



Jul. 2017 Ver.2.1  
TDK Corporation

## Multilayer Band Pass Filter

For 2.4GHz W-LAN & Bluetooth

DEA Series

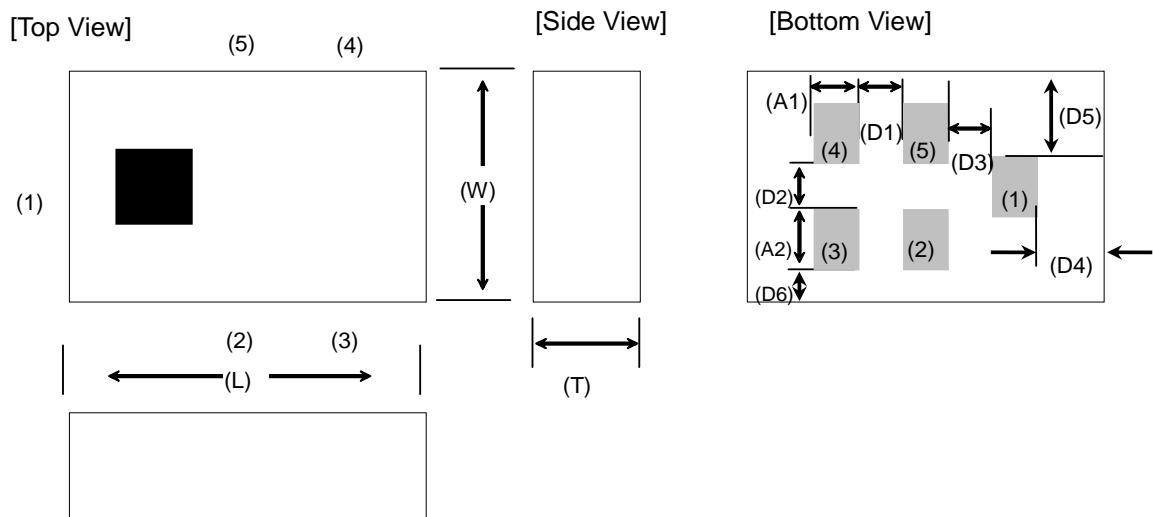
1.4x1.1mm TYPE

P/N: **DEA142450BT-3024A1**

## DEA142450BT-3024A1

### ■ SHAPES AND DIMENSIONS

#### MECHANICAL DIMENSIONS



Dimensions (mm)

L	W	T	A1	D1	A2	D2	D3	D4	D5	D6
1.40 +/-0.20	1.10 +/-0.20	0.60 Max	0.25 +/-0.05	0.25 +/-0.05	0.325 +/-0.05	0.25 +/-0.05	0.25 +/-0.05	0.075 +/-0.05	0.388 +/-0.05	0.10 +/-0.05

Terminal functions

(1)	Input Port	(4)	Output Port
(2)	GND	(5)	GND
(3)	GND		

### ■ TERMINATION FINISH

Material
Au plate

## DEA142450BT-3024A1

### ■ ELECTRICAL CHARACTERISTICS

( Measurement )

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	2400 to 2500	-	0.97	1.10
Return Loss (dB)	2400 to 2500	10	19	-
Attenuation (dB)	50 to 960	20	23	-
	1710 to 1990	10	12	-
	3600	9	10	-
	4800 to 7200	22	24	-
Characteristic Impedance (ohm)		50 (Nominal)		

Ta = +25+/-5°C

### ■ MAXIMUM RATINGS

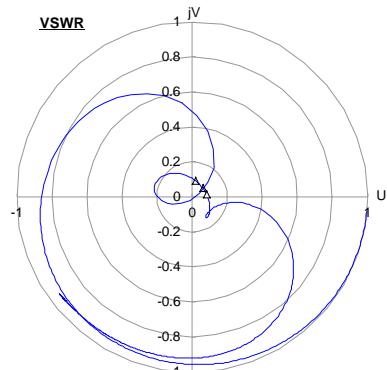
Parameter	TDK Spec		Conditions
	Min.	Max.	
Operating temperature (°C)	-40	to +85 °C	
Storage temperature (°C)	-40	to +85 °C	
Power Handling (W)	-	1	CW Duty 100%
Human Body Model : HBM @ Each Port (V)	-1000	1000	100pF / 1500ohm
Machine Model : MM @ Each Port (V)	-150	150	200pF / 0ohm
Charged Device Model : CDM @ Each Port (V)	-500	500	Relative humidity : 51%RH max

Ambient temperature : +25+/-5°C

## DEA142450BT-3024A1

### ■ FREQUENCY CHARACTERISTICS

S11 POLA REF 1.0 U SCALE 1.0U FS



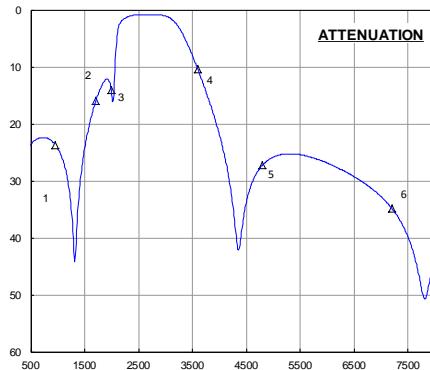
**MARKER**  
 MARKER 1 2400 MHz 1.21  
 MARKER 2 2450 MHz 1.17  
 MARKER 3 2485 MHz 1.18  
 MARKER 4 MHz  
 MARKER 5 MHz  
 MARKER 6 MHz

S21 Log MAG REF 0.0dB SCALE 1dB/



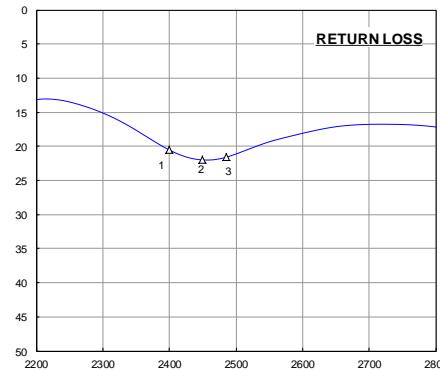
**MARKER**  
 MARKER 1 2400 MHz 0.94 dB  
 MARKER 2 2450 MHz 0.88 dB  
 MARKER 3 2485 MHz 0.85 dB  
 MARKER 4 MHz dB  
 MARKER 5 MHz dB  
 MARKER 6 MHz dB

S21 Log MAG REF 0.0dB SCALE 5.0dB/



**MARKER**  
 MARKER 1 960 MHz 23.72 dB  
 MARKER 2 1710 MHz 15.90 dB  
 MARKER 3 1990 MHz 13.99 dB  
 MARKER 4 3600 MHz 10.45 dB  
 MARKER 5 4800 MHz 27.24 dB  
 MARKER 6 7200 MHz 34.87 dB

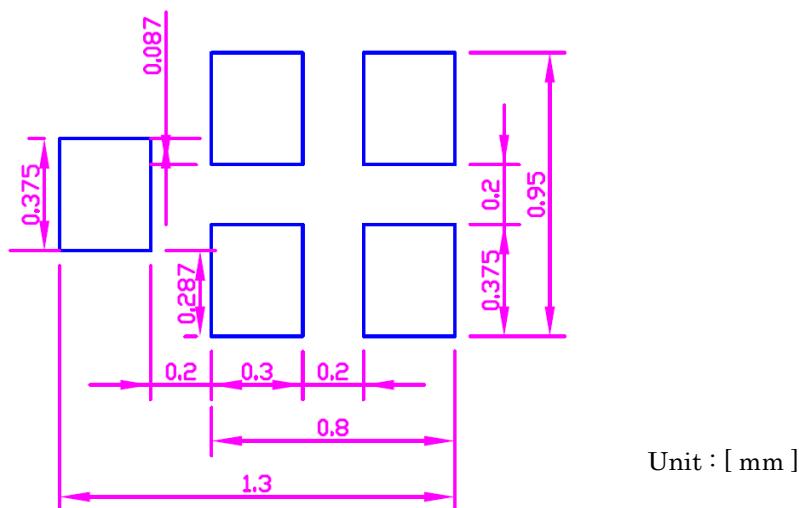
S11 Log MAG REF -10.0dB SCALE 5.0dB/



**MARKER**  
 MARKER 1 2400 MHz 20.54 dB  
 MARKER 2 2450 MHz 21.99 dB  
 MARKER 3 2485 MHz 21.60 dB  
 MARKER 4 MHz dB  
 MARKER 5 MHz dB  
 MARKER 6 MHz dB

## DEA142450BT-3024A1

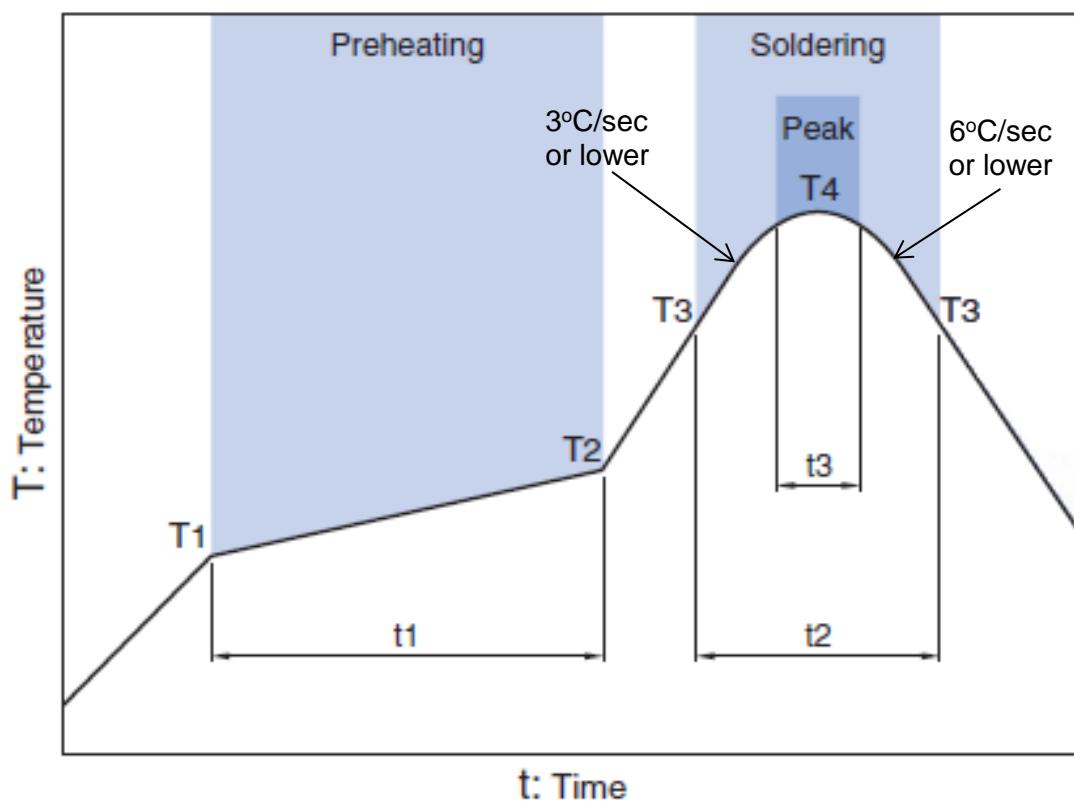
### ■ RECOMMENDED LAND PATTERN



### ■ ENVIRONMENT INFORMATION

RoHS Statement  
RoHS Compliance

## ■ RECOMMENDED REFLOW PROFILE



Preheating		Soldering			
		Critical zone ( $T_3$ to $T_4$ )		Peak	
Temp.	Time	Temp.	Time	Temp.	Time
$T_1$	$T_2$	$T_3$	$t_2$	$T_4$	$t_3$ *
150°C	200°C	217°C	60 to 120sec	240 to 260°C	30 sec Max

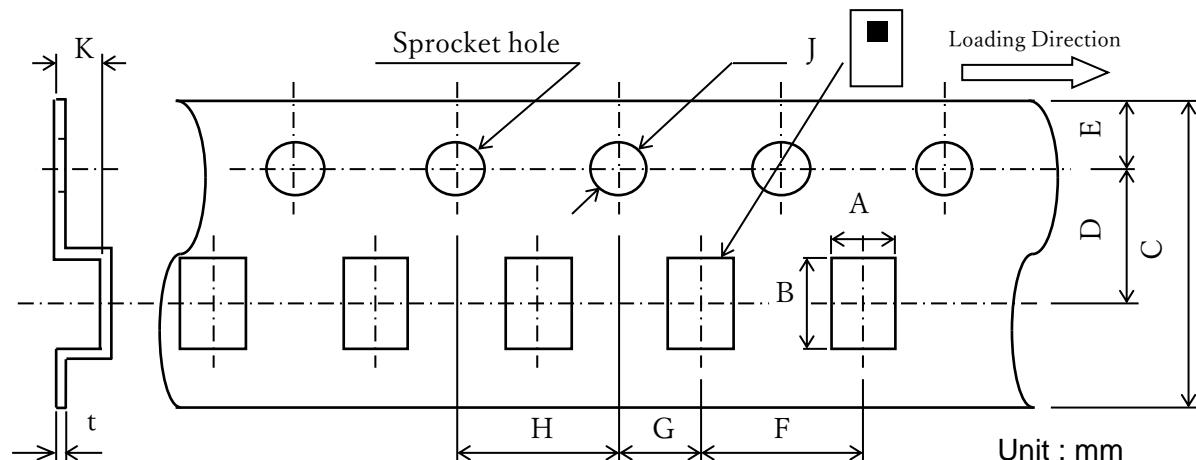
\*  $t_3$  : Time within  $5^{\circ}\text{C}$  of actual peak temperature

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)

**DEA142450BT-3024A1****PACKAGING STYLE**

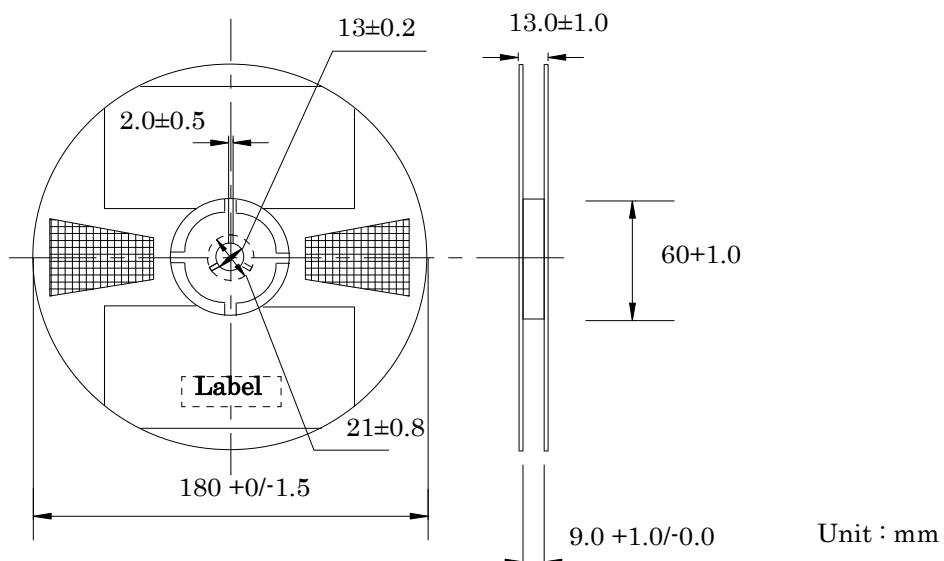
## Reel Dimensions



## Dimensions (mm)

A	B	C	D	E	F	G	H	J	K	t
1.35	1.65	8.0	3.5	1.75	4.0	2.0	4.0	1.5	0.7	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



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

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.