



Mar. 2020 Ver.2.1
TDK Corporation

Multilayer Low Pass Filter

For Band 1

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

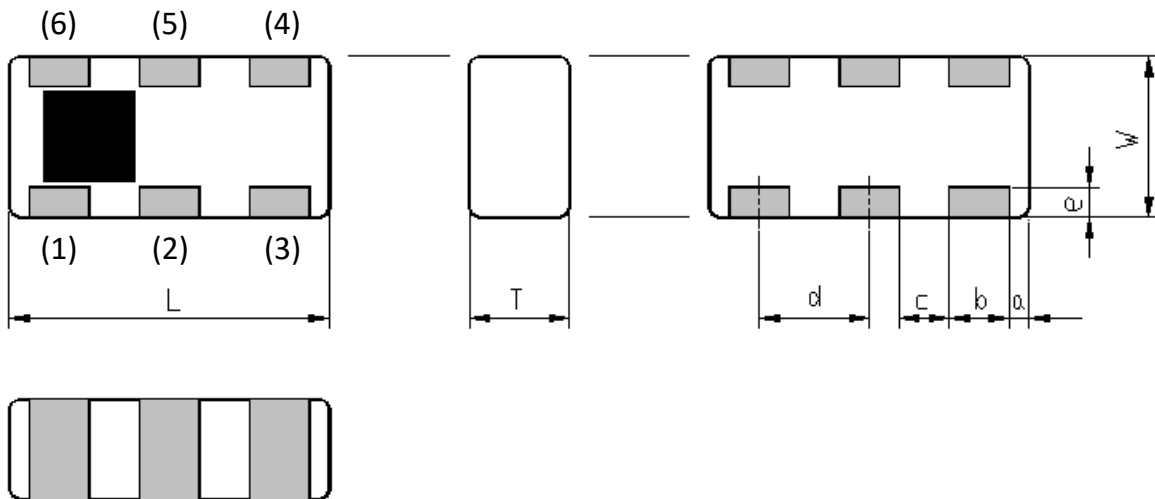
P/N: **DEA162170LT-5039A5**

DEA162170LT-5039A5

SHAPES AND DIMENSIONS

[Top View]

[Bottom View]



Dimensions (mm)

L	W	T	a	b	c	d	e
1.60	0.80	0.60	0.10	0.30	0.25	0.55	0.15
+/-0.10	+/-0.10	+/-0.10	+/-0.10	+/-0.10	+/-0.10	+/-0.10	+/-0.10

Terminal functions

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

(4)	GND
(5)	Input Port
(6)	GND

TERMINATION FINISH

Material
Sn plate

DEA162170LT-5039A5**ELECTRICAL CHARACTERISTICS**

(Measurement)

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	1427.9 to 2025	-	0.45	0.65
	2025 to 2170	-	0.60	0.85
	to	-		
Insertion Loss (dB) (-40 to +85 °C)	1427.9 to 2025	-	-	0.75
	2025 to 2170	-	-	0.95
	to	-		
Ripple (dB)	1427.9 to 2170	-	0.34	0.60
Return Loss (dB)	1427.9 to 2025	16	21	-
	2025 to 2170	16	26	-
	to			-
Attenuation (dB)	2855 to 6075	22	27.0	-
	6075 to 7500	20	29.0	-
	7500 to 9050	14	22.0	-
	9050 to 9400	14	21.0	-
	9400 to 12750	8	14.0	-
	to			-
Characteristic Impedance (ohm)		50 (Nominal)		

Ta = +25+/-5°C

MAXIMUM RATINGS

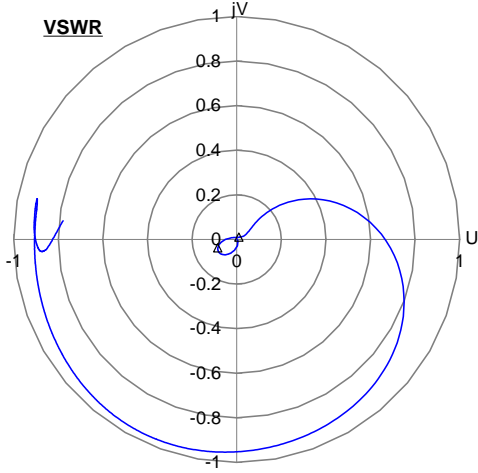
Parameter	TDK Spec	Conditions	
Operating temperature (°C)	-40 to +85 °C		
Storage temperature (°C)	-40 to +85 °C		
Power Handling (W) *1	Frequency (MHz)		
	1427.9 to 2170	3	CW
	to		
	to		
Human Body Model : HBM	@Each Port (V)	+/-1000	100pF / 1500ohm
Machine Model : MM	@Each Port (V)	+/-150	200pF / 0ohm
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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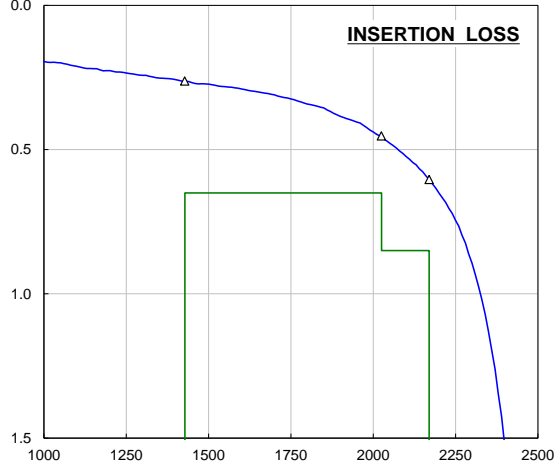
FREQUENCY CHARACTERISTICS

S11 POLA REF 1.0 U SCALE 1.0U FS



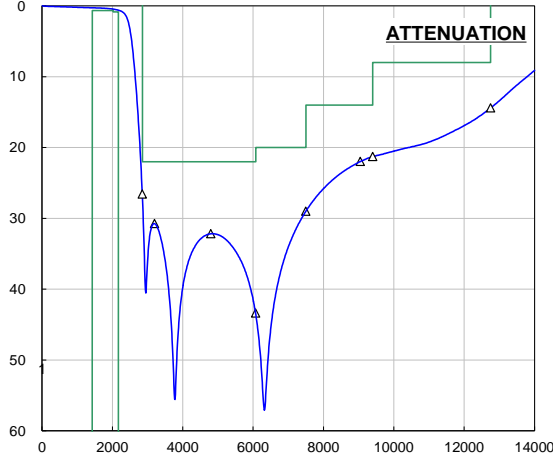
MARKER	FREQUENCY (MHz)	VSWR
MARKER 1	1427.9 MHz	1.21
MARKER 2	2025 MHz	1.03
MARKER 3	2170 MHz	1.10

S21 Log MAG REF 0.0dB SCALE 0.5dB/



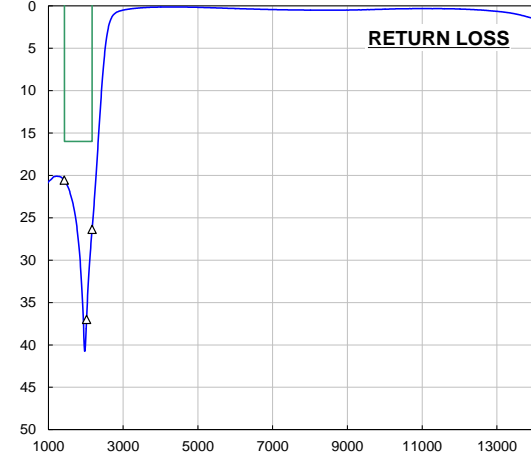
MARKER	FREQUENCY (MHz)	LOSS (dB)
MARKER 1	1427.9 MHz	0.26 dB
MARKER 2	2025 MHz	0.45 dB
MARKER 3	2170 MHz	0.60 dB

S21 Log MAG REF 0.0dB SCALE 10.0dB/



MARKER	FREQUENCY (MHz)	ATTENUATION (dB)
MARKER 1	2855 MHz	26.6 dB
MARKER 2	3200 MHz	30.8 dB
MARKER 3	4800 MHz	32.2 dB
MARKER 4	6075 MHz	43.4 dB
MARKER 5	7500 MHz	29.0 dB
MARKER 6	9050 MHz	22.0 dB
MARKER 7	9400 MHz	21.3 dB
MARKER 8	12750 MHz	14.4 dB

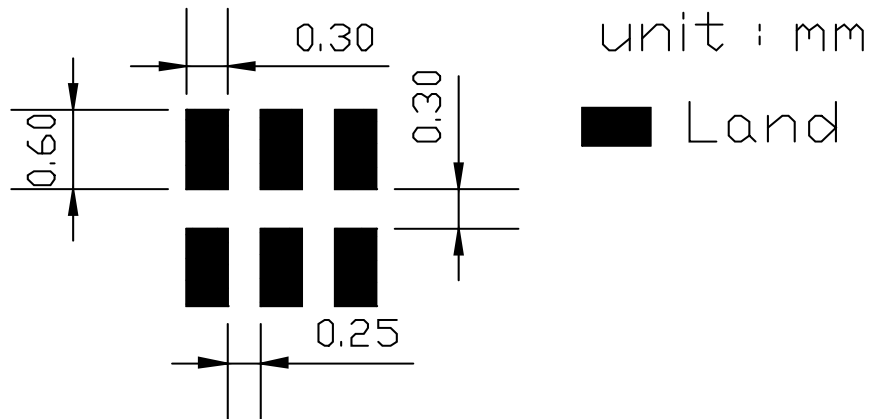
S11 Log MAG REF 0.0dB SCALE 10.0dB/



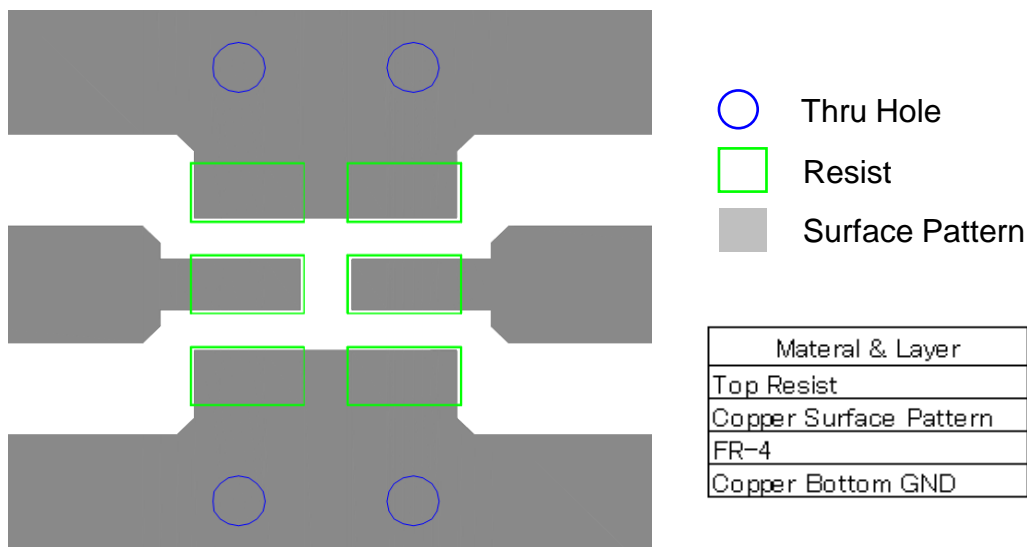
MARKER	FREQUENCY (MHz)	RETURN LOSS (dB)
MARKER 1	1427.9 MHz	20.6 dB
MARKER 2	2025 MHz	37.0 dB
MARKER 3	2170 MHz	26.4 dB

DEA162170LT-5039A5

RECOMMENDED LAND PATTERN



EVALUATION BOARD

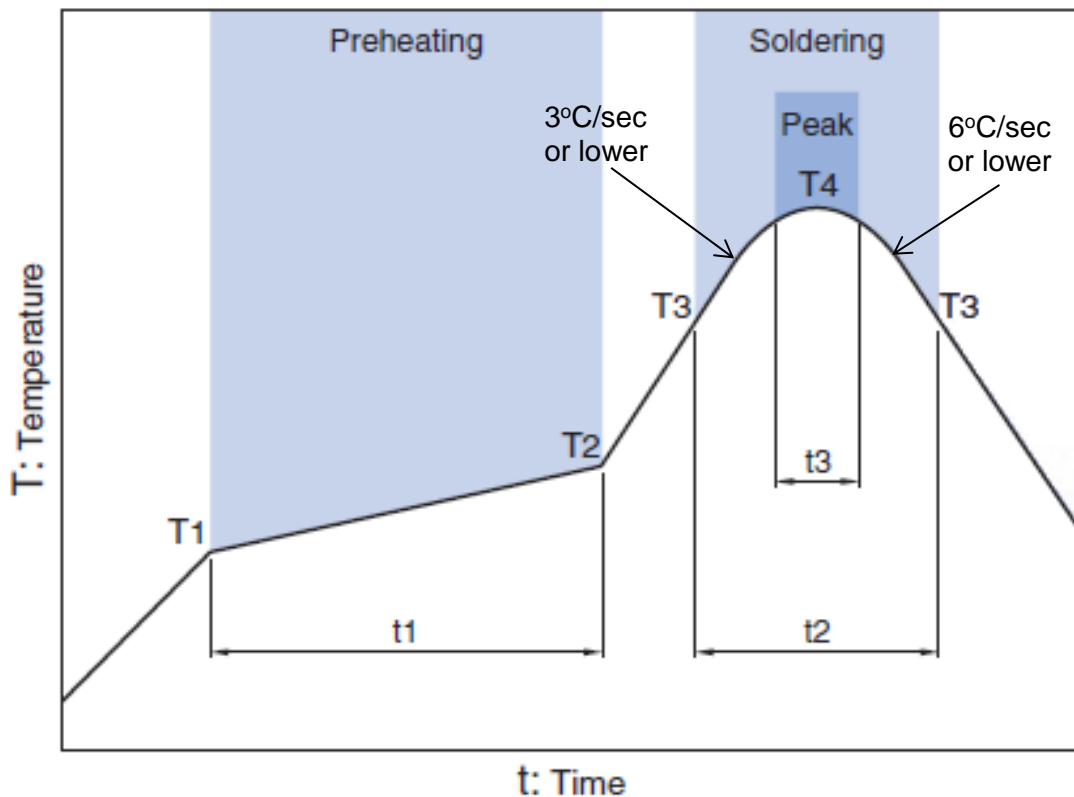


* Line width should be designed to match 50 ohm characteristic impedance depending on PCB material and thickness.

ENVIRONMENT INFORMATION

RoHS Statement
RoHS Compliance

RECOMMENDED REFLOW PROFILE



Preheating			Soldering			
			Critical zone (T3 to T4)		Peak	
Temp.	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

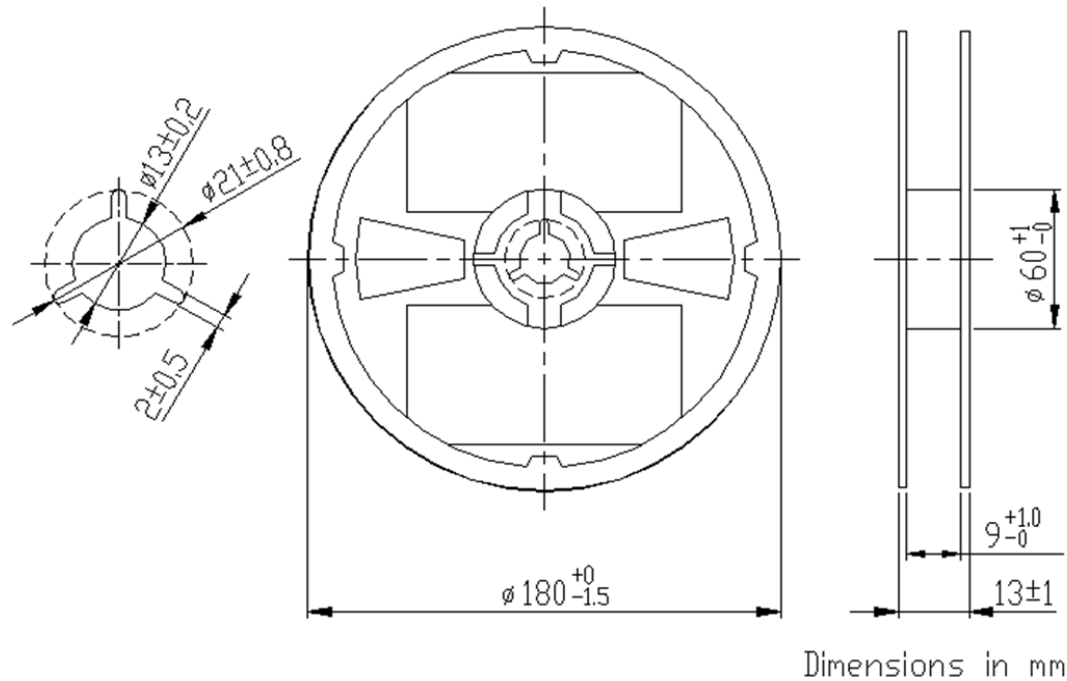
* t3 : Time within 5°C of actual peak temperature

The maximum number of reflow is 3.

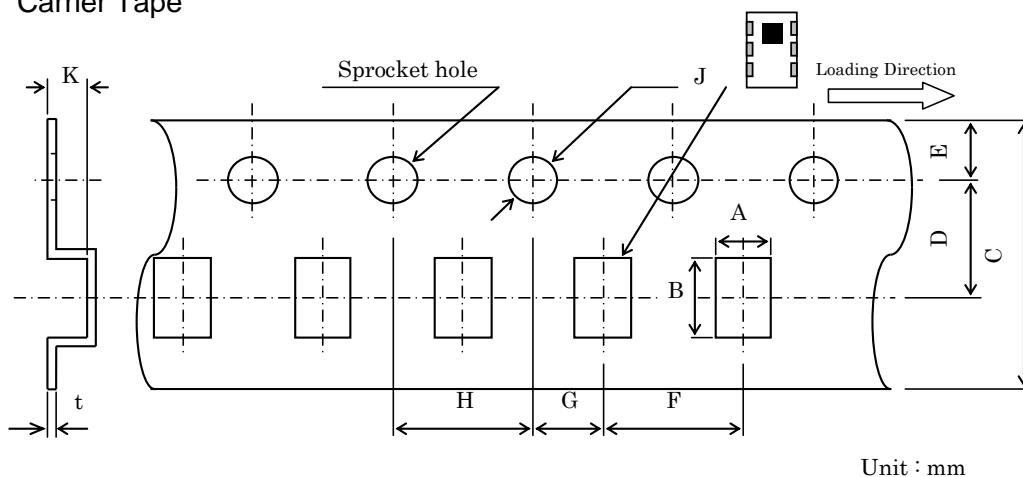
Note: Lead free solder is recommended.
Recommended solder is Sn-3.0Ag-0.5Cu. (M705 by Senju Metal Industry)

DEA162170LT-5039A5**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.