



Jul. 2017 Ver.1.0
TDK Corporation

Multilayer Triplexer

For 617~960 / 1427~2690 / 3400~5925

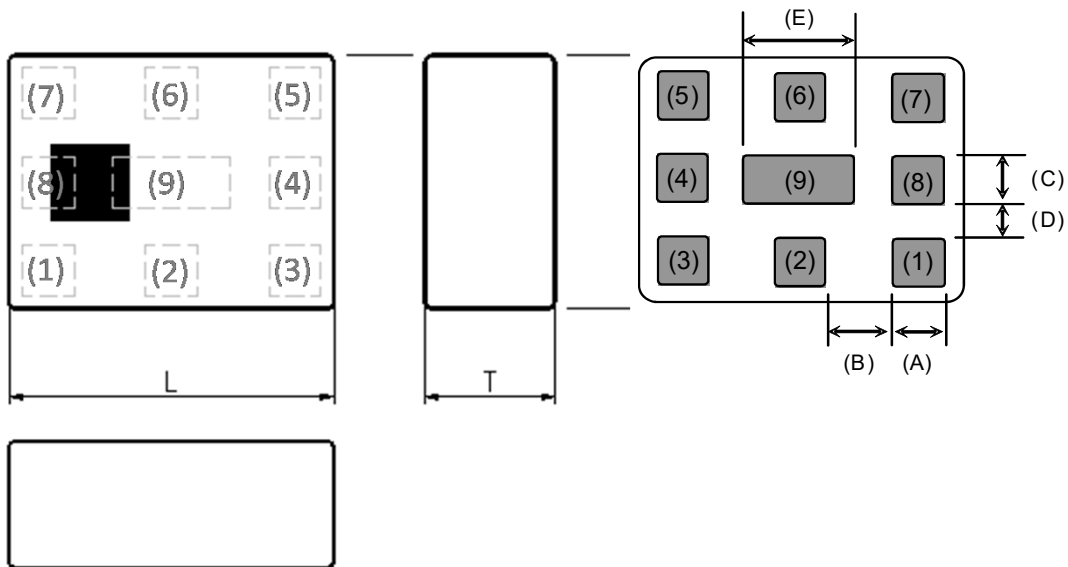
TPX Series 2.5x2.0mm [EIA 1008] TYPE

P/N: **TPX255925MT-7014A2**

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TDK Corporation**TPX255925MT-7014A2****SHAPES AND DIMENSIONS**

[Top View]

[Bott]



Dimensions (mm)

L	W	T	A	B	C	D	E
2.50	2.00	1.00	0.40	0.55	0.40	0.30	0.90
+/-0.10	+/-0.10	Max	+/-0.10	+/-0.10	+/-0.10	+/-0.10	+/-0.10

Terminal functions

(1)	High-Band Port
(2)	GND
(3)	Middle-Band Port
(4)	GND
(5)	Low-Band Port

(6)	GND
(7)	Common Port
(8)	GND
(9)	GND

TERMINATION FINISH

Material
Au plate

All specifications are subject to change without notice.

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TDK Corporation**TPX255925MT-7014A2****ELECTRICAL CHARACTERISTICS**

(Measurement)

Low-Band

Parameter	Frequency (MHz)	TDK Target Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	617 to 698	-	0.23	0.40
	698 to 960	-	0.40	0.55
	758 to 798	-	0.26	0.40
Insertion Loss (dB) (-40 to +85 °C)	617 to 698	-		0.50
	698 to 960	-		0.65
	758 to 798	-		0.50
VSWR (Input Port)	617 to 698	-	1.13	2.00
	698 to 960	-	1.13	2.00
	758 to 798	-	1.13	2.00
Attenuation (dB)	1427 to 2690	12	16	-
	3400 to 3800	18	27	-
	5150 to 5925	7	13	-
Characteristic Impedance (ohm)		50 (Nominal)		

Ta = +25+/-5°C

Middle-Band

Parameter	Frequency (MHz)	TDK Target Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	1427 to 2690	-	0.70	0.80
Insertion Loss (dB) (-40 to +85 °C)	1427 to 2690	-		0.95
VSWR (Input Port)	1427 to 2690	-	1.31	2.00
Attenuation (dB)	617 to 960	15	19	-
	3400 to 3800	12	16	-
	5150 to 5925	12	17	-
Characteristic Impedance (ohm)		50 (Nominal)		

Ta = +25+/-5°C

High-Band

Parameter	Frequency (MHz)	TDK Target Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	3400 to 3800	-	0.69	0.90
	5150 to 5925	-	0.42	0.60
Insertion Loss (dB) (-40 to +85 °C)	3400 to 3800	-		1.10
	5150 to 5925	-		0.75
VSWR (Input Port)	3400 to 3800	-	1.32	2.00
	5150 to 5925	-	1.20	2.00
Attenuation (dB)	617 to 960	16	22	-
	1427 to 2690	15	18	-
Characteristic Impedance (ohm)		50 (Nominal)		

Ta = +25+/-5°C

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TDK Corporation**TPX255925MT-7014A2****ELECTRICAL CHARACTERISTICS**

(Measurement)

Common

Parameter	Frequency (MHz)	TDK Target Spec			
		Min.	Typ.	Max.	
VSWR (Input Port)	617 to 698	-	1.15	2.00	
	698 to 960	-	1.15	2.00	
	758 to 798	-	1.14	2.00	
	1427 to 2690	-	1.38	2.00	
	3400 to 3800	-	1.30	2.00	
	5150 to 5925	-	1.16	2.00	
Isolation (dB)	Middle to Low	617 to 698	15	20.0	-
		1427 to 2690	12	17.0	-
	High to Low	617 to 960	16	22.0	-
		3400 to 3800	18	26.0	-
		5150 to 5925	7	13.0	-
	Middle to High	1427 to 2690	15	18.0	-
		3400 to 3800	12	20.0	-
		5150 to 5925	12	19.0	-
	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)	Common Port	-	4	Duty 50% at 617~960MHz
		-	1	CW at 1427~2690MHz
		-	1	CW at 3400~3800MHz
		-	1	CW at 5150~5925MHz
	Low-Band Port	-	4	Duty 50% at 617~960MHz
	Middle-Band Port	-	1	CW
	High-Band Port	-	1	CW
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 : 60%RH max

Ambient temperature : +25+/-5°C

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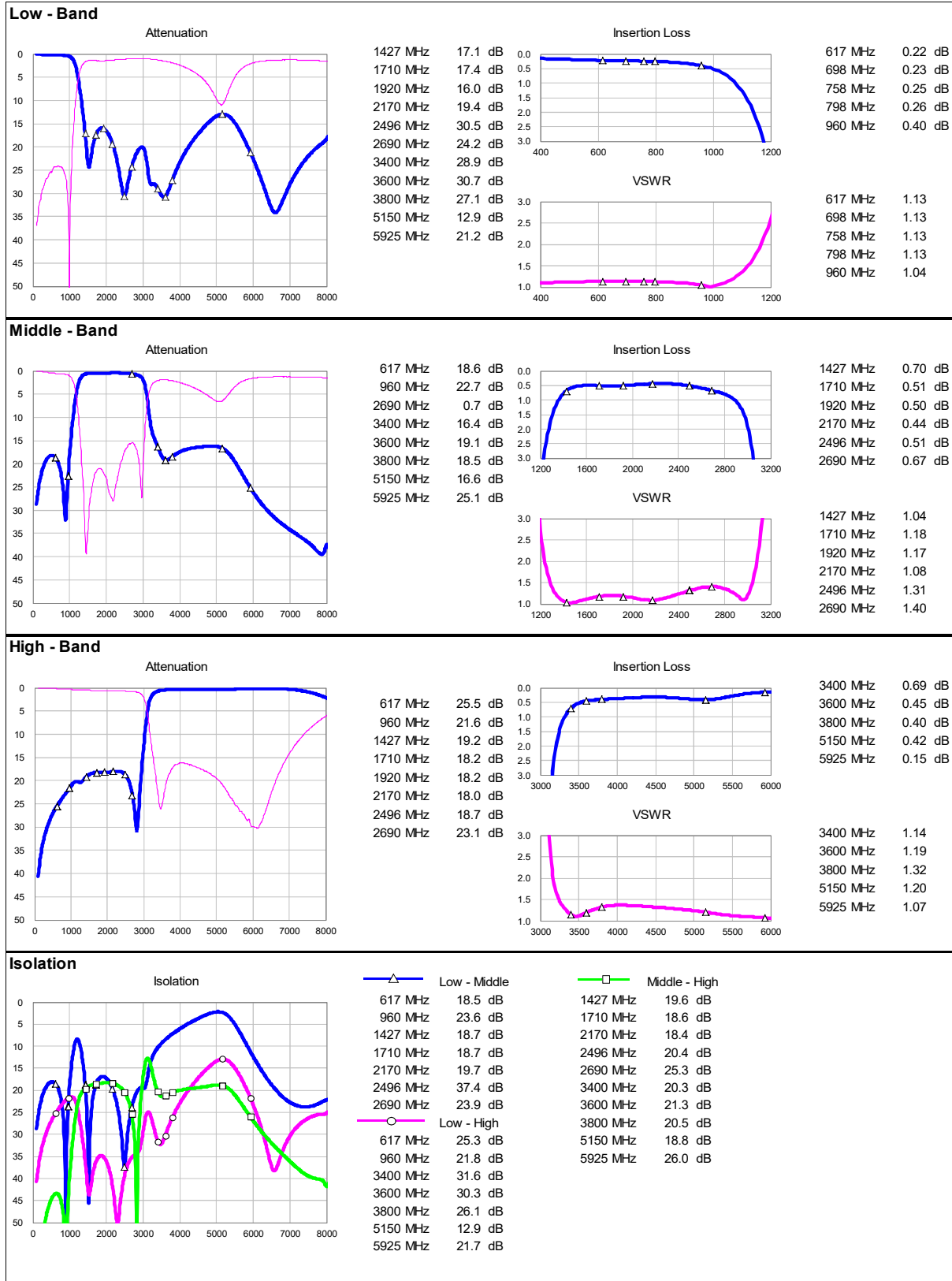
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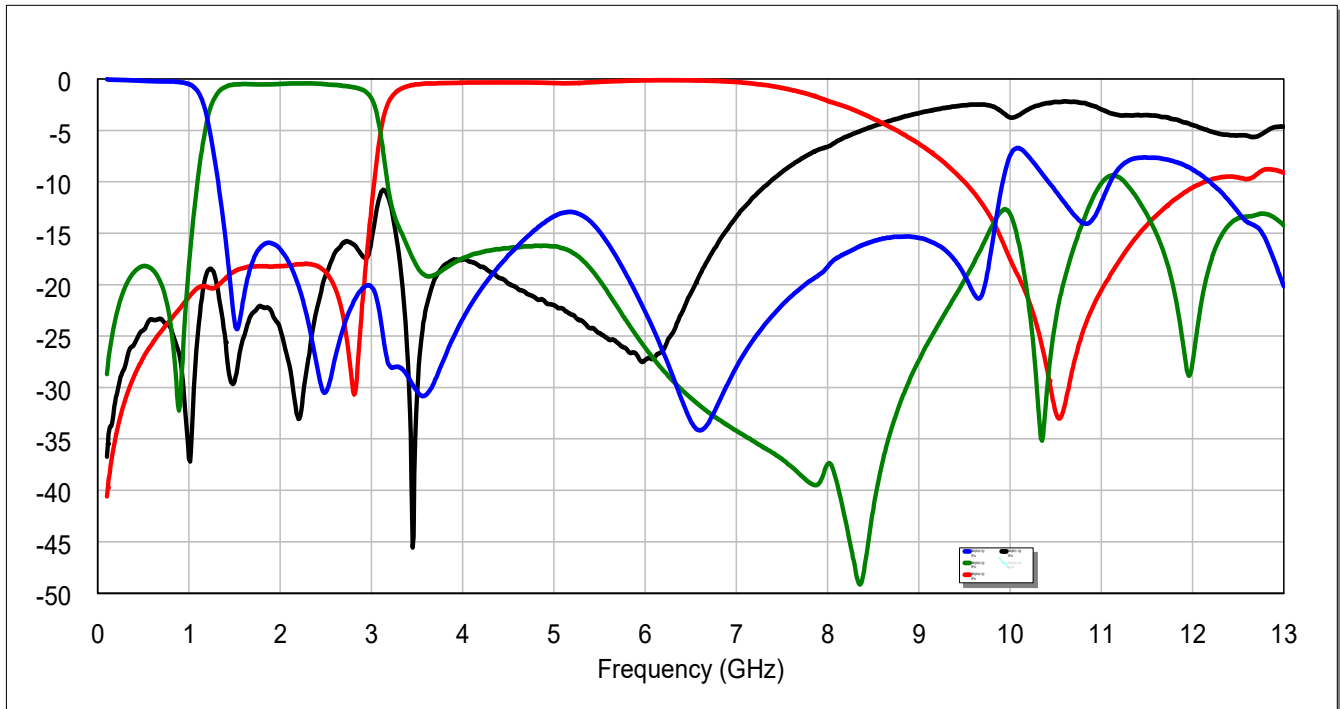
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FREQUENCY CHARACTERISTICS



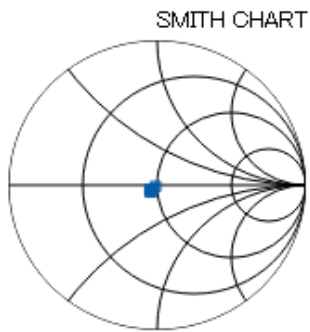
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TDK Corporation**TPX255925MT-7014A2****■ FREQUENCY CHARACTERISTICS**

— S11 — S21 — S31 — S41



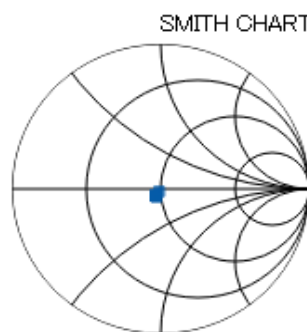
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Low band: S11



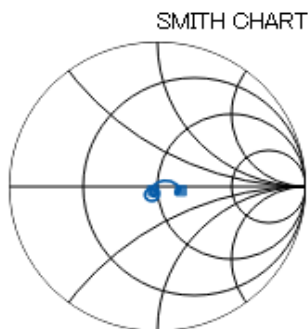
P/N	TPX255925MT-7014A2_Ver.1_0_20170703
MHz	Re / Im
617	-0.05 / -0.04
698	-0.06 / -0.04
758	-0.06 / -0.03
798	-0.06 / -0.02
960	-0.02 / 0

Low band: S22



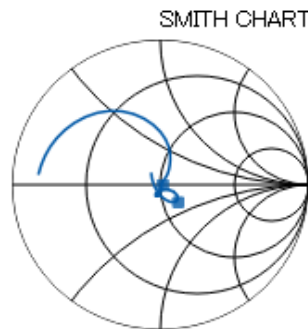
P/N	TPX255925MT-7014A2_Ver.1_0_20170703
MHz	Re / Im
617	-0.04 / -0.05
698	-0.05 / -0.04
758	-0.05 / -0.04
798	-0.05 / -0.04
960	-0.02 / -0.01

Mid band: S11



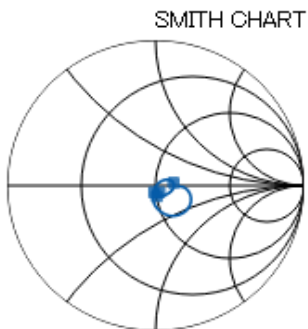
P/N	TPX255925MT-7014A2_Ver.1_0_20170703
MHz	Re / Im
1427	-0.04 / -0.02
2690	0.16 / -0.02

Mid band: S33



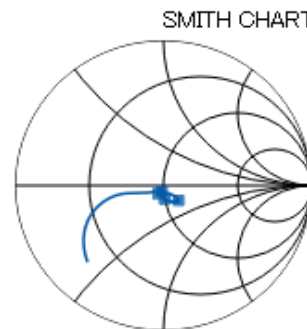
P/N	TPX255925MT-7014A2_Ver.1_0_20170703
MHz	Re / Im
1427	0.01 / 0.01
2690	0.12 / -0.12

High band: S11



P/N	TPX255925MT-7014A2_Ver.1_0_20170703
MHz	Re / Im
3400	-0.02 / -0.04
3800	0.12 / 0.03
5150	0 / -0.07
5925	0.02 / -0.04

High band: S44



P/N	TPX255925MT-7014A2_Ver.1_0_20170703
MHz	Re / Im
3400	-0.05 / -0.05
3800	0.1 / -0.1
5150	0 / -0.09
5925	-0.02 / -0.03

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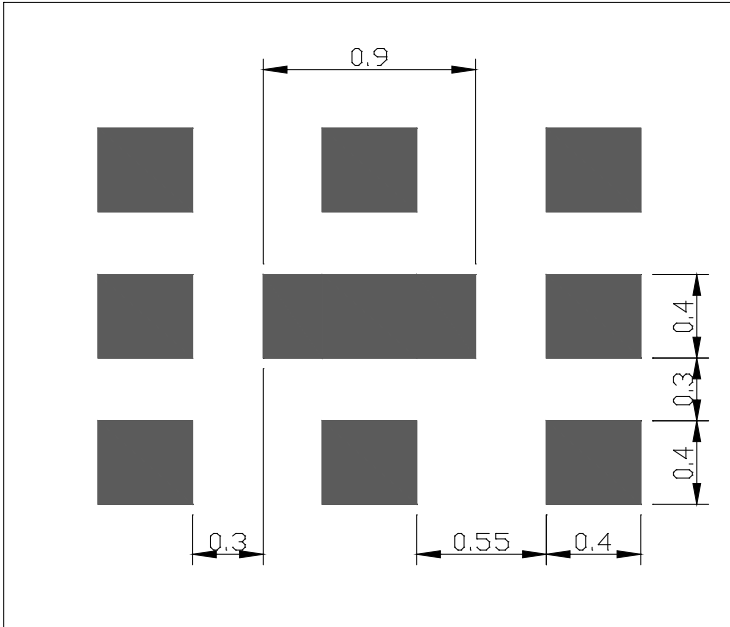
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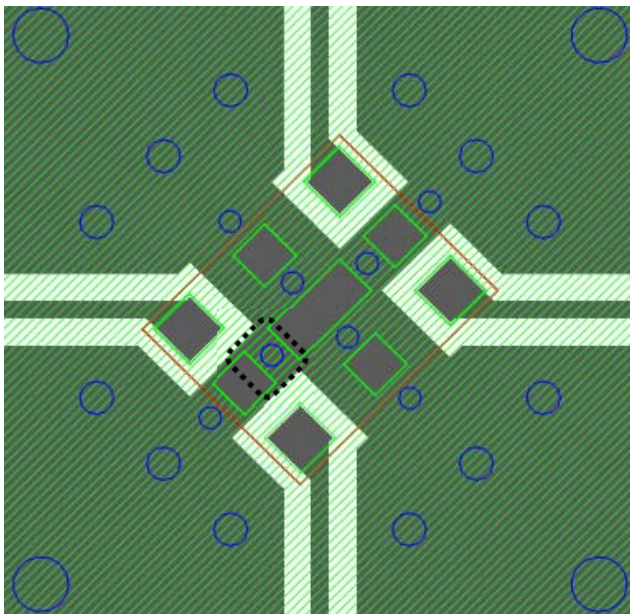
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RECOMMENDED LAND PATTERN



Unit: mm

EVALUATION BOARD

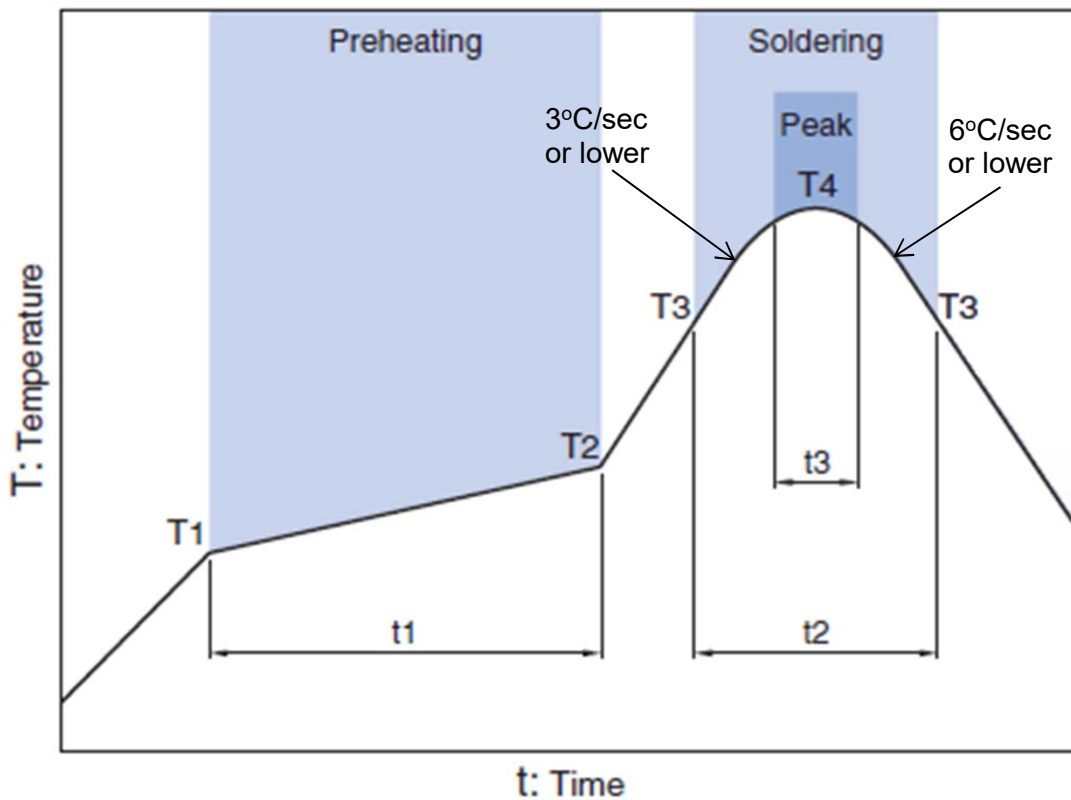


- Thru Hole
- Resist
- Surface
- DUT
- Direction Mark

Material, Layer	Thickness
Top Resist	Resist
Copper Surface Pattern	0.035mm
FR-4	0.10mm
Copper Inner GND	0.018mm
FR-4	0.30mm
Copper Bottom GND	0.035mm

ENVIRONMENT INFORMATION

RoHS Statement
RoHS Compliance

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TDK Corporation**TPX255925MT-7014A2****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

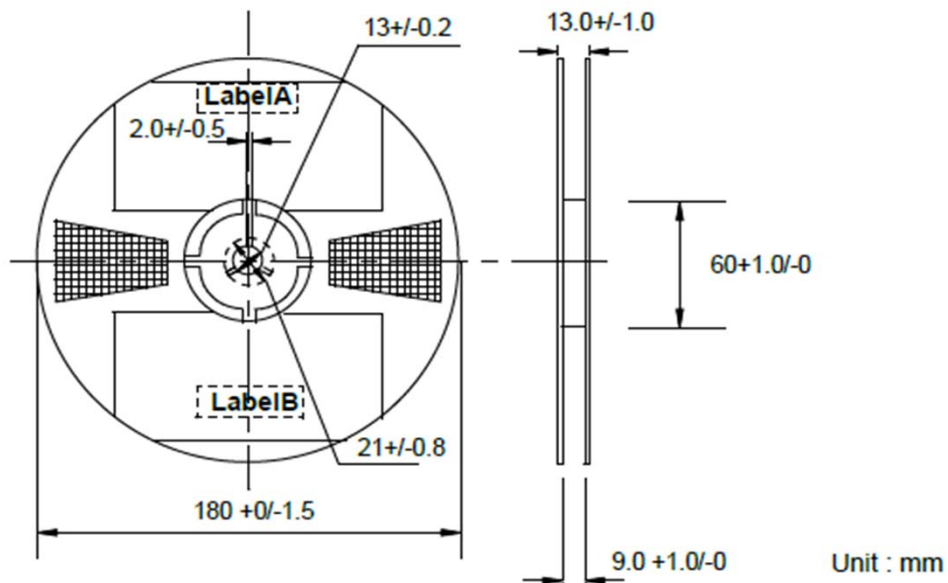
* t3 : Time within 5°C of actual peak temperature

The maximum number of reflow is 3.

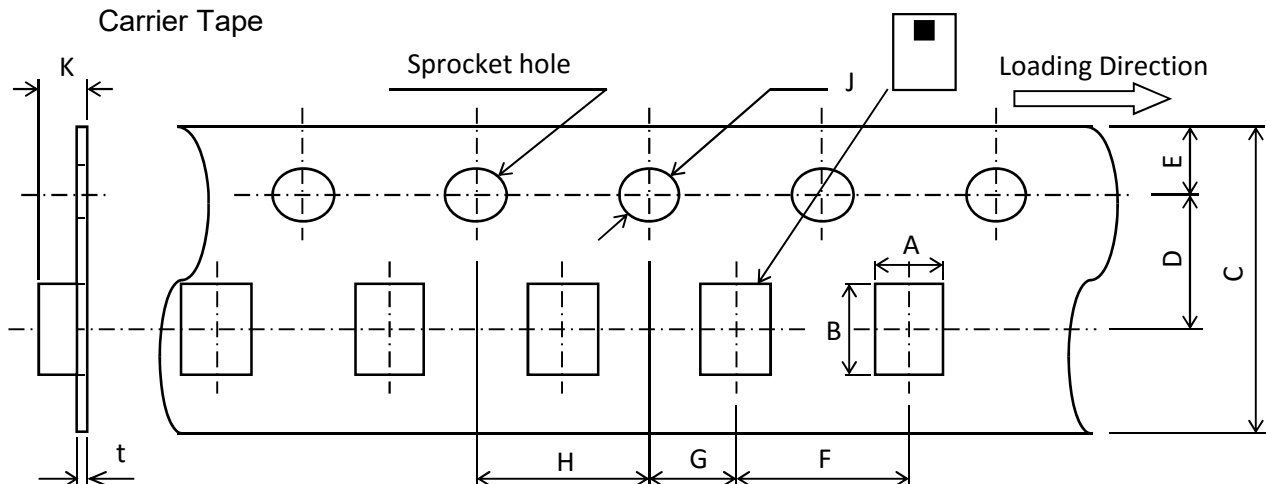
Note: Lead free solder is recommended.
Recommended solder is Sn-3.0Ag-0.5Cu. (M705 by Senju Metal Industry)

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■ **PACKAGING STYLE**

Reel Dimensions



Carrier Tape



Dimensions (mm)

A	B	C	D	E	F	G	H	J	K	t
2.2	2.7	8.0	3.5	1.75	4.0	2.0	4.0	1.5	1.15	0.25
+/-0.05	+/-0.05	+0.3/-0.1	+/-0.05	+/-0.1	+/-0.1	+/-0.05	+/-0.1	+0.1/-0	MAX	+/-0.05

STANDARD PACKAGE QUANTITY (pieces/reel)
2,000

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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
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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.