



May. 2021 Ver.2.0
TDK Corporation

Multilayer Band Pass Filter

WiFi 5g C-band

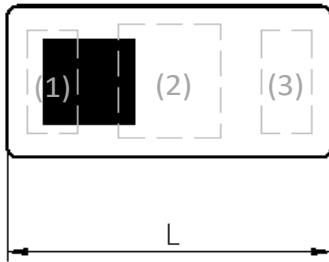
DEA Series 1.6x0.8mm [EIA 0603] TYPE

P/N: **DEA166200BT-2356A3**

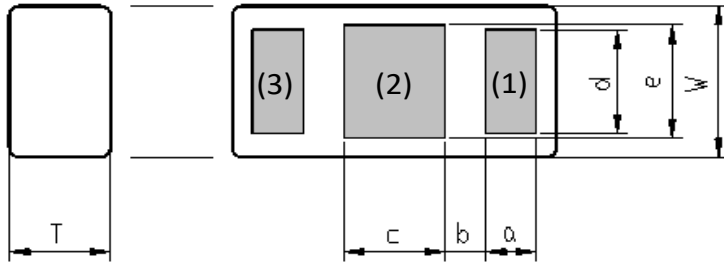
DEA166200BT-2356A3

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

Terminal functions

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

■ TERMINATION FINISH

Material
Ag

DEA166200BT-2356A3

■ ELECTRICAL CHARACTERISTICS

(Measurement)

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	5150 to 5710	-	1.31	1.60
	5710 to 5925	-	1.27	1.60
	5925 to 6425	-	1.27	1.60
	6425 to 7125	-	1.15	1.60
	7125 to 7250	-	1.15	1.60
Insertion Loss (dB) -40 to +90 °C	5150 to 5710	-		1.90
	5710 to 5925	-		1.90
	5925 to 6425	-		1.90
	6425 to 7125	-		1.90
	7125 to 7250	-		2.10
Return Loss@Input (dB)	5150 to 5925	6	10	-
	5925 to 7125	6	10	-
	7125 to 7250	8	12	-
Return Loss@Output (dB)	5150 to 5925	6	9	-
	5925 to 7125	6	9	-
	7125 to 7250	8	12	-
Attenuation (dB)	100 to 960	40	55	-
	1166 to 1249	40	50	-
	1427 to 1610	40	47	-
	1695 to 2200	40	43	-
	2300 to 2370	40	43	-
	2400 to 2483	40	43	-
	2496 to 2690	40	42	-
	3300 to 4200	38	44	-
	4500 to 4600	12	20	-
	4800 to 4900	1	3	-
	7250 to 7800	0	1	-
	7600 to 8400	1	3	-
	9000 to 9200	30	51	-
	9600 to 9800	30	41	-
10300 to 11850	30	43	-	
11850 to 14250	24	28	-	

Ta = +25+/-5°C

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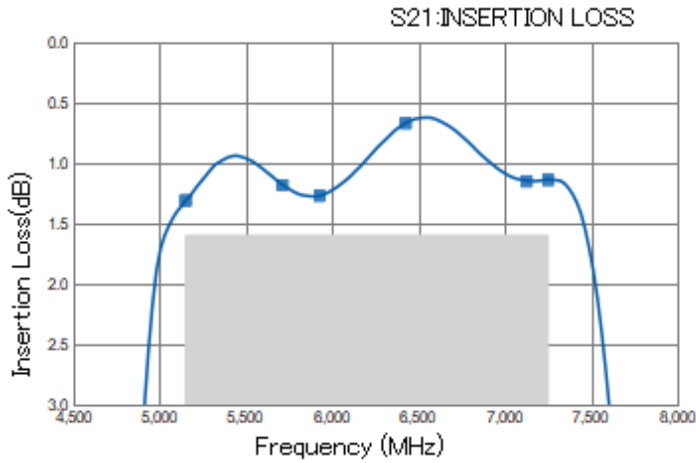
■ MAXIMUM RATINGS

Parameter		TDK Spec	Conditions
Operating temperature (°C)		-40 to +90 °C	
Storage temperature (°C)		-40 to +90 °C	
Power Handling (W)	Frequency (MHz)		
	5150 to 7250	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

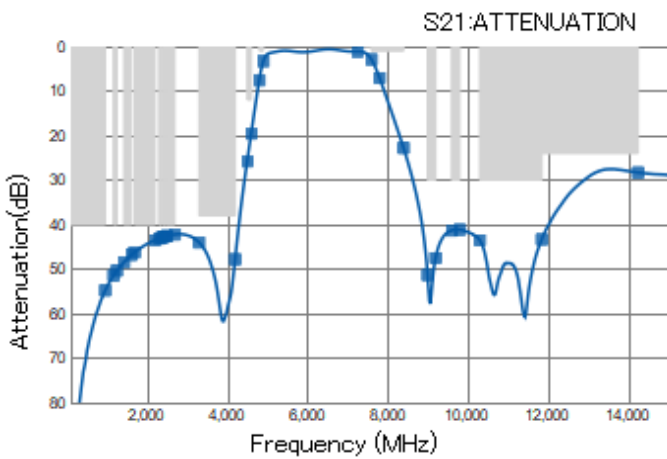
*1 : Refer to 3GPP TS 38.101-1 V15.2.0

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FREQUENCY CHARACTERISTICS



P/N	DEA166200BT-
Freq	2356A3_ver.1_0_20200609
5150	1.31
5710	1.18
5925	1.27
6425	0.67
7125	1.15
7250	1.14



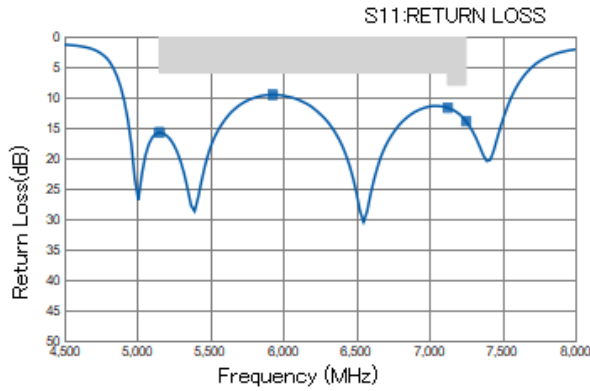
P/N	DEA166200BT-
Freq	2356A3_ver.1_0_20200609
100	39.62
960	54.77
1166	51.44
1249	50.34
1427	48.42
1610	46.81
1695	46.20
2200	43.47
2300	43.07
2370	42.93
2400	42.81

P/N	DEA166200BT-
Freq	2356A3_ver.1_0_20200609
2483	42.57
2496	42.53
2690	42.22
3300	43.99
4200	47.80
4500	25.77
4600	19.55
4800	7.57
4900	3.30
7250	1.14

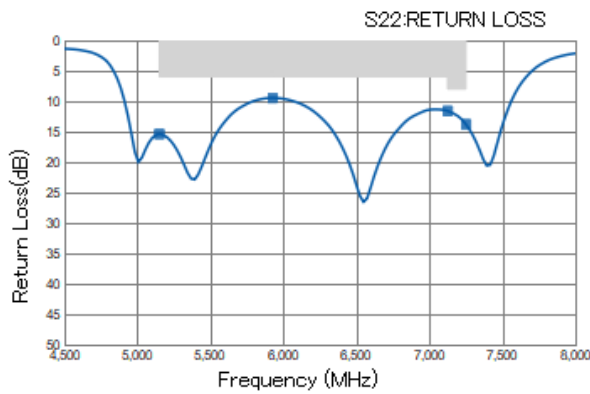
P/N	DEA166200BT-
Freq	2356A3_ver.1_0_20200609
7600	2.91
7800	7.02
8400	22.78
9000	51.33
9200	47.46
9600	41.29
9800	41.15
10300	43.46
11850	43.33
14250	28.32

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FREQUENCY CHARACTERISTICS

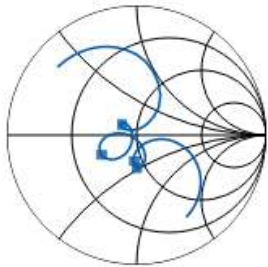


P/N	DEA166200BT-
Freq	2356A3_ver1_0_20200609
5150	15.76
5925	9.57
7125	11.69
7250	13.87



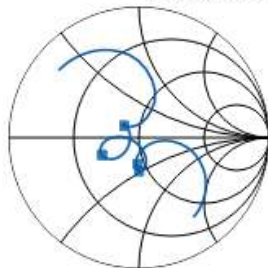
P/N	DEA166200BT-
Freq	2356A3_ver1_0_20200609
5150	15.40
5925	9.45
7125	11.59
7250	13.78

S11:SMITH CHART



P/N	DEA166200BT-
Freq	2356A3_ver1_0_20200609
5150	37.75 / 7.48
5925	26.13 / -8.85
7125	43.18 / -24.1
7250	43.69 / -18.27

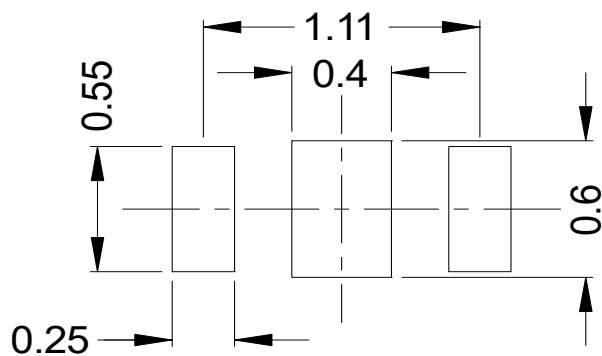
S22:SMITH CHART



P/N	DEA166200BT-
Freq	2356A3_ver1_0_20200609
5150	37.57 / 8.29
5925	25.58 / -7.59
7125	42.81 / -24.2
7250	43.92 / -18.64

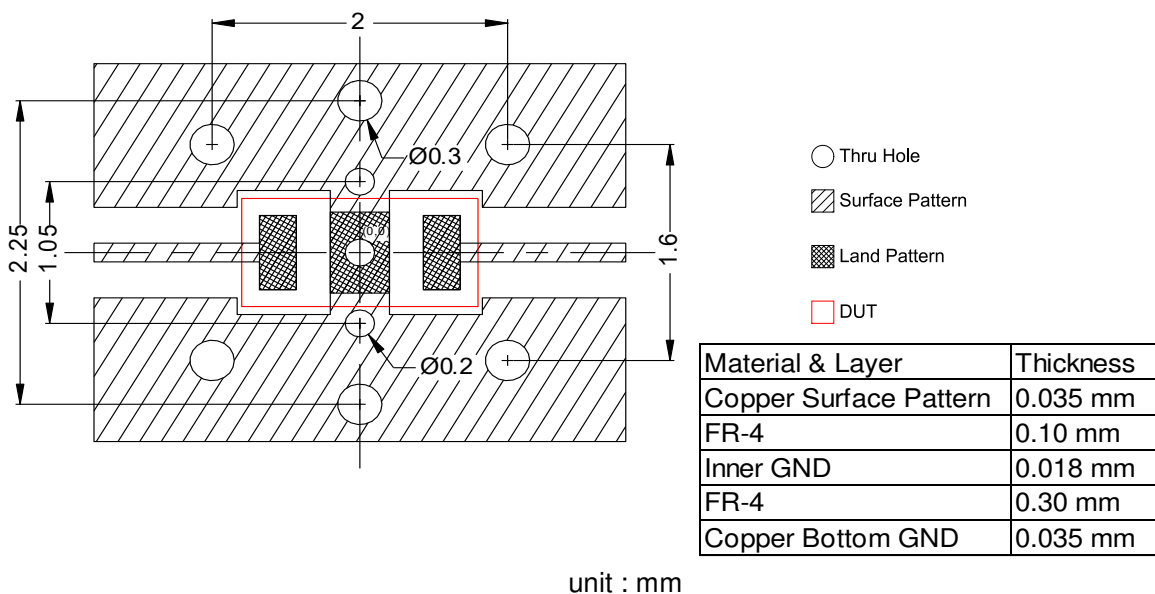
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RECOMMENDED LAND PATTERN



Unit : [mm]

EVALUATION BOARD



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

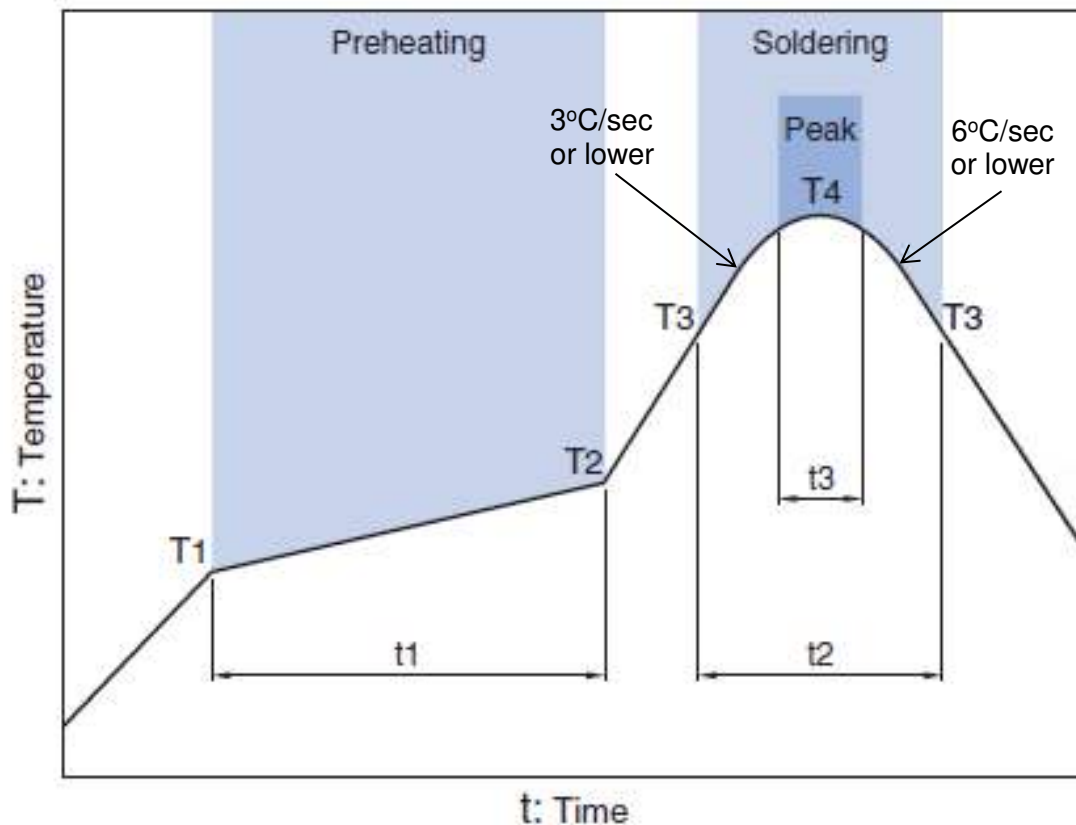
** The position of the through hole which have possibility of influence to the performance are indicated by dimension line.

ENVIRONMENT INFORMATION

RoHS Statement
 RoHS Compliance

DEA166200BT-2356A3

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

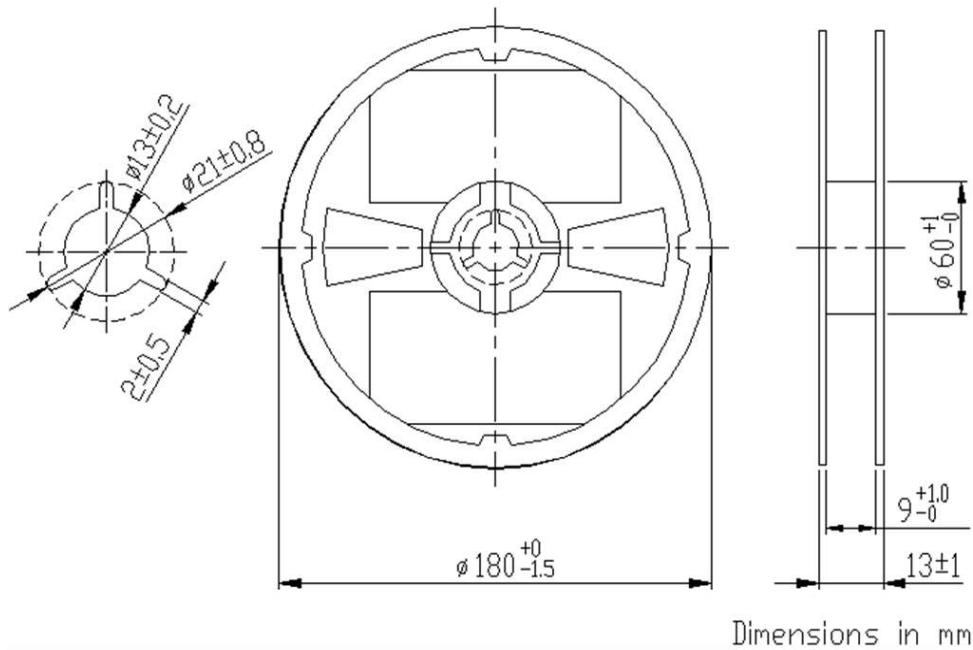
* t3 : Time within 5°C of actual peak temperature

The maximum number of reflow is 3.

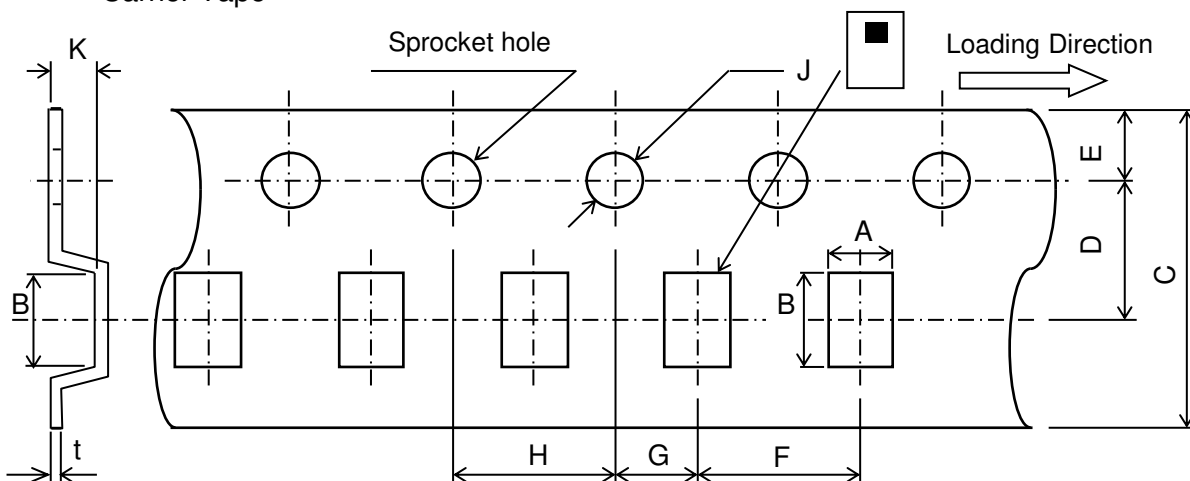
Note: Lead free solder is recommended.
Recommended solder is Sn-3.0Ag-0.5Cu. (M705 by Senju Metal Industry)

DEA166200BT-2356A3**PACKAGING STYLE**

Reel Dimensions



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
+/-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

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
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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.