



Feb. 2023 Ver.2.7
TDK Corporation

Multilayer Band Pass Filter

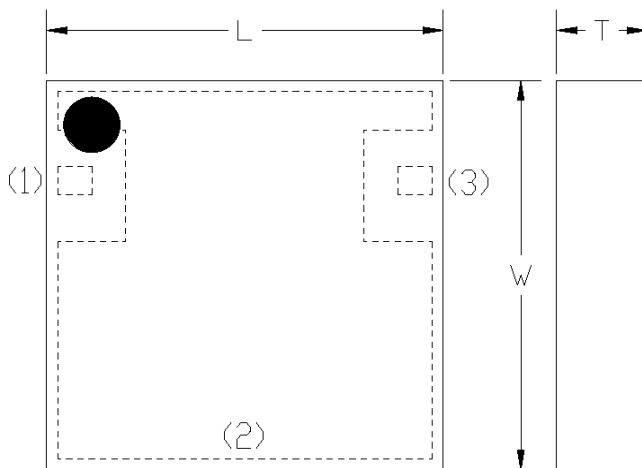
3.5x3.5mm TYPE

P/N: **MMCB3525G8T-0042A1**

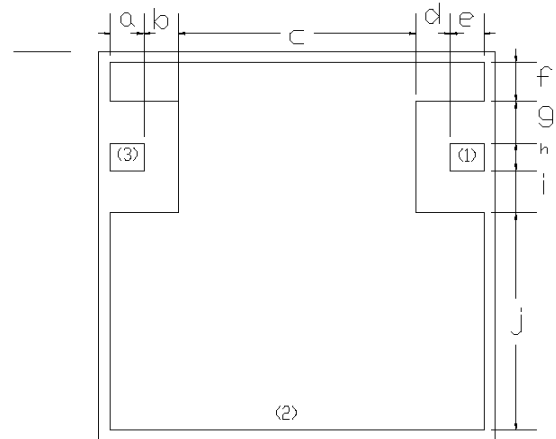
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■ SHAPES AND DIMENSIONS

[Top View]



[Bottom View]



Dimensions (mm)

L	W	T	a	b	c	d	e	f	g	h	i	j
3.50	3.50	0.80	0.30	0.30	2.10	0.30	0.30	0.35	0.375	0.25	0.375	1.95
+/-0.15	+/-0.15	+/-0.10	+0.1/-0.05	+0.1/-0.05	+/-0.15	+0.1/-0.05	+0.1/-0.05	+0.1/-0.05	+0.1/-0.05	+0.1/-0.05	+0.1/-0.05	+/-0.15

Terminal functions

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

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■ ELECTRICAL CHARACTERISTICS (Ta = +25+/-5°C)

(Measurement)

Parameter	Frequency (GHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	24.25 to 27.5	-	1.35	2.50
	23.75 to 28	-	1.82	3.00
VSWR	23.75 to 28	-	1.51	1.92
Attenuation (dB)	0.5 to 6	25	71.7	-
	6 to 19.1	30	62.9	-
	19.1 to 22.3	30	45.5	-
	29.45 to 31.3	35	38.8	-
	31.3 to 32.7	45	54.7	-
	32.7 to 37	30	51.0	-
Amplitude ripple (dB)	24.25 to 27.5	-	0.37	1.5
	23.75 to 28	-	0.84	2
Group delay ripple(ps)	24.25 to 27.5	-	127	250
	23.75 to 28	-	333	700
Characteristic Impedance (ohm)		50 (Nominal)		

MMCB3525G8T-0042A1**ELECTRICAL CHARACTERISTICS (Ta = -40~+105 °C)**

(Measurement)

Parameter	Frequency (GHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	24.25 to 27.5	-	-	3.00
	23.75 to 28	-	-	4.30
VSWR	23.75 to 28	-	-	1.92
Attenuation (dB)	0.5 to 6	25	-	-
	6 to 19.1	30	-	-
	19.1 to 22.3	22	-	-
	29.45 to 31.3	26	-	-
	31.3 to 32.7	45	-	-
Amplitude ripple (dB)	24.25 to 27.5	-	-	2
	23.75 to 28	-	-	3.3
Group delay ripple(ps)	24.25 to 27.5	-	-	280
	23.75 to 28	-	-	910
Group delay ripple variation(ps) from +105 to -40 °C	24.25 to 27.5	-	-	90
	23.75 to 28	-	-	350
Group delay ripple variation(ps) from +105 to +25 °C	24.25 to 27.5	-	-	50
	23.75 to 28	-	-	140
Group delay ripple variation(ps) from +25 to -40 °C	24.25 to 27.5	-	-	50
	23.75 to 28	-	-	220
Characteristic Impedance (ohm)		50 (Nominal)		

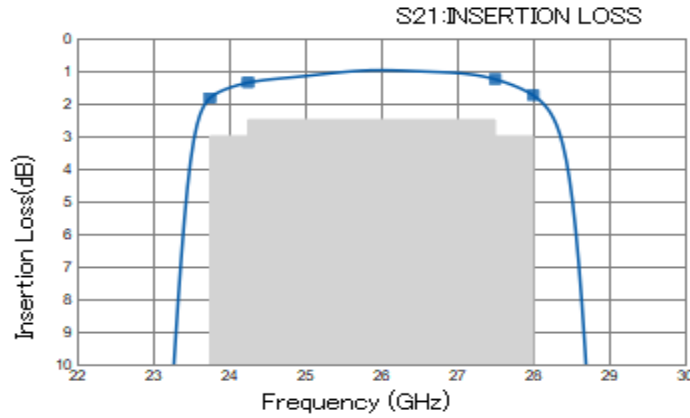
MAXIMUM RATINGS

Parameter		TDK Spec	Conditions
Operating temperature (°C)		-40 to +105 °C	
Storage temperature (°C)		-40 to +125 °C	
Power Handling (W) *1	Frequency (GHz)		
	23.75 to 28	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

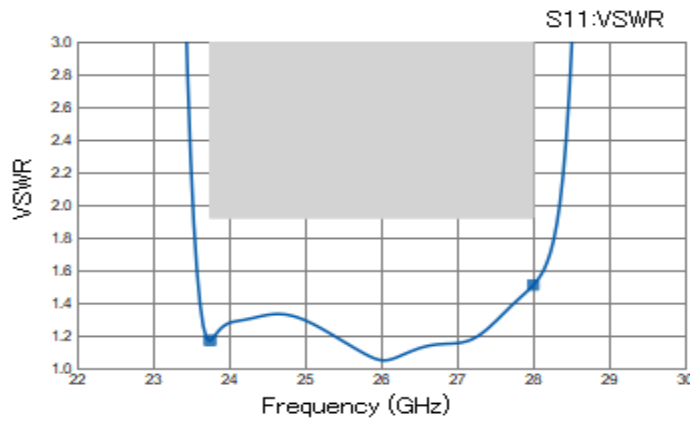
*1 : Refer to 3GPP TS 38.101-1 V15.2.0

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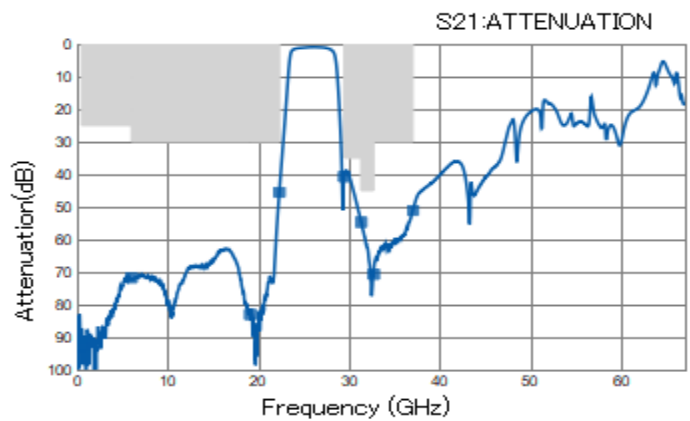
FREQUENCY CHARACTERISTICS



P/N	Ver.2_0_N
Freq	
24.25-27.5	1.35
23.75-28	1.82
23.75	1.82
24.25	1.35
27.5	1.25
28	1.74



P/N	Ver.2_0_N
Freq	
23.75-28	1.51
23.75	1.17
28	1.51

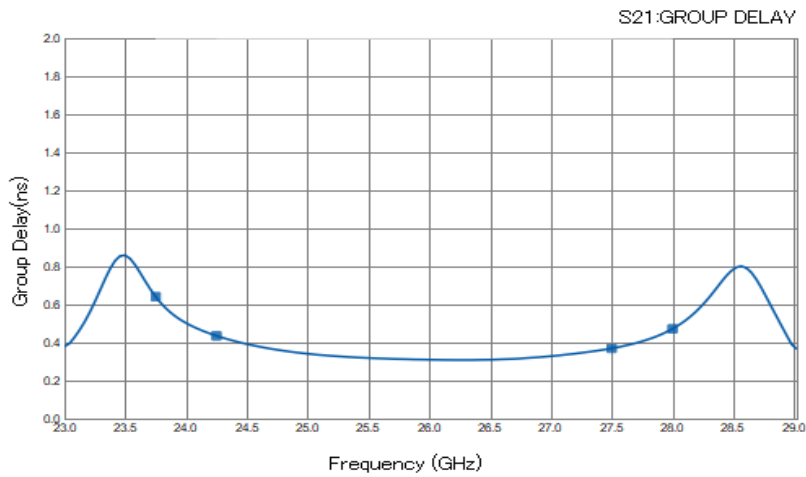


P/N	Ver.2_0_N
Freq	
0.5-6	71.65
6-19.1	62.93
19.1-22.3	45.46
29.45-31.3	38.82
31.3-32.7	54.66
32.7-37	51.02
0.5	92.72
6	71.75
19.1	83.03
22.3	45.46
29.45	40.71
31.3	54.69
32.7	70.66
37	51.02

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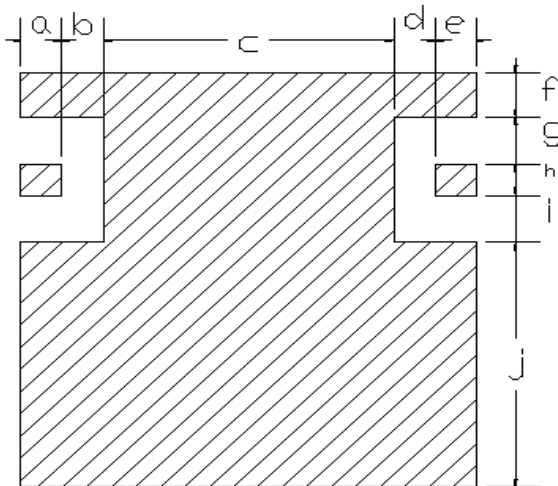
■ FREQUENCY CHARACTERISTICS



P/N	Ver_2_0_N
Freq	
24.25-27.5	0.127 max:0.435 min:0.308
23.75-28	0.333 max:0.641 min:0.308
23.75	0.641
24.25	0.435
27.5	0.369
28	0.472

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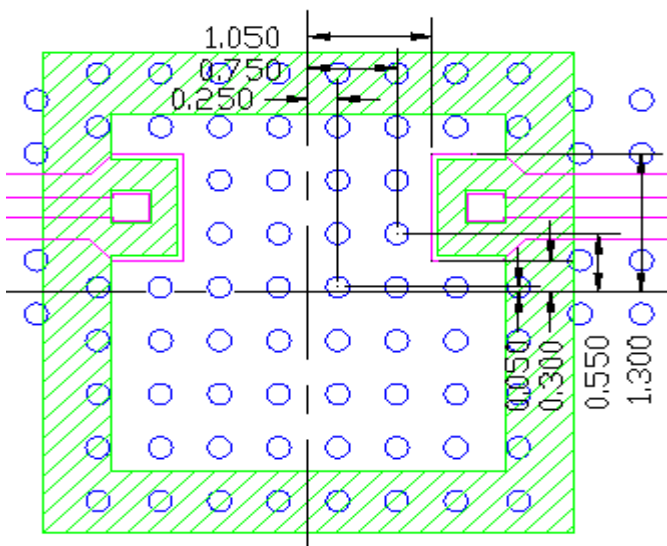
RECOMMENDED LAND PATTERN




Unit:mm

a	b	c	d	e	f	g	h	i	j
0.30	0.30	2.10	0.30	0.30	0.35	0.375	0.25	0.375	1.95
+0.1/-0.05	+0.1/-0.05	+/-0.15	+0.1/-0.05	+0.1/-0.05	+0.1/-0.05	+0.1/-0.05	+0.1/-0.05	+0.1/-0.05	+/-0.15

EVALUATION BOARD



Unit:mm

 Thru Hole(ϕ 0.2mm)

 Resist

Material & Layer	Thickness
Top Resist	-
Copper Surface Pattern	0.035 mm
Megtron7(R-5785(N))	0.089 mm
Copper inner GND	0.035 mm
Megtron7(R-5680(N))	0.3 mm
Megtron7(R-5785(N))	
Copper Bottom GND	0.035 mm

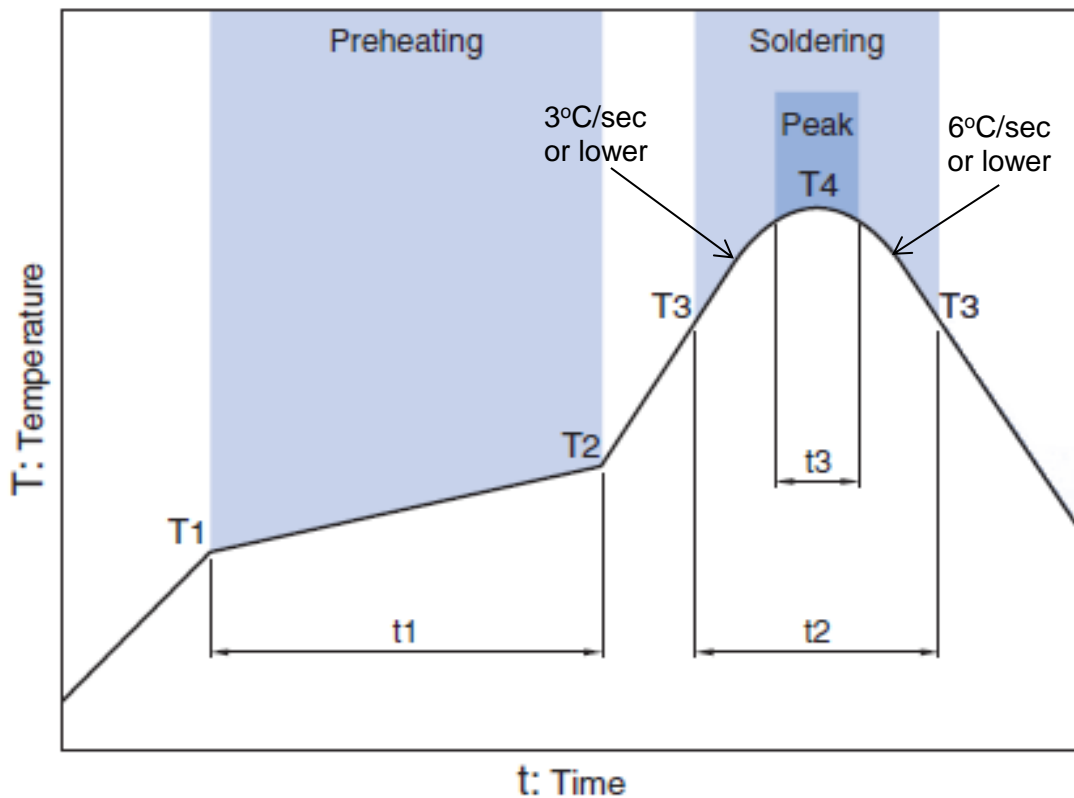
* Line width should be designed to match 50 ohm characteristic impedance depending on PCB material and thickness.

ENVIRONMENT INFORMATION

RoHS Statement
RoHS Compliance

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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

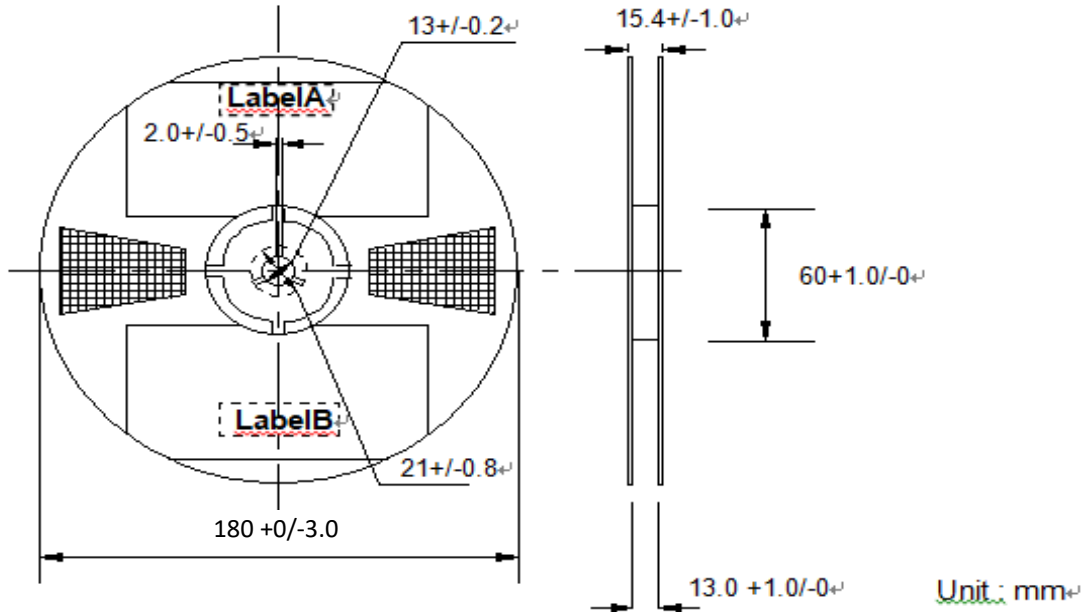
The maximum number of reflow is 3.

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

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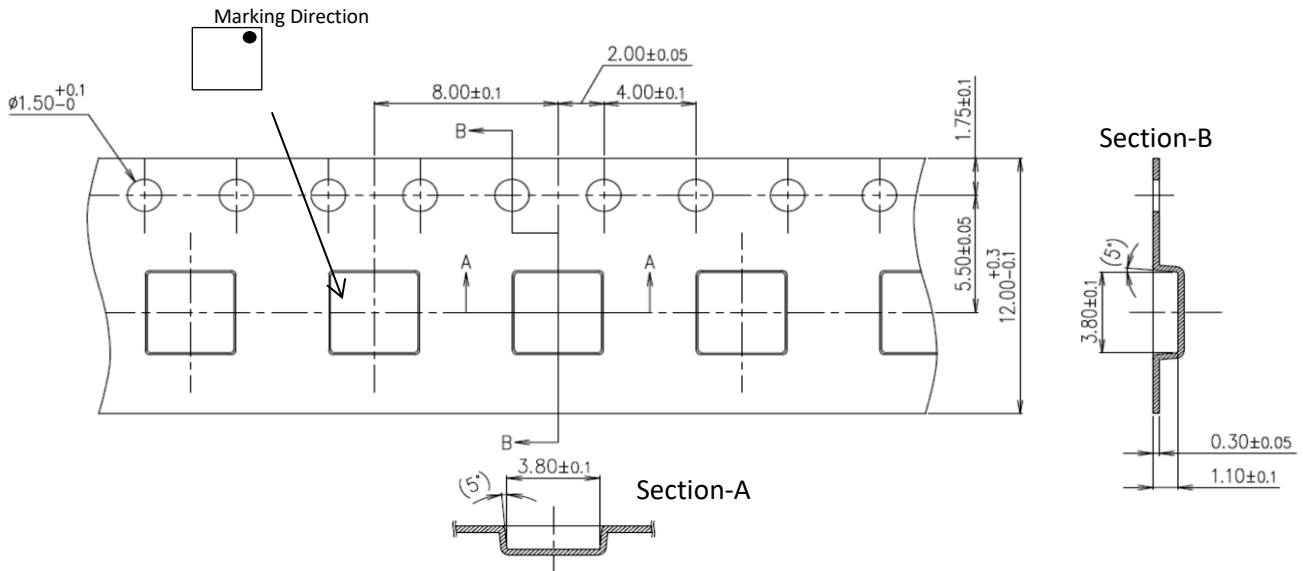
PACKAGING STYLE

Reel Dimensions



Dimension in mm

Taping Dimensions



STANDARD PACKAGE QUANTITY (pieces/reel)
1,500

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.