



May. 2021 Ver.4.0
TDK Corporation

Multilayer High Pass Filter

For n77,n78,n79, 5-7GHz W-LAN

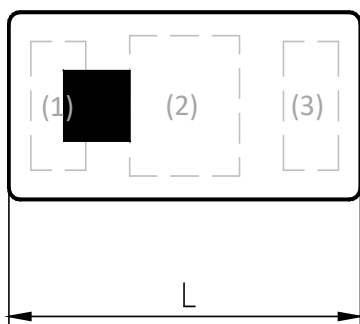
DEA Series 1.6x0.8mm [EIA 0603] TYPE

P/N: **DEA163300HT-8062A1**

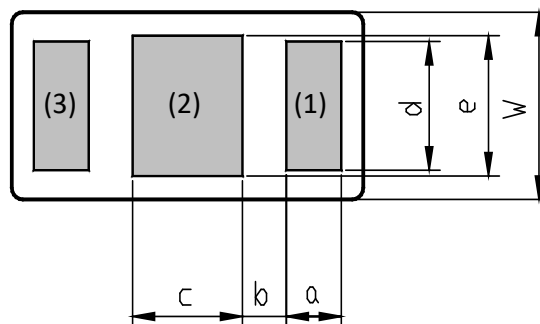
DEA163300HT-8062A1

■ SHAPES AND DIMENSIONS

[Top View]



[Bottom View]



Dimensions (mm)

| L | W | T | a | b | c | d | e |
|---------|---------|------|---------|---------|---------|---------|---------|
| 1.60 | 0.80 | 0.65 | 0.25 | 0.23 | 0.40 | 0.55 | 0.60 |
| +/-0.10 | +/-0.10 | Max | +/-0.10 | +/-0.10 | +/-0.10 | +/-0.10 | +/-0.10 |

Terminal functions

| | |
|-----|---------------------|
| (1) | Input / Output Port |
| (2) | GND |
| (3) | Output / Input Port |

DC Cut

YES. IN and OUT are isolated at DC.

■ TERMINATION FINISH

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

DEA163300HT-8062A1

■ ELECTRICAL CHARACTERISTICS

(Measurement)

| Parameter | Frequency (MHz) | TDK Spec | | |
|--|-----------------|--------------|------|------|
| | | Min. | Typ. | Max. |
| Insertion Loss (dB) | 3300 to 4200 | - | 0.62 | 0.80 |
| | 4400 to 5000 | - | 0.19 | 0.80 |
| | 5150 to 5925 | - | 0.26 | 0.80 |
| | 5925 to 7250 | - | 0.32 | 0.80 |
| Insertion Loss (dB) (-40 to +85 °C) | 3300 to 4200 | - | - | 0.90 |
| | 4400 to 5000 | - | - | 0.92 |
| | 5150 to 5925 | - | - | 0.97 |
| | 5925 to 7250 | - | - | 1.02 |
| Return Loss@Input (dB) | 3300 to 4200 | 10 | 21.7 | - |
| | 4400 to 5000 | 10 | 25.5 | - |
| | 5150 to 5925 | 10 | 16.5 | - |
| | 5925 to 7250 | 10 | 15.4 | - |
| Return Loss@Output (dB) | 3300 to 4200 | 10 | 24.3 | - |
| | 4400 to 5000 | 10 | 24.8 | - |
| | 5150 to 5925 | 10 | 16.8 | - |
| | 5925 to 7250 | 10 | 15.4 | - |
| Attenuation (dB) | 450 to 960 | 25 | 27.5 | - |
| | 1427 to 1710 | 20 | 30.4 | - |
| | 1710 to 1910 | 20 | 35.0 | - |
| | 1910 to 2200 | 20 | 25.0 | - |
| | 2300 to 2400 | 20 | 22.6 | - |
| | 2400 to 2500 | 20 | 22.6 | - |
| | 2500 to 2690 | 20 | 23.1 | - |
| Characteristic Impedance (ohm) | | 50 (Nominal) | | |

Ta = +25+/-5°C

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■ MAXIMUM RATINGS

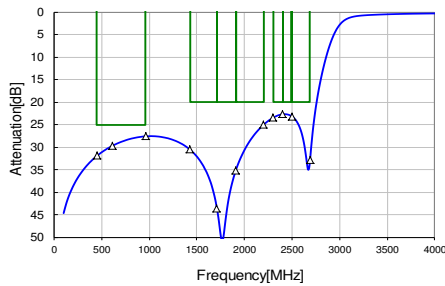
| Parameter | | TDK Spec | Conditions | |
|----------------------------|-----------------|---------------|----------------------|-----------|
| Operating temperature (°C) | | -40 to +85 °C | | |
| Storage temperature (°C) | | -40 to +85 °C | | |
| Power Handling (W) *1 | Frequency (MHz) | | | |
| | 3300 to 5000 | 1 | CW | Duty 100% |
| | 5150 to 7250 | 1 | CW | Duty 100% |
| Human Body Model : HBM | @Each Port (V) | +/-1000 | 100pF / 1500ohm | |
| Machine Model : MM | @Each Port (V) | +/-150 | 200pF / 0ohm | |
| Charged Device Model : CDM | @Each Port (V) | +/-500 | Humidity : 60%RH max | |

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

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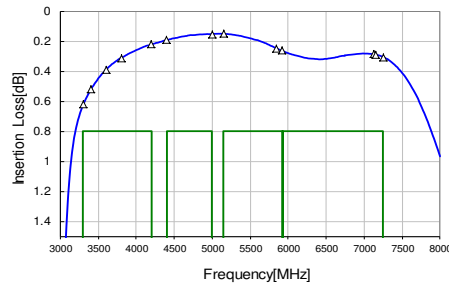
FREQUENCY CHARACTERISTICS

S21 Attenuation



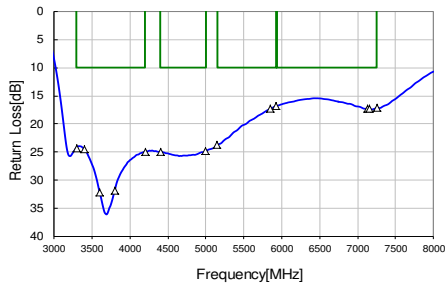
| Attenuation | Frequency [MHz] | Value [dB] |
|-------------|-----------------|------------|
| 450 MHz | 31.8 | 31.8 |
| 617 MHz | 29.7 | 29.7 |
| 960 MHz | 27.5 | 27.5 |
| 1427 MHz | 30.4 | 30.4 |
| 1710 MHz | 43.5 | 43.5 |
| 1910 MHz | 35.0 | 35.0 |
| 2200 MHz | 25.0 | 25.0 |
| 2300 MHz | 23.4 | 23.4 |
| 2400 MHz | 22.6 | 22.6 |
| 2500 MHz | 23.1 | 23.1 |
| 2690 MHz | 32.7 | 32.7 |

S21 Insertion Loss



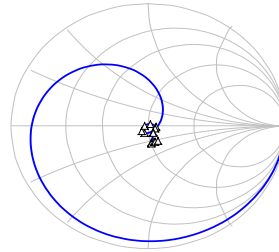
| Attenuation | Frequency [MHz] | Value [dB] |
|-------------|-----------------|------------|
| 3300 MHz | 0.62 | 0.62 |
| 3400 MHz | 0.52 | 0.52 |
| 3600 MHz | 0.39 | 0.39 |
| 3800 MHz | 0.31 | 0.31 |
| 4200 MHz | 0.22 | 0.22 |
| 4400 MHz | 0.19 | 0.19 |
| 5000 MHz | 0.15 | 0.15 |
| 5150 MHz | 0.15 | 0.15 |
| 5850 MHz | 0.25 | 0.25 |
| 5925 MHz | 0.26 | 0.26 |
| 7125 MHz | 0.28 | 0.28 |
| 7150 MHz | 0.29 | 0.29 |
| 7250 MHz | 0.30 | 0.30 |

S11 Return Loss



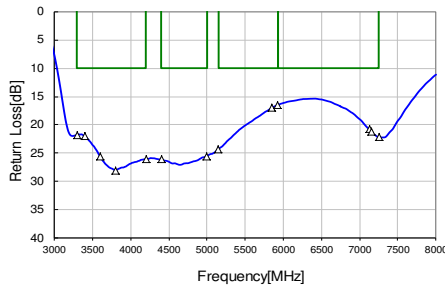
| Return Loss | Frequency [MHz] | Value [dB] |
|-------------|-----------------|------------|
| 3300 MHz | 24.3 | 24.3 |
| 3400 MHz | 24.5 | 24.5 |
| 3600 MHz | 32.1 | 32.1 |
| 3800 MHz | 31.8 | 31.8 |
| 4200 MHz | 25.0 | 25.0 |
| 4400 MHz | 25.0 | 25.0 |
| 5000 MHz | 24.8 | 24.8 |
| 5150 MHz | 23.7 | 23.7 |
| 5850 MHz | 17.3 | 17.3 |
| 5925 MHz | 16.8 | 16.8 |
| 7125 MHz | 17.3 | 17.3 |
| 7150 MHz | 17.3 | 17.3 |
| 7250 MHz | 17.2 | 17.2 |

S11 Smith Chart



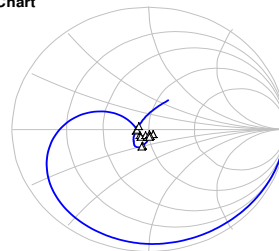
| Impedance | Frequency [MHz] | Value |
|-----------|-----------------|----------------|
| 3300 MHz | 47.19+ -5.27j | 47.19+ -5.27j |
| 3400 MHz | 45.4+ -3.35j | 45.4+ -3.35j |
| 3600 MHz | 47.64+ 0.56j | 47.64+ 0.56j |
| 3800 MHz | 51.96+ 1.72j | 51.96+ 1.72j |
| 4200 MHz | 55.92+ -0.77j | 55.92+ -0.77j |
| 4400 MHz | 55.57+ -2.07j | 55.57+ -2.07j |
| 5000 MHz | 53.55+ -4.83j | 53.55+ -4.83j |
| 5150 MHz | 53.48+ -5.79j | 53.48+ -5.79j |
| 5850 MHz | 50.75+ -13.79j | 50.75+ -13.79j |
| 5925 MHz | 50.17+ -14.55j | 50.17+ -14.55j |
| 7125 MHz | 52.84+ -13.91j | 52.84+ -13.91j |
| 7150 MHz | 53.54+ -13.76j | 53.54+ -13.76j |
| 7250 MHz | 55.71+ -13.58j | 55.71+ -13.58j |

S22 Return Loss



| Return Loss | Frequency [MHz] | Value [dB] |
|-------------|-----------------|------------|
| 3300 MHz | 21.7 | 21.7 |
| 3400 MHz | 22.0 | 22.0 |
| 3600 MHz | 25.5 | 25.5 |
| 3800 MHz | 28.0 | 28.0 |
| 4200 MHz | 26.1 | 26.1 |
| 4400 MHz | 26.1 | 26.1 |
| 5000 MHz | 25.5 | 25.5 |
| 5150 MHz | 24.3 | 24.3 |
| 5850 MHz | 17.0 | 17.0 |
| 5925 MHz | 16.5 | 16.5 |
| 7125 MHz | 20.8 | 20.8 |
| 7150 MHz | 21.2 | 21.2 |
| 7250 MHz | 22.2 | 22.2 |

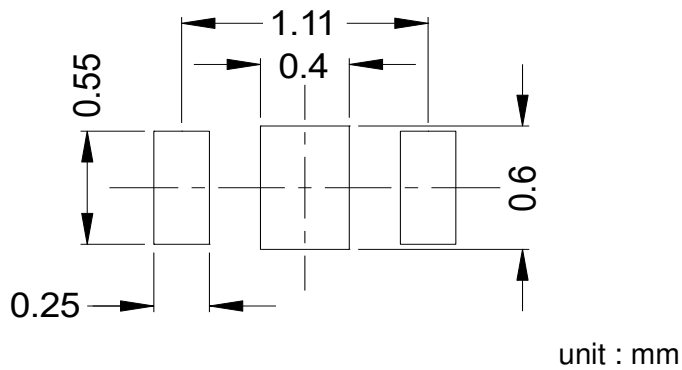
S22 Smith Chart



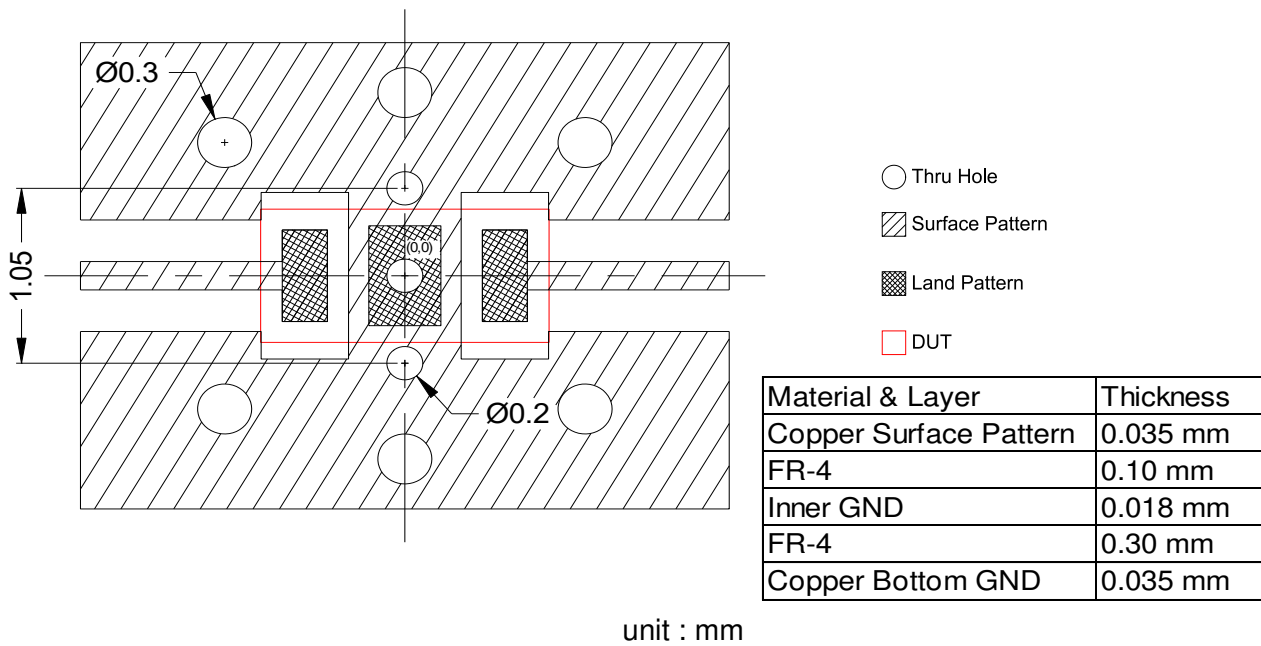
| Impedance | Frequency [MHz] | Value |
|-----------|-----------------|----------------|
| 3300 MHz | 43.67+ -4.32j | 43.67+ -4.32j |
| 3400 MHz | 44.49+ -5.09j | 44.49+ -5.09j |
| 3600 MHz | 47.4+ -4.45j | 47.4+ -4.45j |
| 3800 MHz | 50.69+ -3.94j | 50.69+ -3.94j |
| 4200 MHz | 53.35+ -3.9j | 53.35+ -3.9j |
| 4400 MHz | 53.39+ -3.86j | 53.39+ -3.86j |
| 5000 MHz | 51.28+ -5.23j | 51.28+ -5.23j |
| 5150 MHz | 50.35+ -6.15j | 50.35+ -6.15j |
| 5850 MHz | 44.28+ -12.18j | 44.28+ -12.18j |
| 5925 MHz | 43.64+ -12.54j | 43.64+ -12.54j |
| 7125 MHz | 41.65+ -0.95j | 41.65+ -0.95j |
| 7150 MHz | 42.01+ -0.23j | 42.01+ -0.23j |
| 7250 MHz | 43.2+ -2.48j | 43.2+ -2.48j |

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RECOMMENDED LAND PATTERN



EVALUATION BOARD



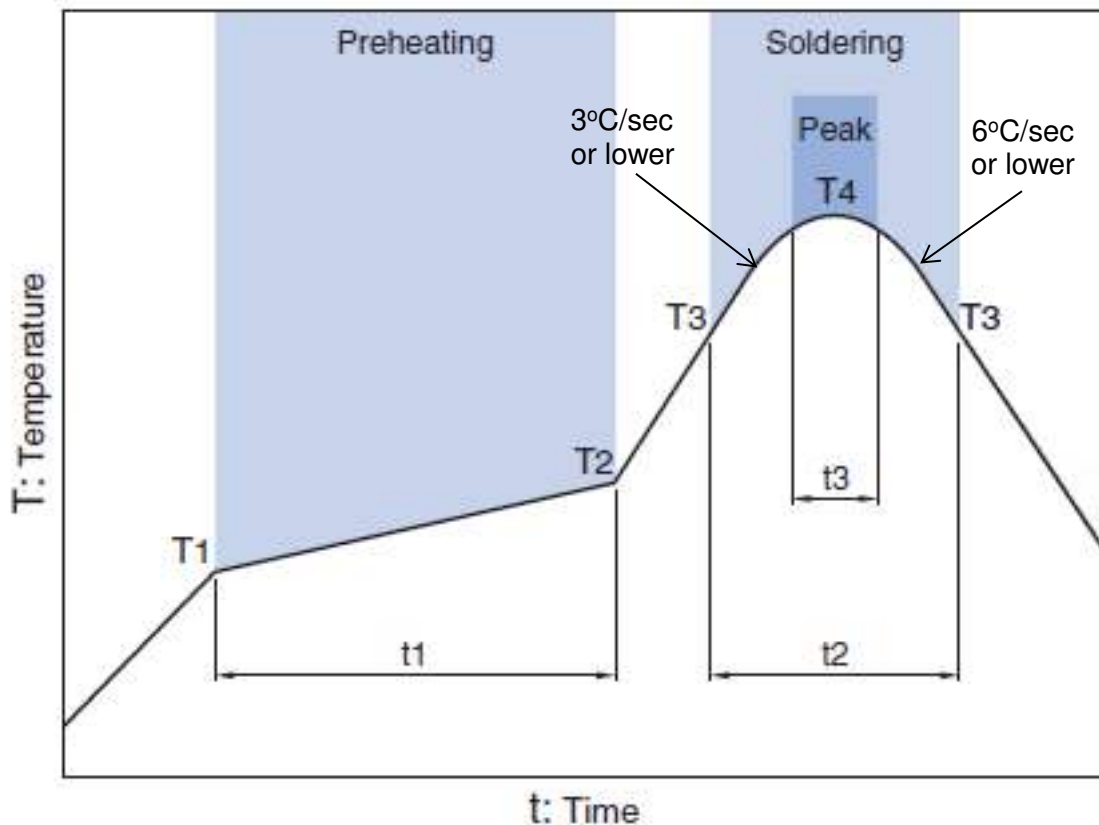
- * Line width should be designed to match 50 ohm characteristic impedance depending on PCB material and thickness.
- ** The position of the thru hole which have possibility of influence to the performance are indicated by dimension line.

ENVIRONMENT INFORMATION

RoHS Statement
 RoHS Compliance

DEA163300HT-8062A1

RECOMMENDED REFLOW PROFILE



| Preheating | | | Soldering | | | |
|------------|-------|--------------|--------------------------|--------------|--------------|------------|
| | | | Critical zone (T3 to T4) | | Peak | |
| Temp. | | Time | Temp. | Time | Temp. | Time |
| 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 |

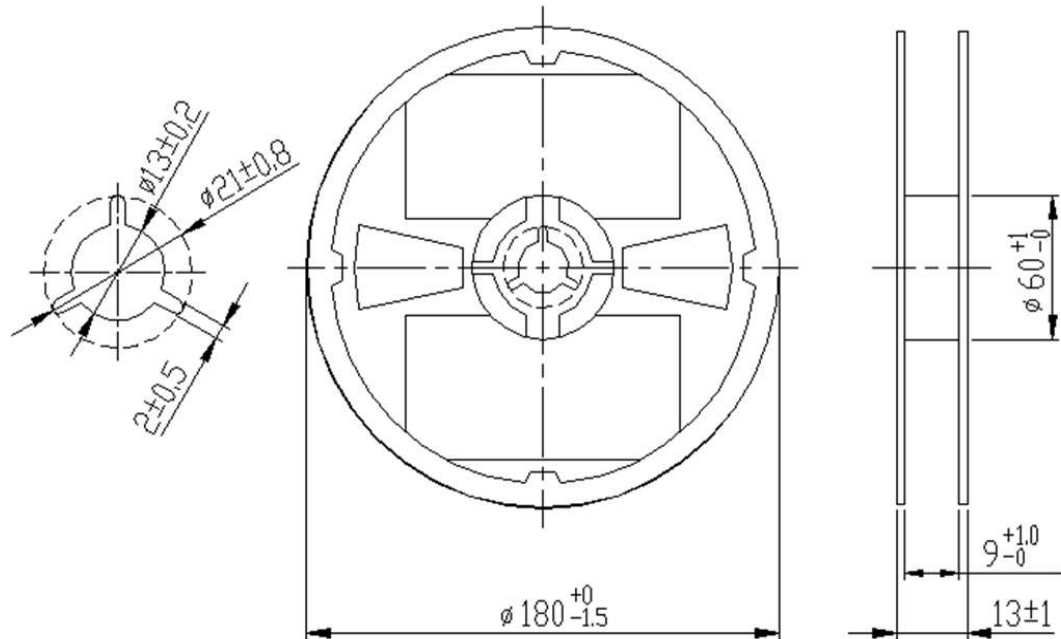
* t3 : Time within 5°C of actual peak temperature

The maximum number of reflow is 3.

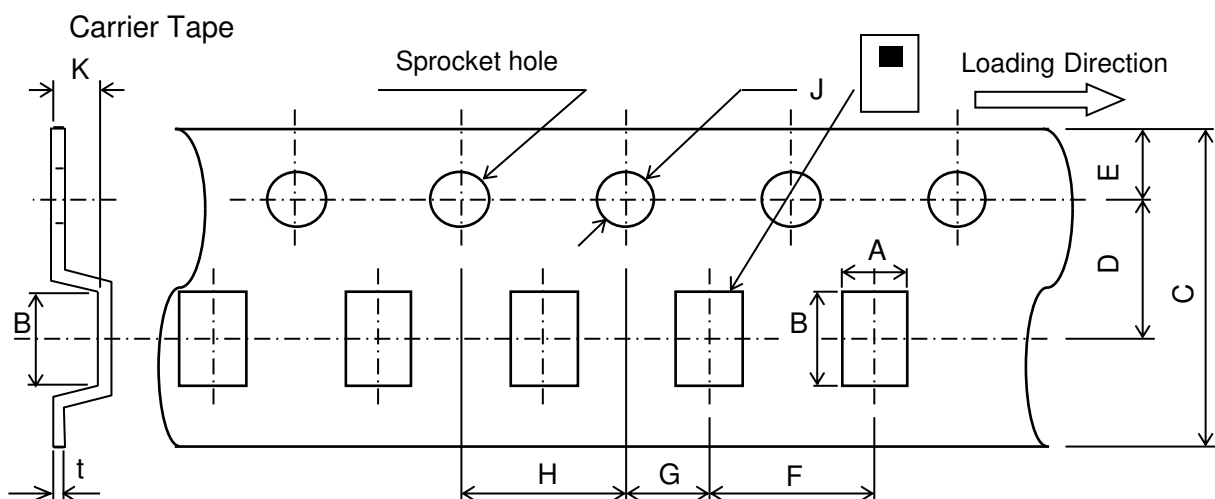
Note: Lead free solder is recommended.
Recommended solder is Sn-3.0Ag-0.5Cu. (M705 by Senju Metal Industry)

DEA163300HT-8062A1**PACKAGING STYLE**

Reel Dimensions



Dimensions in mm



Dimensions (mm)

| A | B | C | D | E | F | G | H | J | K | t |
|---------|---------|--------|---------|--------|--------|---------|--------|---------|-----|---------|
| 0.97 | 1.8 | 8.0 | 3.5 | 1.75 | 4.0 | 2.0 | 4.0 | 1.5 | 0.8 | 0.25 |
| +/-0.05 | +/-0.05 | +/-0.2 | +/-0.05 | +/-0.1 | +/-0.1 | +/-0.05 | +/-0.1 | +0.1/-0 | MAX | +/-0.05 |

STANDARD PACKAGE QUANTITY
(pieces/reel)

4,000

All specifications are subject to change without notice.

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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.