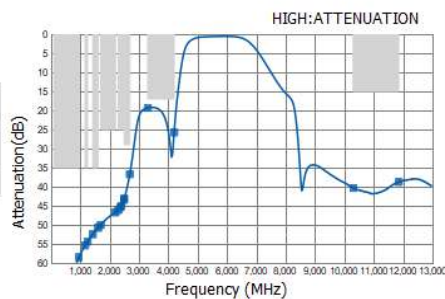
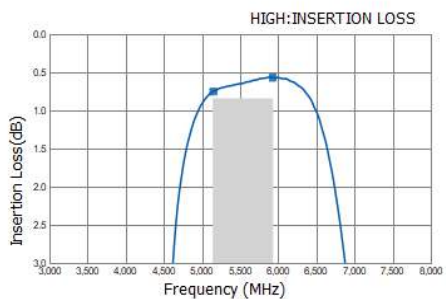


| | |
|------|----------------|
| 3300 | 44.46 / -14.38 |
| 4200 | 57.87 / 5.84 |

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FREQUENCY CHARACTERISTICS

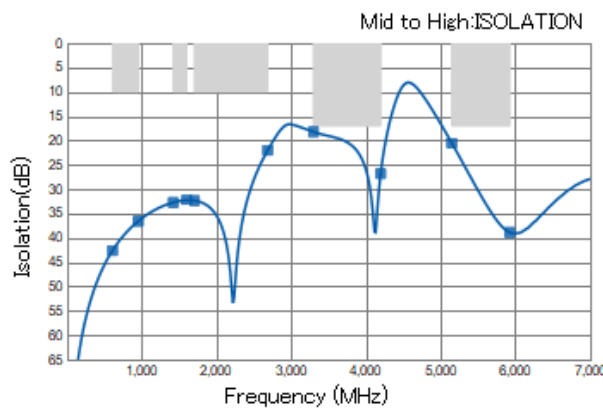
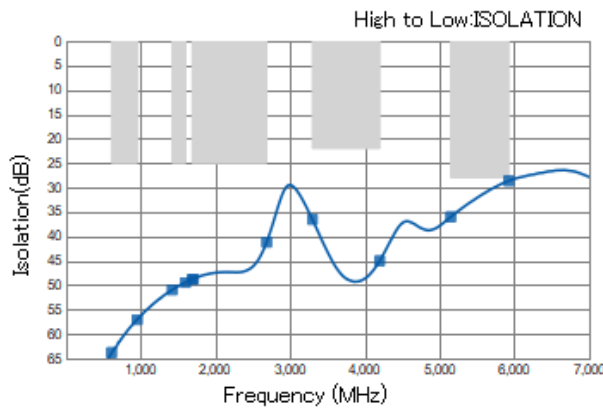
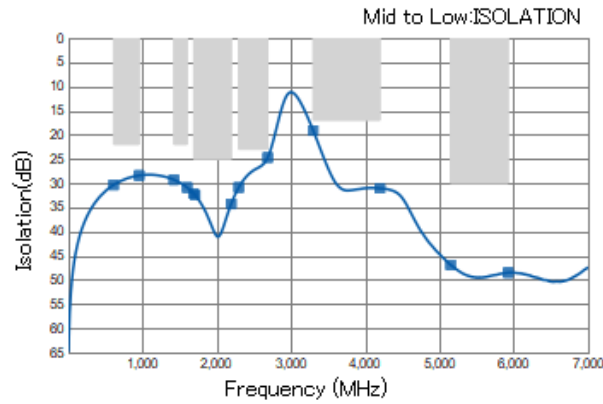
TDK spec.



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FREQUENCY CHARACTERISTICS

TDK spec.



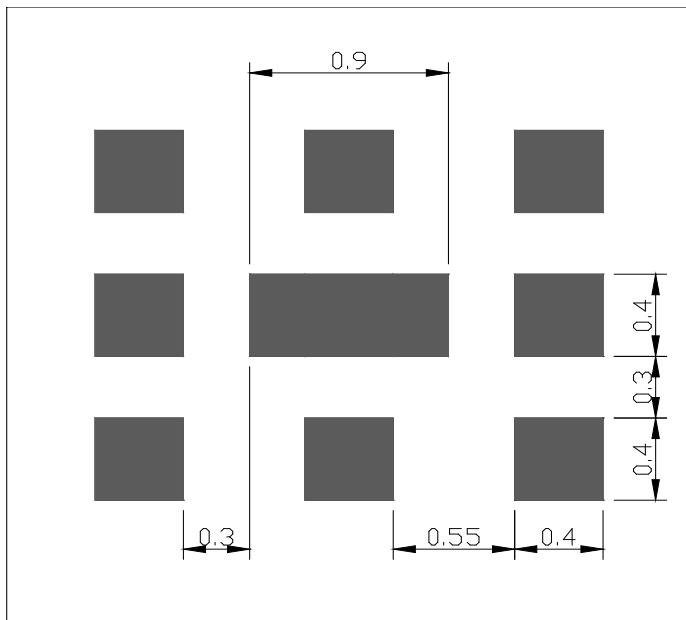
| | |
|------|-------|
| 617 | 30.36 |
| 960 | 28.42 |
| 1427 | 29.29 |
| 1606 | 30.91 |
| 1695 | 32.20 |
| 1710 | 32.46 |
| 2200 | 34.24 |
| 2300 | 30.90 |
| 2690 | 24.71 |
| 3300 | 19.07 |
| 4200 | 31.08 |
| 5150 | 46.87 |
| 5925 | 48.50 |

| | |
|------|-------|
| 617 | 63.82 |
| 960 | 57.04 |
| 1427 | 50.94 |
| 1606 | 49.40 |
| 1695 | 48.79 |
| 1710 | 48.69 |
| 2690 | 41.18 |
| 3300 | 36.52 |
| 4200 | 45.01 |
| 5150 | 36.02 |
| 5925 | 28.64 |

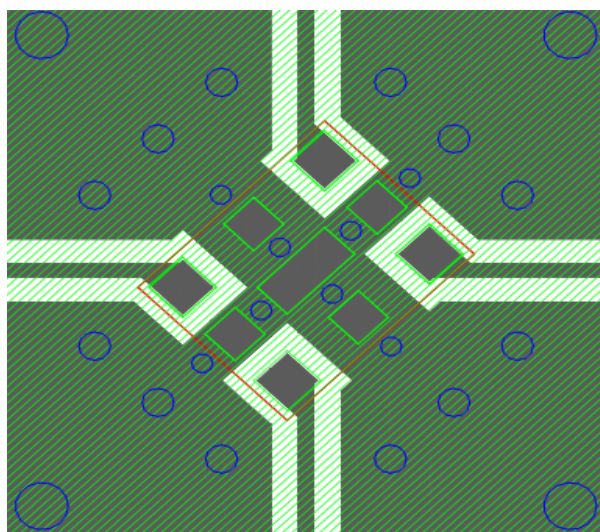
| | |
|------|-------|
| 617 | 42.59 |
| 960 | 36.59 |
| 1427 | 32.75 |
| 1606 | 32.29 |
| 1710 | 32.36 |
| 2690 | 22.00 |
| 3300 | 18.22 |
| 4200 | 26.79 |
| 5150 | 20.52 |
| 5925 | 38.90 |

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RECOMMENDED LAND PATTERN



EVALUATION BOARD



- Thru Hole
- Resist
- Surface Pattern
- DUT
- Direction Mark

| Material, Layer | Thickness |
|------------------------|-----------|
| Top Resist | Resist |
| Copper Surface Pattern | 0.035mm |
| FR-4 | 0.10mm |
| Copper Inner GND | 0.018mm |
| FR-4 | 0.30mm |
| Copper Bottom GND | 0.035mm |

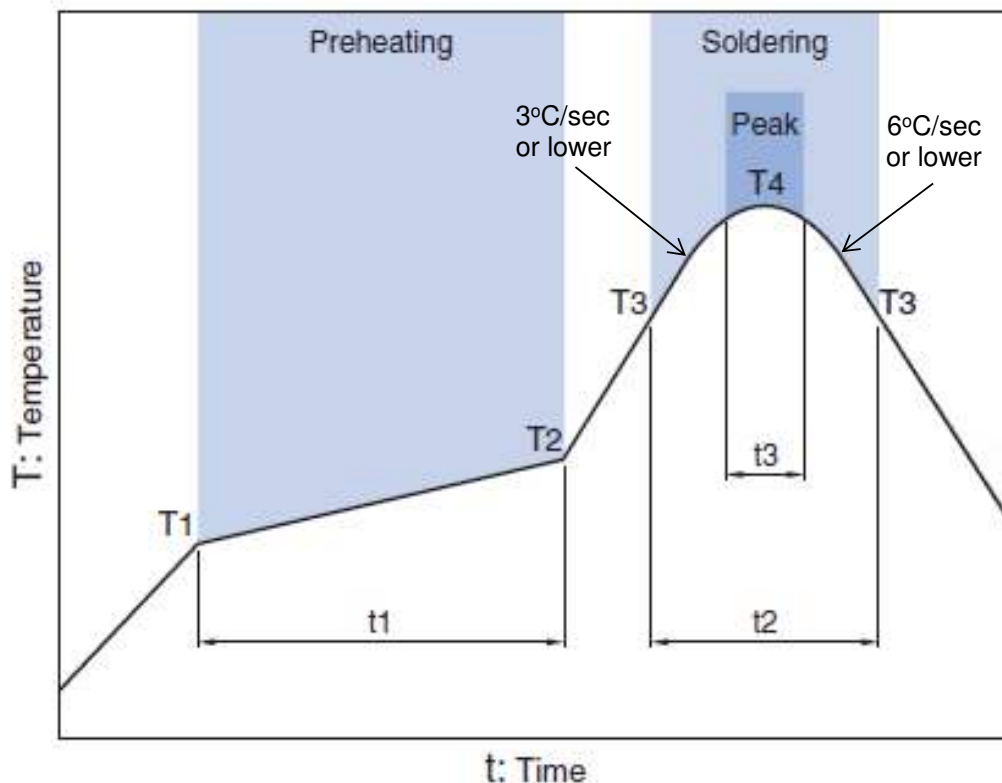
ENVIRONMENT INFORMATION

RoHS Statement
RoHS Compliance

All specifications are subject to change without notice.
TDK Technology - Proprietary and Confidential Information of TDK Group Companies

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RECOMMENDED REFLOW PROFILE



| Preheating | | | Soldering | | | |
|------------|-------|--------------|--------------------------|--------------|--------------|------------|
| Temp. | | Time | Critical zone (T3 to T4) | | Peak | |
| T1 | T2 | t1 | T3 | t2 | T4 | t3 * |
| 150°C | 200°C | 60 to 120sec | 217°C | 60 to 120sec | 240 to 260°C | 30 sec Max |

* t3 : Time within 5°C of actual peak temperature

The maximum number of reflow is 3.

Note: Lead free solder is recommended.
Recommended solder is Sn-3.0Ag-0.5Cu. (M705 by Senju Metal Industry)

REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

| |
|--|
|  REMINDERS |
|--|

The products listed on this specification sheet are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.

The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property. Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this specification sheet.

1. Aerospace/Aviation equipment
2. Transportation equipment (cars, electric trains, ships, etc.)
3. Medical equipment
4. Power-generation control equipment
5. Atomic energy-related equipment
6. Seabed equipment
7. Transportation control equipment
8. Public information-processing equipment
9. Military equipment
10. Electric heating apparatus, burning equipment
11. Disaster prevention/crime prevention equipment
12. Safety equipment
13. Other applications that are not considered general-purpose applications

When using this product in general-purpose applications, you are kindly requested to take into consideration securing protection circuit/equipment or providing backup circuits, etc., to ensure higher safety.