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**

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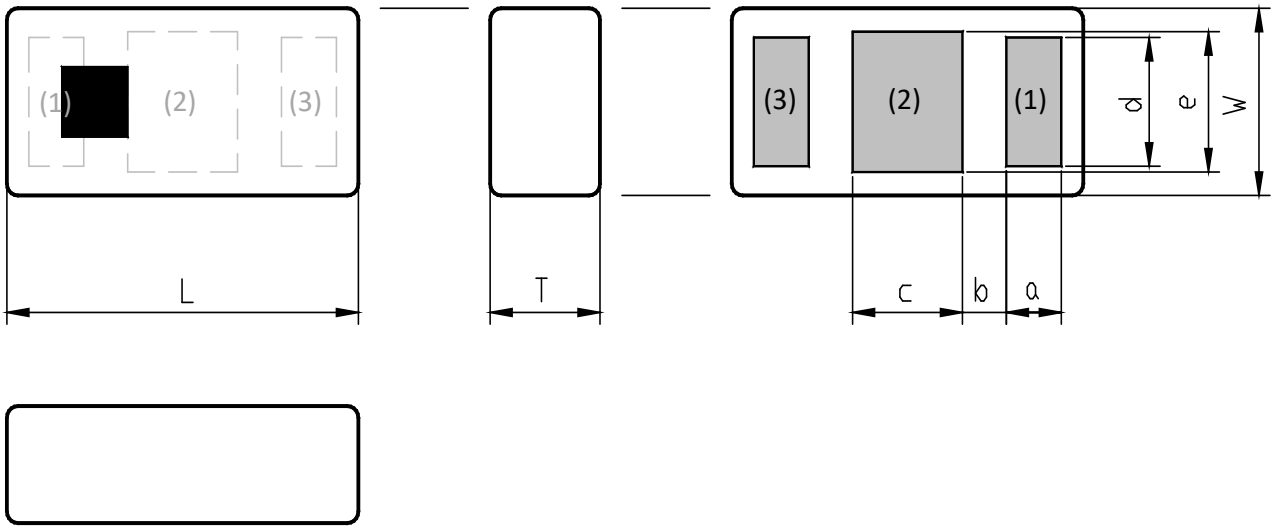
May. 2021 Ver.4.0
TDK Corporation

DEA163300HT-8062A1

SHAPES AND DIMENSIONS

[Top View] [Bottom View]



Dimensions (mm)

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

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May. 2021 Ver.4.0
TDK Corporation

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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May. 2021 Ver.4.0
TDK Corporation

DEA163300HT-8062A1

■ 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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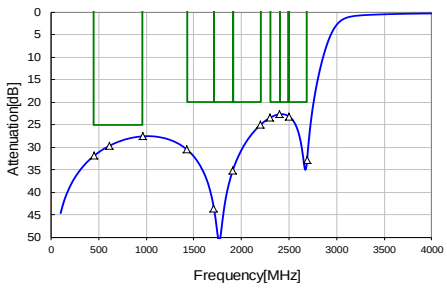
May. 2021 Ver.4.0
TDK Corporation

DEA163300HT-8062A1

FREQUENCY CHARACTERISTICS

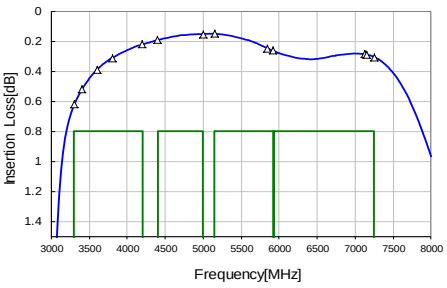
S21 Attenuation



Attenuation

450	MHz	31.8	dB
617	MHz	29.7	dB
960	MHz	27.5	dB
1427	MHz	30.4	dB
1710	MHz	43.5	dB
1910	MHz	35.0	dB
2200	MHz	25.0	dB
2300	MHz	23.4	dB
2400	MHz	22.6	dB
2500	MHz	23.1	dB
2690	MHz	32.7	dB

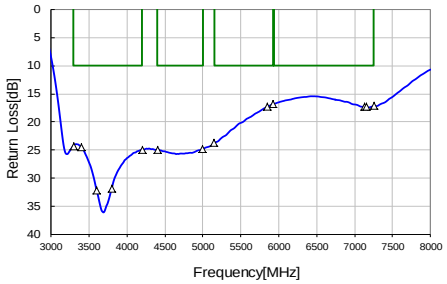
S21 Insertion Loss



Attenuation

3300	MHz	0.62	dB
3400	MHz	0.52	dB
3600	MHz	0.39	dB
3800	MHz	0.31	dB
4200	MHz	0.22	dB
4400	MHz	0.19	dB
5000	MHz	0.15	dB
5150	MHz	0.15	dB
5850	MHz	0.25	dB
5925	MHz	0.26	dB
7125	MHz	0.28	dB
7150	MHz	0.29	dB
7250	MHz	0.30	dB

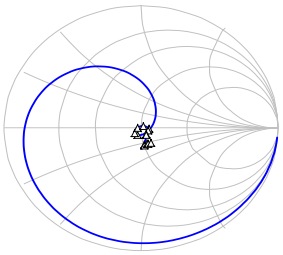
S11 Return Loss



Return Loss

3300	MHz	24.3	dB
3400	MHz	24.5	dB
3600	MHz	32.1	dB
3800	MHz	31.8	dB
4200	MHz	25.0	dB
4400	MHz	25.0	dB
5000	MHz	24.8	dB
5150	MHz	23.7	dB
5850	MHz	17.3	dB
5925	MHz	16.8	dB
7125	MHz	17.3	dB
7150	MHz	17.3	dB
7250	MHz	17.2	dB

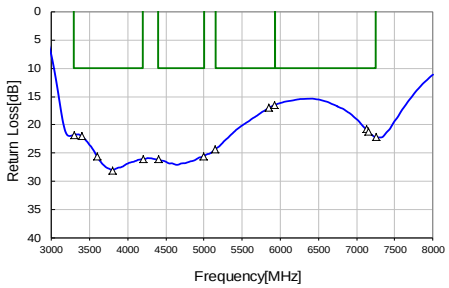
S11 Smith Chart



Impedance

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

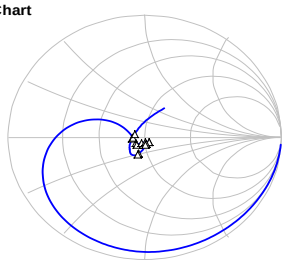
S22 Return Loss



Return Loss

3300	MHz	21.7	dB
3400	MHz	22.0	dB
3600	MHz	25.5	dB
3800	MHz	28.0	dB
4200	MHz	26.1	dB
4400	MHz	26.1	dB
5000	MHz	25.5	dB
5150	MHz	24.3	dB
5850	MHz	17.0	dB
5925	MHz	16.5	dB
7125	MHz	20.8	dB
7150	MHz	21.2	dB
7250	MHz	22.2	dB

S22 Smith Chart



Impedance

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

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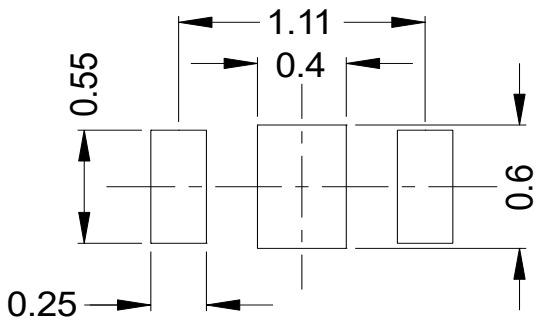
May. 2021 Ver.4.0
TDK Corporation

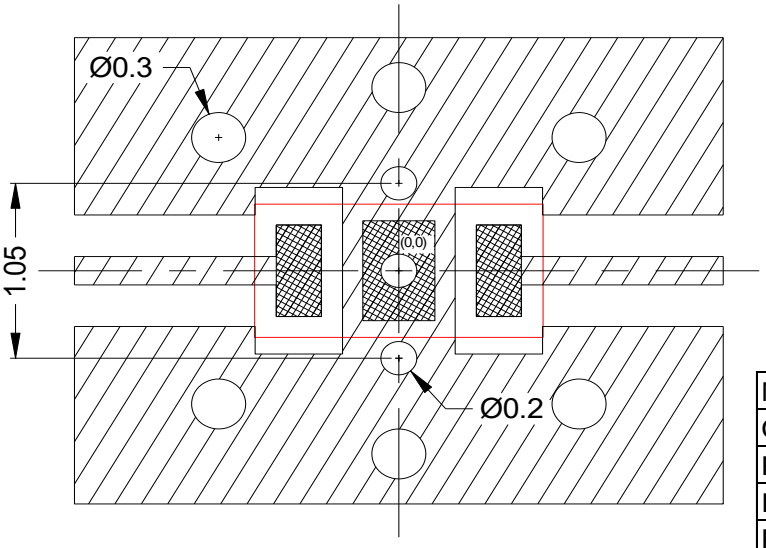
DEA163300HT-8062A1

RECOMMENDED LAND PATTERN



unit : mm

EVALUATION BOARD



Material & Layer	Thickness
Copper Surface Pattern	0.035 mm
FR-4	0.10 mm
Inner GND	0.018 mm
FR-4	0.30 mm
Copper Bottom GND	0.035 mm

unit : mm

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

ENVIRONMENT INFORMATION

RoHS Statement
RoHS Compliance

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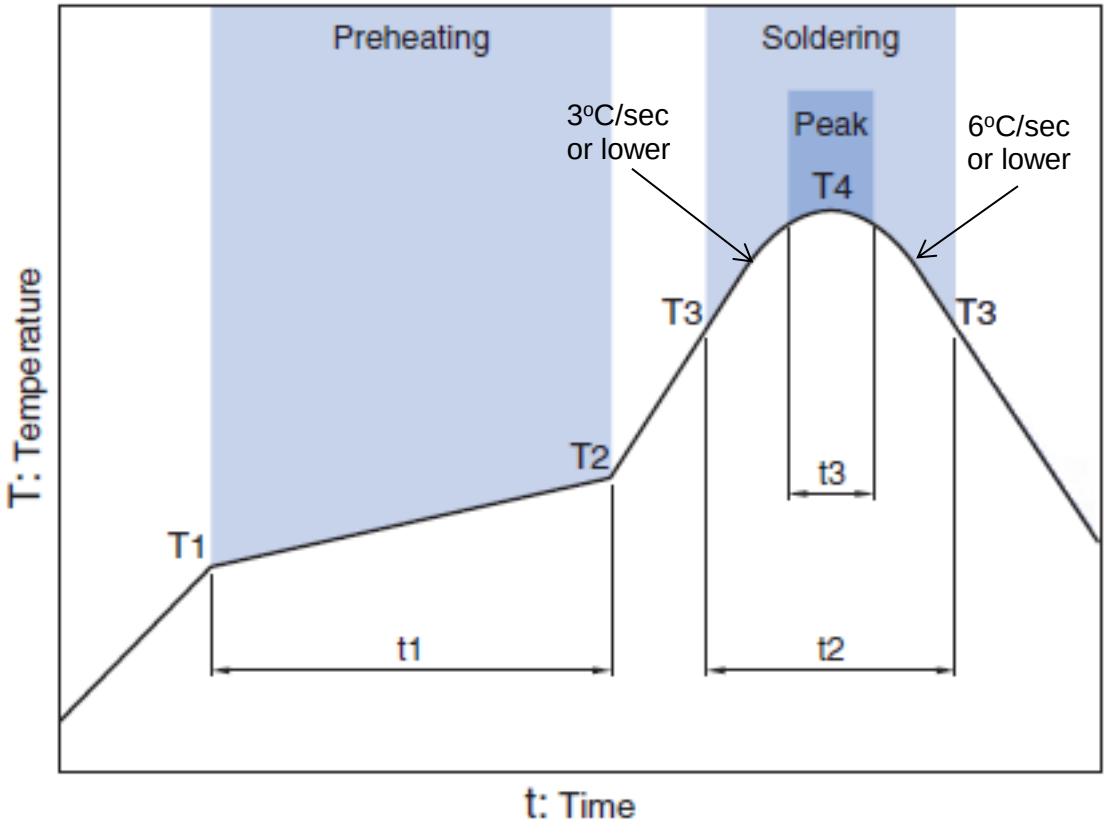
May. 2021 Ver.4.0
TDK Corporation

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)

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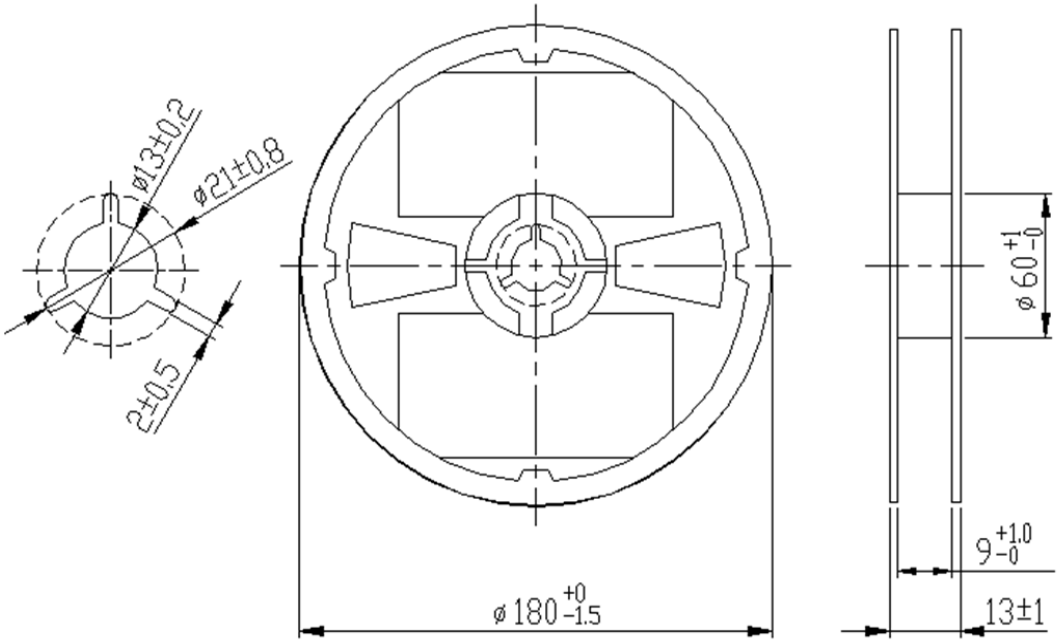
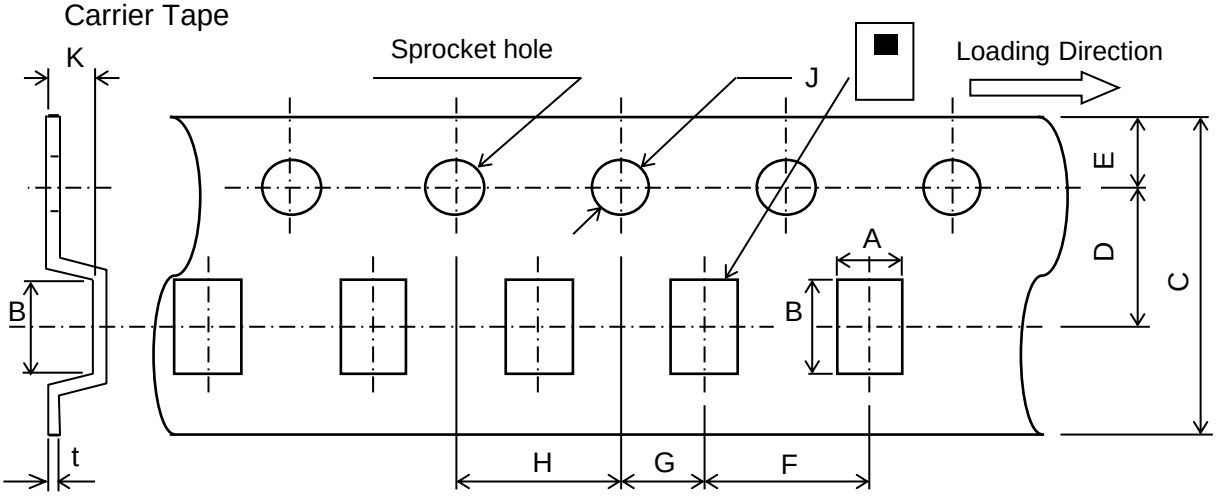
PACKAGING STYLE

Reel Dimensions



Dimensions in mm

Carrier Tape



Dimensions (mm)

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

STANDARD PACKAGE QUANTITY (pieces/reel)
4,000

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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.

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