

# SPECIFICATION

SPEC. No. TFA7NAA00125

DATE: Jul.7th,2016

To

XIAMEN XIANGGAO ELECTRONICS CO.,LTD

CUSTOMER'S PRODUCT NAME

DEA162025LT-5046C1

TDK'S PRODUCT NAME

DEA162025LT-5046C1

## RECEIPT CONFIRMATION

DATE:            YEAR            MONTH            DAY

TDK Corporation  
Sales

Electronic Components Sales &  
Marketing Group

Engineering

Electronic Components Business Company  
Systems, Acoustics, Waves Business Group

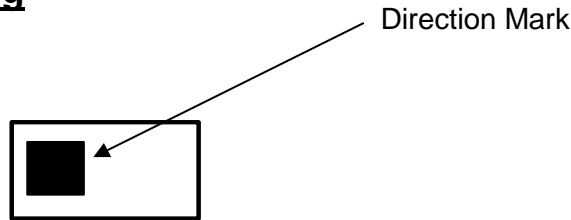
APPROVED	Person in charge

APPROVED	CHECKED	Person in charge
<i>N. Harada</i>	<i>M. Tsutsumi</i>	<i>M. Matsushima</i>



**LOW PASS FILTER Specification**  
 (TDK Part Number : DEA162025LT-5046C1)

**1. Marking**

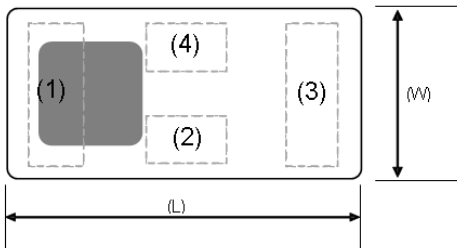


**2. Mechanical Outline**

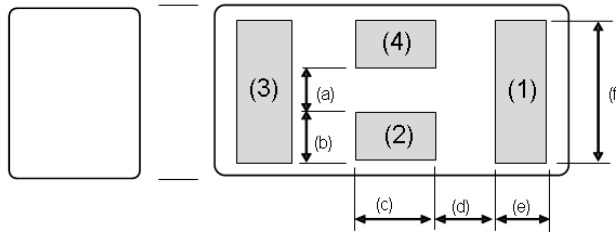
**2-1 Package**

Package:	Surface mount package
Delivery medium :	Tape on reel
Soldering method:	IR-reflow
Size:	1.6 X 0.8 mm typ.
Height:	0.6 mm typ.

[ Top View ]



[ Bottom View ]



[ Side View ]



[ Dimension (mm) ]

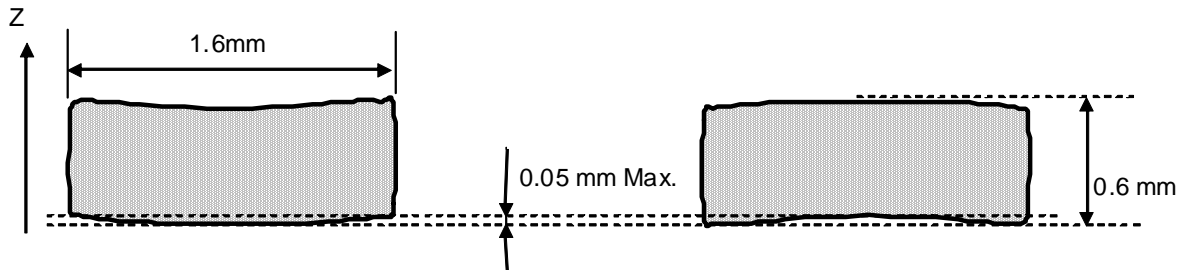
(L)	(W)	(T)	(a)	(b)	(c)	(d)	(e)	(f)
1.60	0.80	0.60	0.21	0.22	0.40	0.30	0.225	0.65
+/-0.10	+/-0.10	+/-0.10	+/-0.05	+/-0.05	+/-0.05	+/-0.05	+/-0.05	+/-0.05

[ Pin Assignment ]

(1)	(2)	(3)	(4)
IN/OUT	GND	OUT/IN	GND

## 2-2.Coplanarity

0.05 mm max. difference in Z-direction as follows



Each terminal extends the full of DEA162025LT-5046C1. Hence any co-planarity deviation between terminals is due to curvature in the substrate. TDK guarantees that the edge of each terminal is within 0.05 mm of the horizontal plane.

## 3. Environment (Temperature & Humidity)

### 3-1 Operating & Storage condition

Storage temperature range	: -40 ~ +85 °C
Operating temperature range	: -40 ~ +85°C
Humidity	: 0 ~ 90 % RH (Max. wet bulb temperature 38°C)

### 3-2 Storage condition before soldering

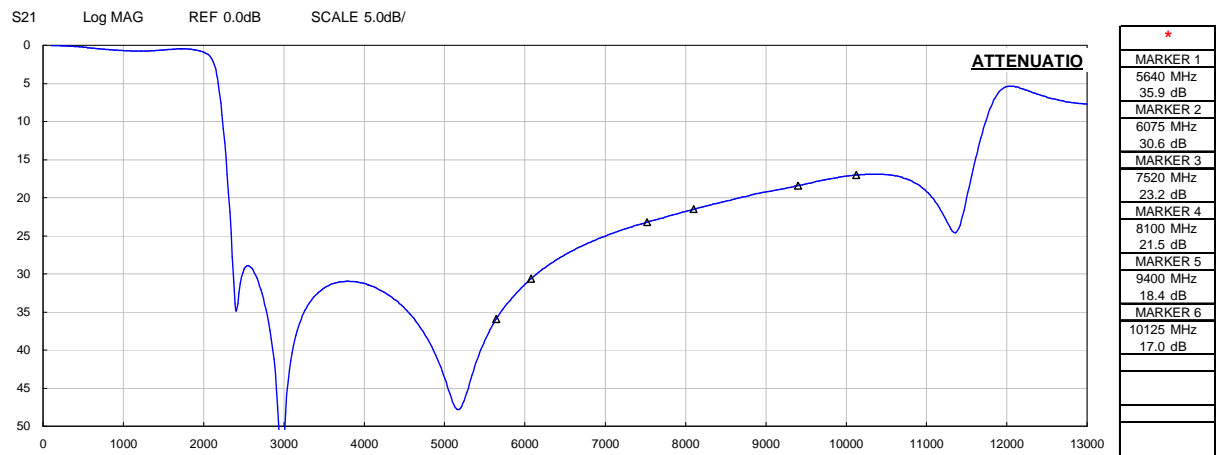
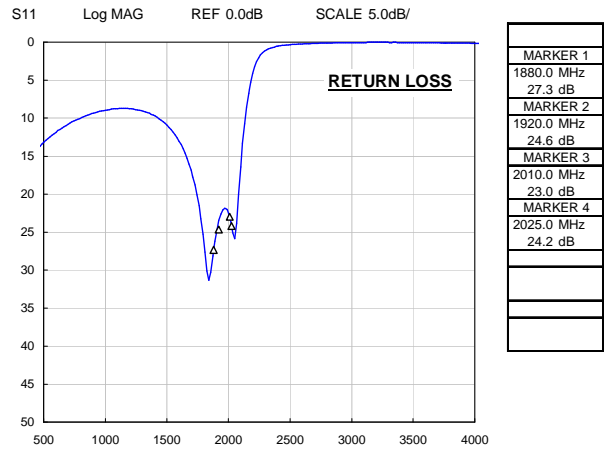
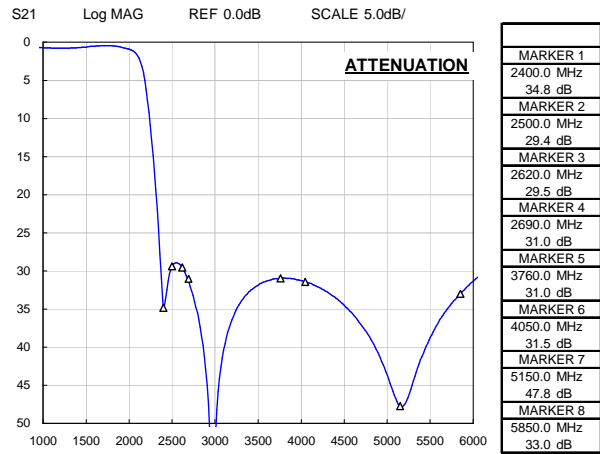
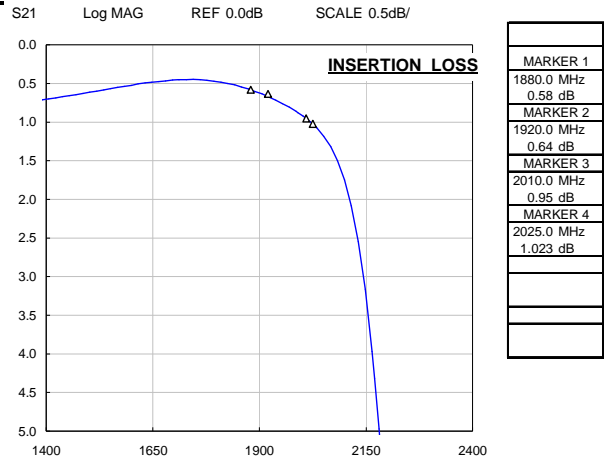
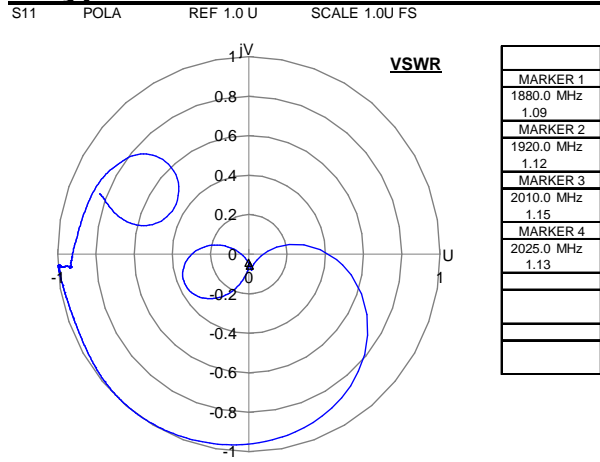
Temperature	: +5 ~ +30 °C
Humidity	: 20 ~ 70 % RH
Term of storage	: Within 6 months
Baking	: Unnecessary

**4. Electrical Specification (Ta=+25°C)**

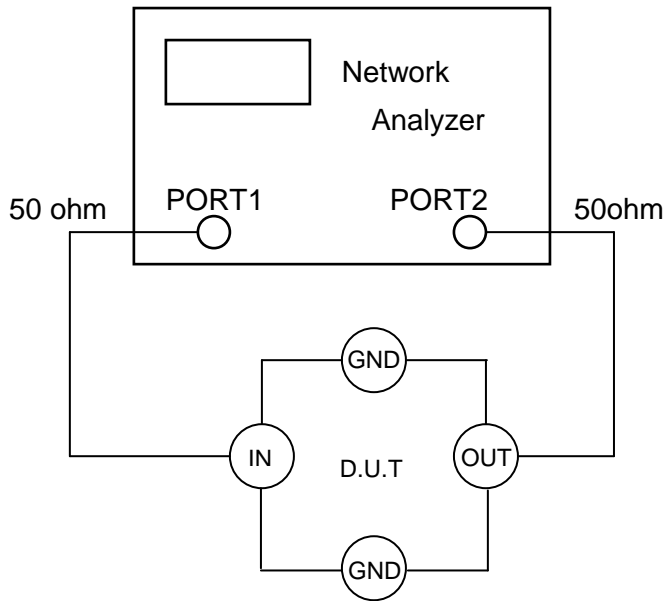
Parameter	Band	Frequency [MHz]	Specification		Sample Typ.	Unit
			Min	Max		
Insertion Loss (at 25°C)	Pass Band (f1) B34 , 39	1880 - 2025	-	1.35	<b>1.0</b>	dB
Insertion Loss (at -40 ~ +85 °C)		1880 - 2025	-	1.50	-	dB
VSWR (at -40 ~ +85 °C)		1880 - 2025	-	1.7	<b>1.2</b>	-
Attenuation (at -40 ~ +85 °C)	Wi-fi ISM(2.4G)	2400 - 2500	25	-	<b>29</b>	dB
	Wi-fi ISM(5G)	5150 - 5850	30	-	<b>33</b>	dB
	2x(f1)	3760 - 4050	27	-	<b>31</b>	dB
	3x(f1)	5640 - 6075	27	-	<b>30</b>	dB
	4x(f1)	7520 - 8100	17	-	<b>21</b>	dB
	5x(f1)	9400 - 10125	12	-	<b>17</b>	dB
Power Capacity			-	30	-	dBm

We recommend to terminate for all port with 50ohm at all times.

### 5. Typical electrical characteristics



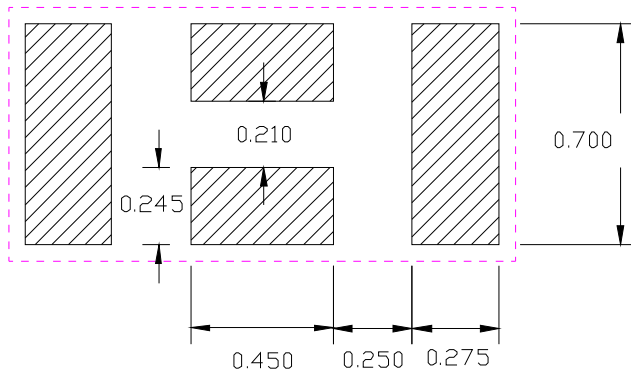
### 6.Measuring Conditions



**Note 1:** The Port Extension function on the Network Analyzer is used to extend the calibration plane to the DUT terminals.

**Note 2:** Loss in the PCB traces is compensated for by measurement data taken on a PCB Thru' line.

### 7.Land Pattern



Unit : mm

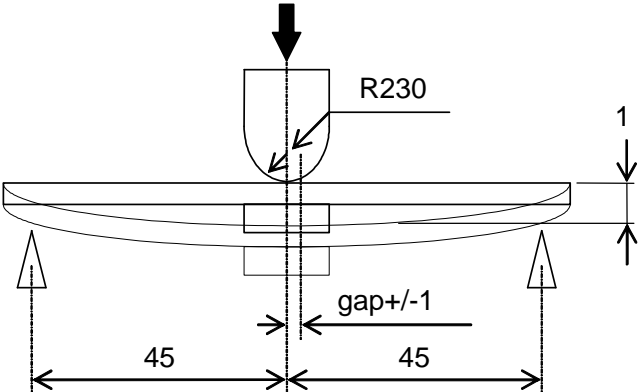
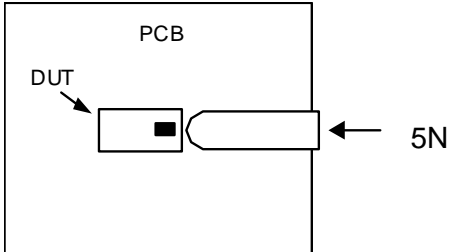
## **8. Environmental and quality proposal**

This product satisfies the electrical specification after the following tests.

(When measured after two hours in normal conditions)

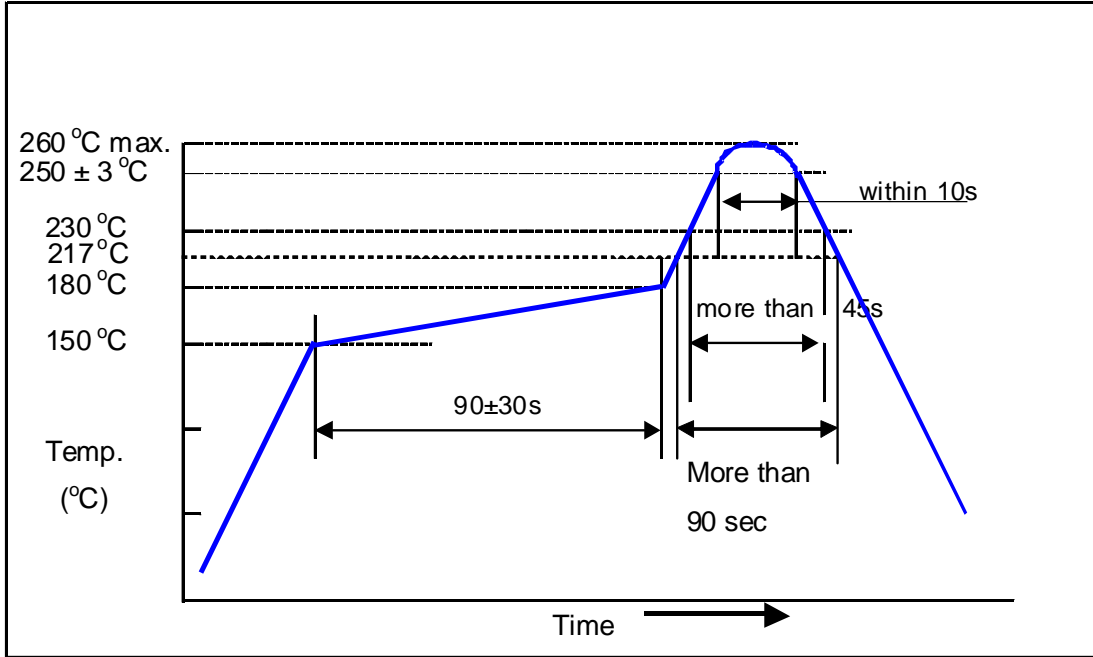
Temperature characteristics:	All data initially taken at +25°C, then repeated at -40°C and again at +85°C.
Heat proof:	+85 °C +/- 2 °C for 1000 hours
Cold proof:	-40 °C +/- 2 °C or 500 hours
Moisture proof:	+60 °C +/- 2 °C, 90 ~95% R.H. for 1000 hours
Heat shock:	-40 ~ +85 °C for 350 cycles each cycle being 30 min
Vibration:	10-500Hz vibration frequency (10G Max.) with 1.52mmp-p amplitude for two hours in x,y,z directions
Mechanical shock:	1.Acceleration 1000m/s <sup>2</sup> 2.Direction X, Y, Z ,X',Y',Z',axes 3.Time 6ms duration and 3 times in each direction
Solderability	The dipped surface of the terminal shall be at least 75% covered with solder after dipped in solder bath of 245 °C +/- 3 °C for 3 +/- 0.5 sec. Remark solder: Sn-3.0Ag-0.5Cu Remark flux: Rosin 25%, Alcohol 75%
Solder heat shock:	It shall be possible to hot air reflow the components twice with a temperature profile shown below.
Drop shock:	Dropped onto steel plate or concrete from 100cm height three times .
Bending test:	Solder specimen components on the test printed circuit board(L:100 x w:40 x t:0.8mm) in appended recommended PCB pattern Apply the load in direction of the arrow until bending reaches 1mm for 5 +/- 1 sec.



	 <p style="text-align: right;">Unit:mm</p>
<p>Board adhesion (Push test):</p>	<p>Solder specimen components on the test printed circuit board(L:100 x w:40 x t:0.8mm) in appended recommended PCB pattern Apply the load in direction of the arrow until 5N for 5 +/-1 sec .</p> 

### 9. Recommended reflowing temperature profile

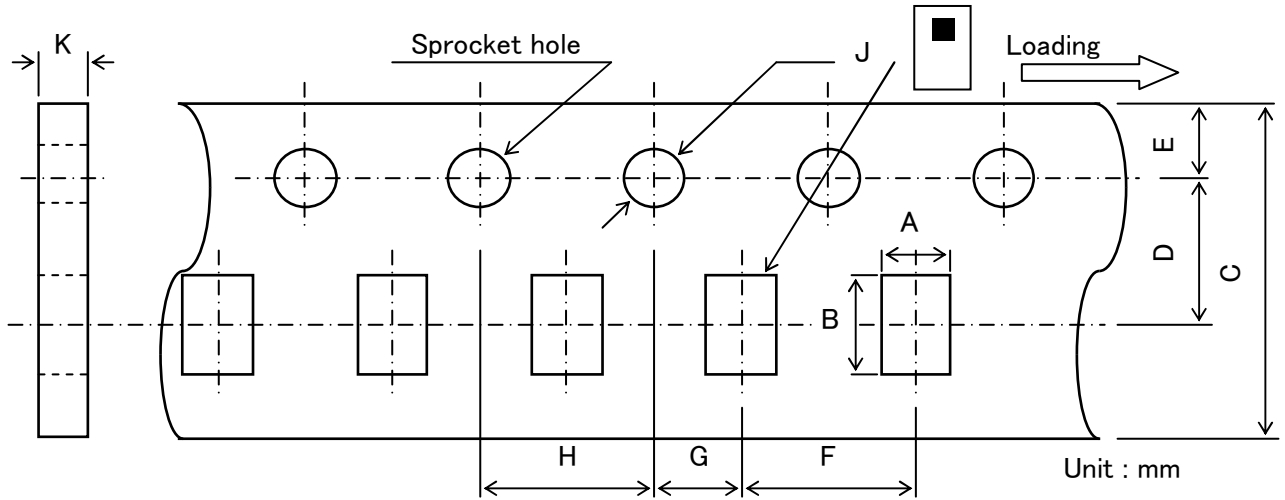
Pb free solder



### 10. Packing

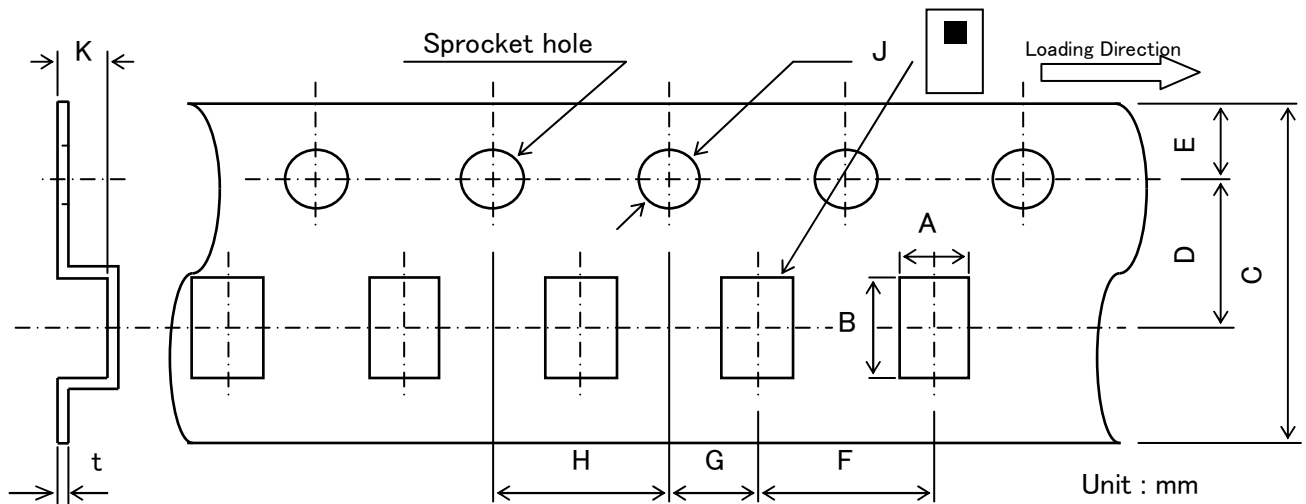
#### 10-1 Carrier tape

Carrier tape 1 , Material : paper



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

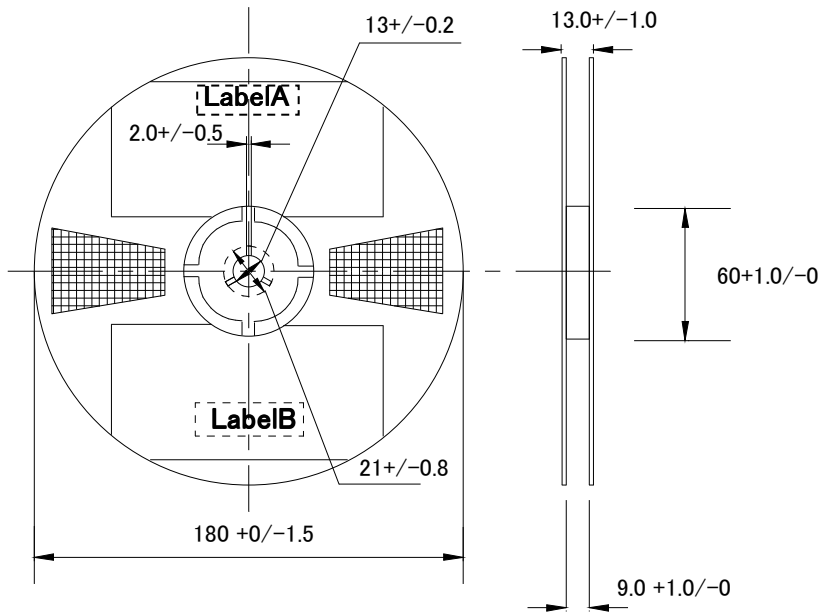
Carrier tape 2 , Material : PS



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

“Carrier tape 1” is currently adopted. “Carrier tape 2” will be running change after Feb.2016..

**10-2. Reel Dimensions**



Unit : mm

**10-3. Standard Reel Packaging quantities**

4000pcs./reel

## **11. Other**

### **11-1 Notice**

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.

Aerospace/Aviation equipment  
Transportation equipment (cars, electric trains, ships, etc.)  
Medical equipment  
Power-generation control equipment  
Atomic energy-related equipment  
Seabed equipment  
Transportation control equipment  
Public information-processing equipment  
Military equipment  
Electric heating apparatus, burning equipment  
Disaster prevention/crime prevention equipment  
Safety equipment  
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.

### **11-2 Product Origin**

1. TDK-UGO Corporation, Akita, Japan
2. TDK Dalian Corporation, Dalian ,China

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