



Jan. 2022 Ver.1.0  
TDK Corporation

## Multilayer Band Pass Filter

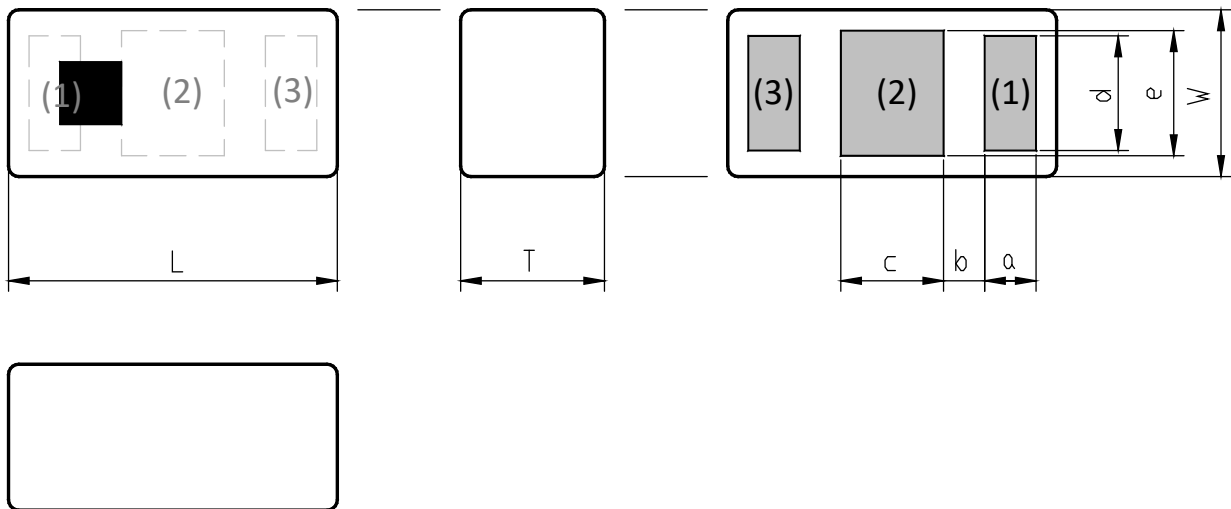
For 5150-5950MHz

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

P/N: **DEA165550BT-2322A1-H**

## DEA165550BT-2322A1-H

### ■ SHAPES AND DIMENSIONS



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
+/-0.15	+/-0.10	Max	+/-0.10	+/-0.10	+/-0.10	+/-0.15	+/-0.15

Terminal functions

(1)	Input Port
(2)	GND
(3)	Output Port

DC Cut

YES. IN and OUT are isolated at DC.

### ■ TERMINATION FINISH

Material
Ag

## DEA165550BT-2322A1-H

### ■ ELECTRICAL CHARACTERISTICS

( Measurement )

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	5150 to 5950	-	1.22	1.40
Insertion Loss (dB) ( -40 to +90 °C )	5150 to 5950	-		1.55
Return Loss (dB) ( Input / Output Port )	5150 to 5950	9	14.2	-
Attenuation (dB)	DC to 1700	30	34.3	-
	1700 to 3300	30	34.3	-
	3300 to 4200	30	46.0	-
	7200 to 8000	10	35.3	-
	8000 to 10000	20	31.3	-
	10000 to 18000	5	26.4	-
Characteristic Impedance (ohm)		50 (Nominal)		

Ta = +25+/-5°C

### ■ MAXIMUM RATINGS

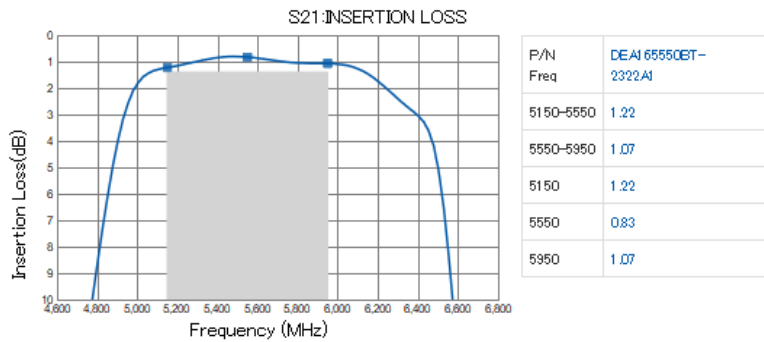
Parameter		TDK Spec	Conditions
Operating temperature (°C)		-40 to +90 °C	
Storage temperature (°C)		-40 to +90 °C	
Power Handling (W) *1	Frequency (MHz)		
	5150 to 5950	1	CW
Human Body Model : HBM	@Each Port (V)	+/-1000	100pF / 1500ohm
Machine Model : MM	@Each Port (V)	+/-150	200pF / 0ohm
Charged Device Model : CDM	@Each Port (V)	+/-500	Humidity : 60%RH max

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

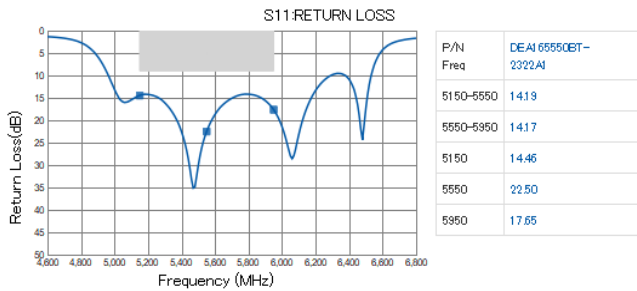
# DEA165550BT-2322A1-H

## FREQUENCY CHARACTERISTICS

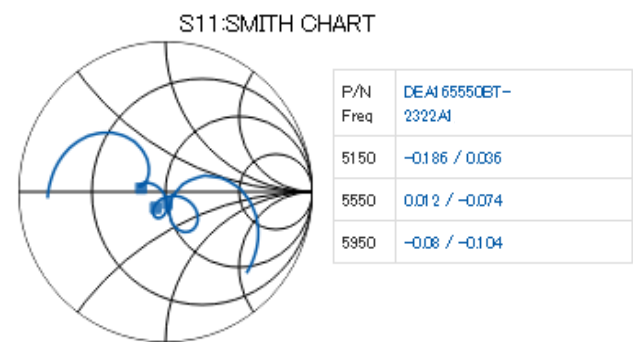
### Insertion Loss



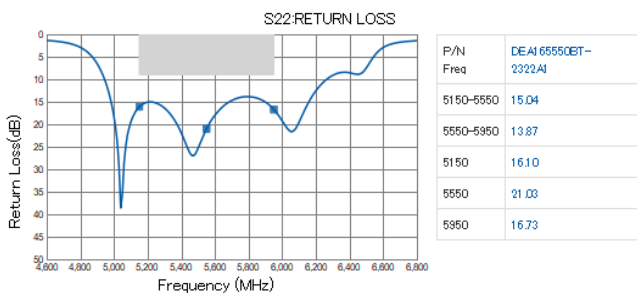
### Return Loss (Input Port)



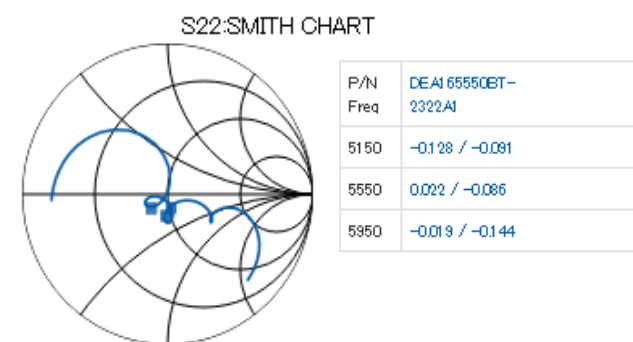
### Smith Chart (Input Port)



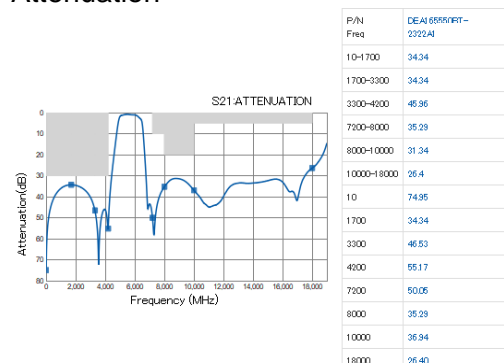
### Return Loss (Output Port)



### Smith Chart (Output Port)



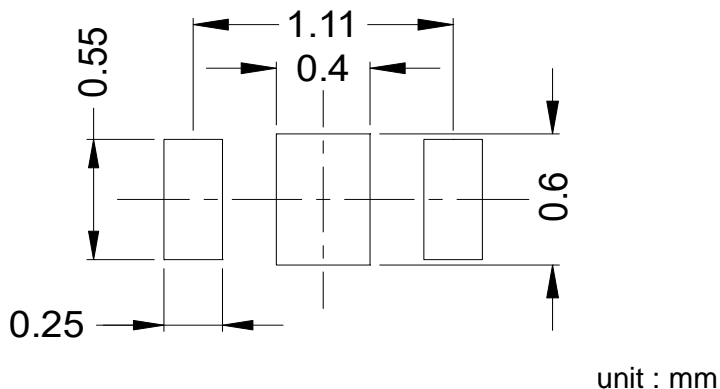
### Attenuation



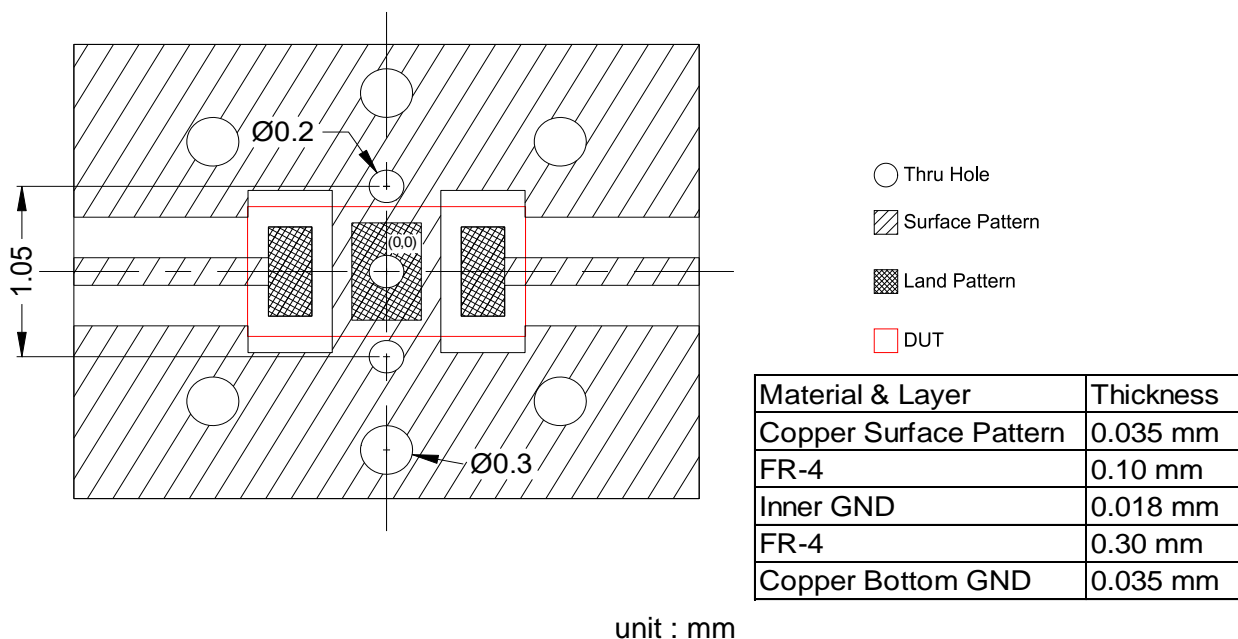
All specifications are subject to change without notice.

## DEA165550BT-2322A1-H

### RECOMMENDED LAND PATTERN



### EVALUATION BOARD



\* Line width should be designed to match 50 ohm characteristic impedance depending on PCB material and thickness.

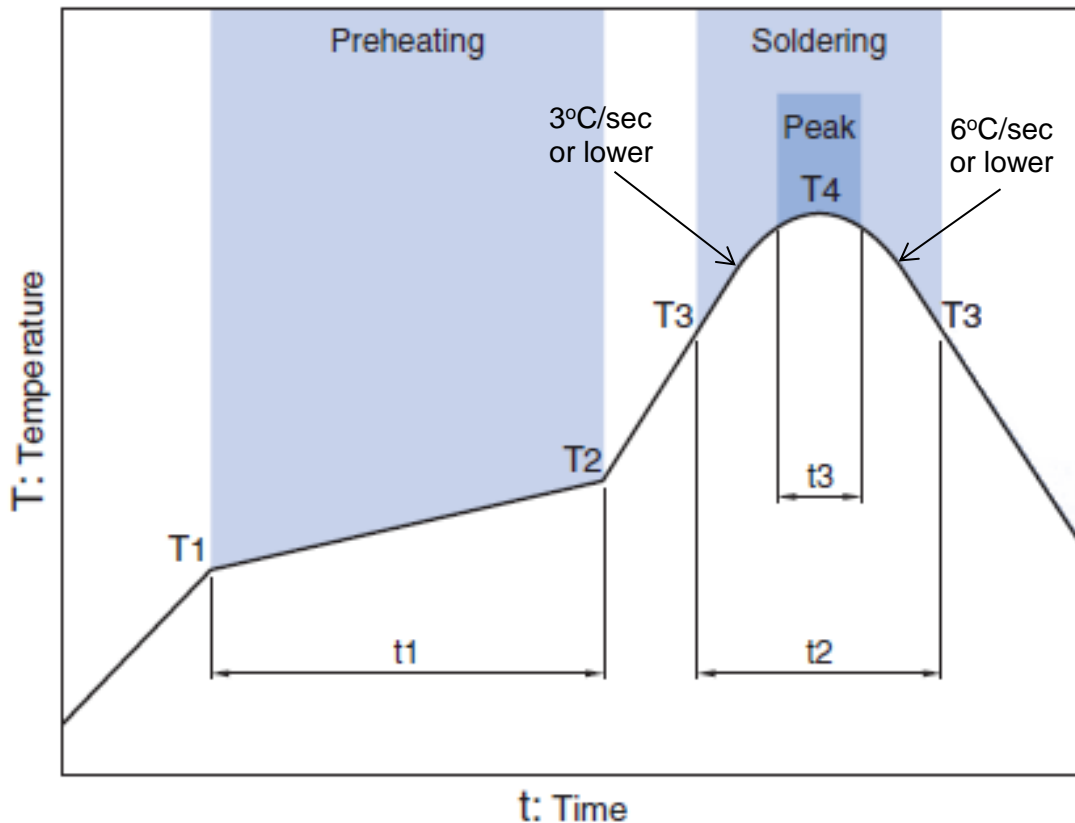
\*\* The position of the through hole which have possibility of influence to the performance are indicated by dimension line.

### ENVIRONMENT INFORMATION

RoHS Statement  
RoHS Compliance

## DEA165550BT-2322A1-H

### 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

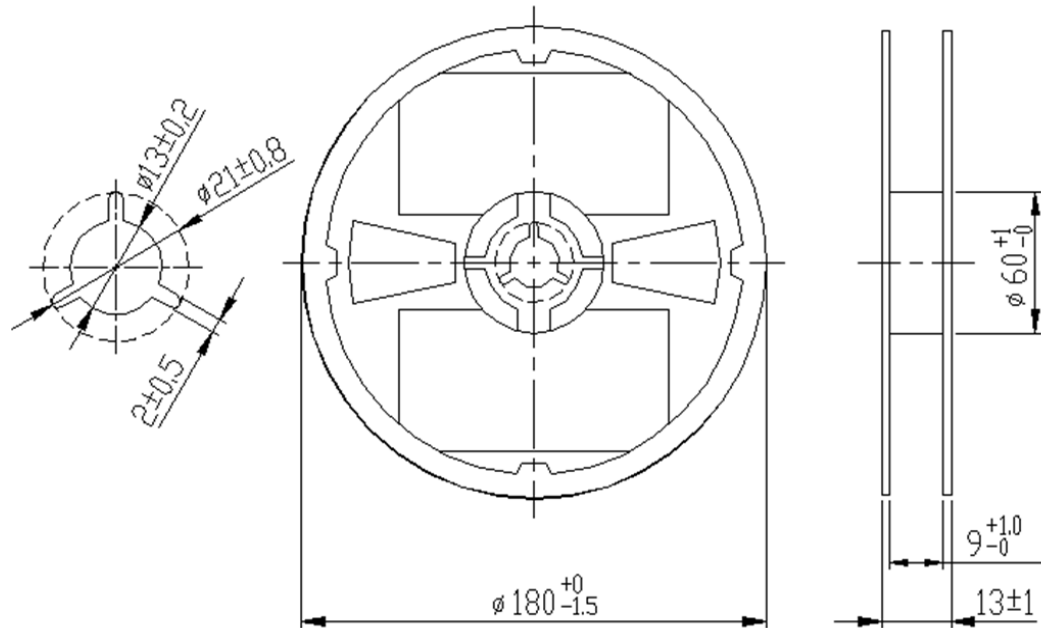
\* t3 : Time within 5°C of actual peak temperature

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)

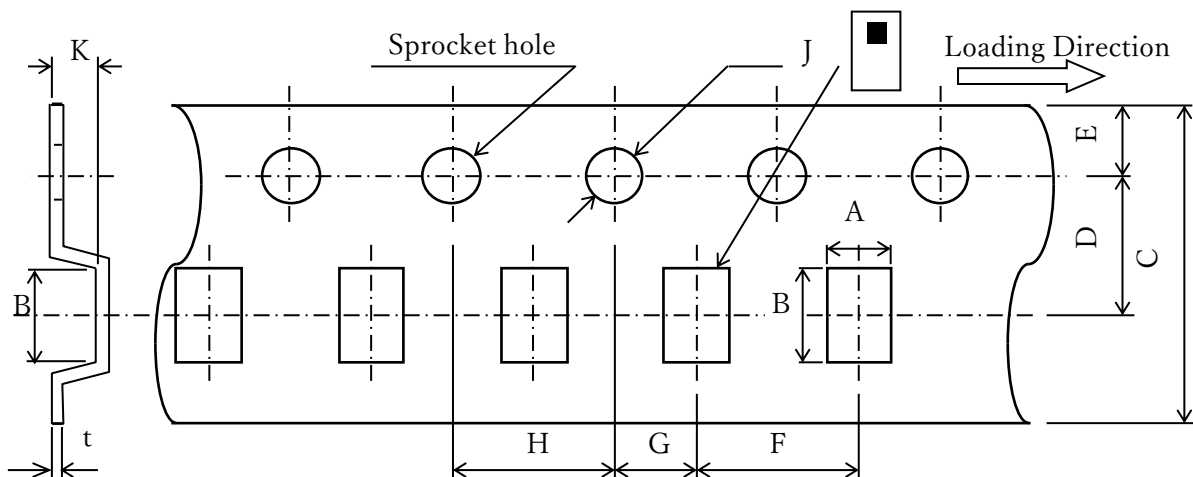
**DEA16550BT-2322A1-H****PACKAGING STYLE**

## Reel Dimensions



Dimensions in mm

## Carrier Tape



## 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
$\pm 0.05$	$\pm 0.05$	$\pm 0.2$	$\pm 0.05$	$\pm 0.1$	$\pm 0.1$	$\pm 0.05$	$\pm 0.1$	$+0.1/-0$	MAX	$\pm 0.05$

**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 catalog 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 catalog.

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

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.