



Jan. 2016 Ver.1.0
TDK Corporation

Thin-Film Directional Coupler

2.4GHz W-LAN & Bluetooth / 5GHz W-LAN

TFS Series 0.65x0.5mm [EIA 0202] TYPE

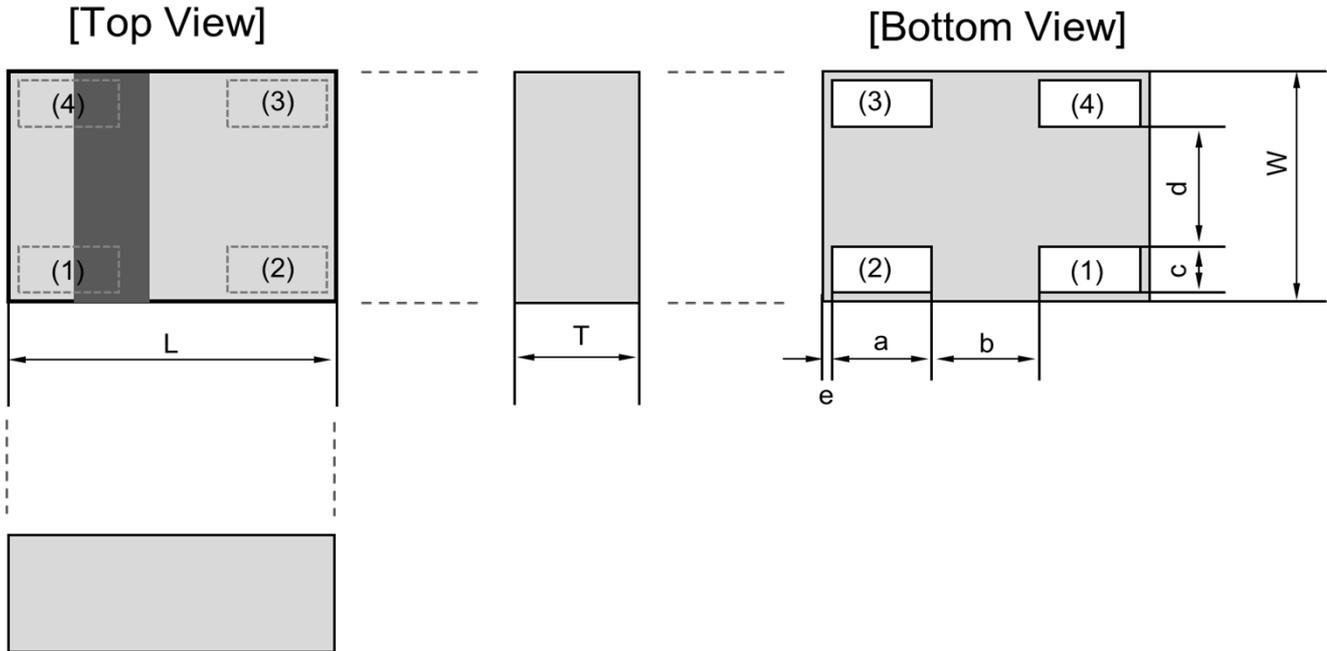
P/N: **TFSC06054125-2111C1X**

[Features]

- Small Size (0.65mm * 0.5mm)
- Low Profile (0.25mm)
- High Directivity
- Small Coupling Deviation

TFSC06054125-2111C1X

■ SHAPES AND DIMENSIONS



Dimensions (mm)

L	W	T	a	b	c	d	e
0.65	0.50	0.25	0.20	0.20	0.10	0.25	0.025
+/-0.04	+/-0.04	+/-0.05	+/-0.04	+/-0.04	+/-0.04	+/-0.04	+/-0.025

Terminal functions

(1)	Coupling Port
(2)	50ohm Termination
(3)	Output Port
(4)	Input Port

■ TEMPERATURE RANGE

Operating temperature	Storage temperature
-40 to +85 °C	-40 to +85 °C

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■ ELECTRICAL CHARACTERISTICS

(Measurement)

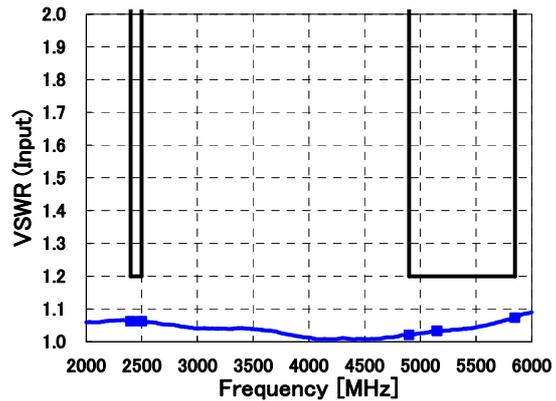
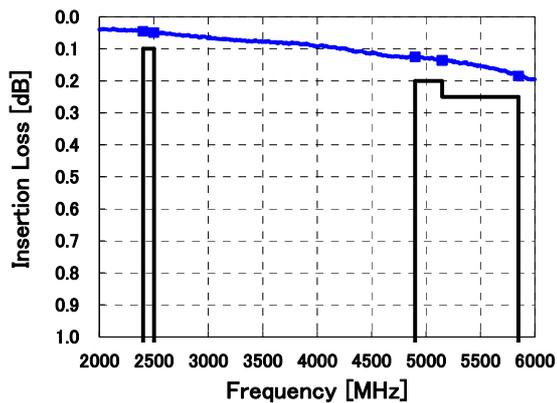
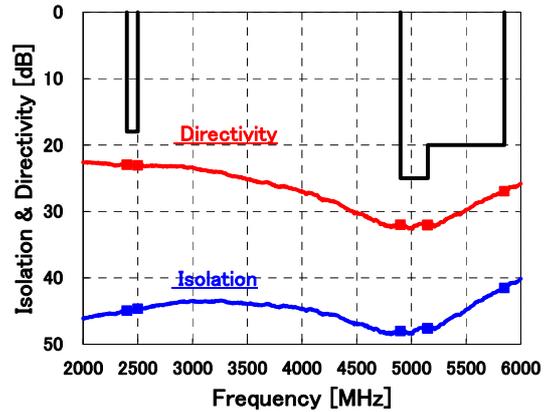
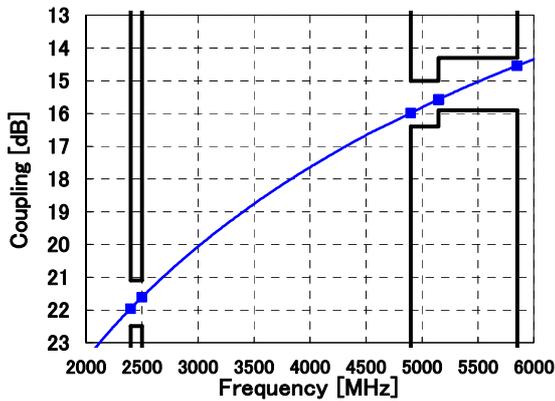
Frequency	Coupling	Ins. Loss	Directivity	VSWR
2400 – 2500	21.8 +/- 0.7	0.1 Max.	18 Min.	1.2 Max.
4900 – 5149	15.7 +/- 0.7	0.2 Max.	25 Min.	1.2 Max.
5150 - 5850	15.1 +/- 0.8	0.25 Max.	20 Min.	1.2 Max.
MHz	dB	dB	dB	

Coupler Type

Daisy Chain Available	Yes
Bi-Directional	Yes

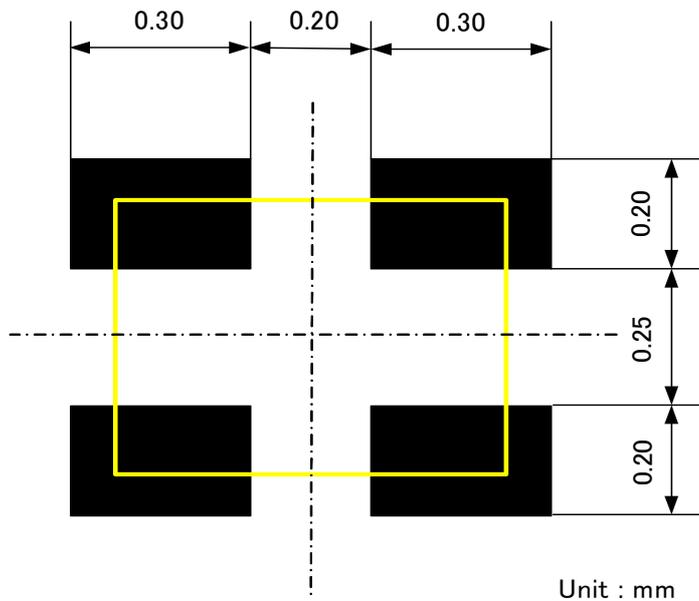
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FREQUENCY CHARACTERISTICS



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■ RECOMMENDED LAND PATTERN



Line width be designed to mach 50 ohm characteristic impedance depending on PCB Material and thickness

■ ENVIRONMENT INFORMATION

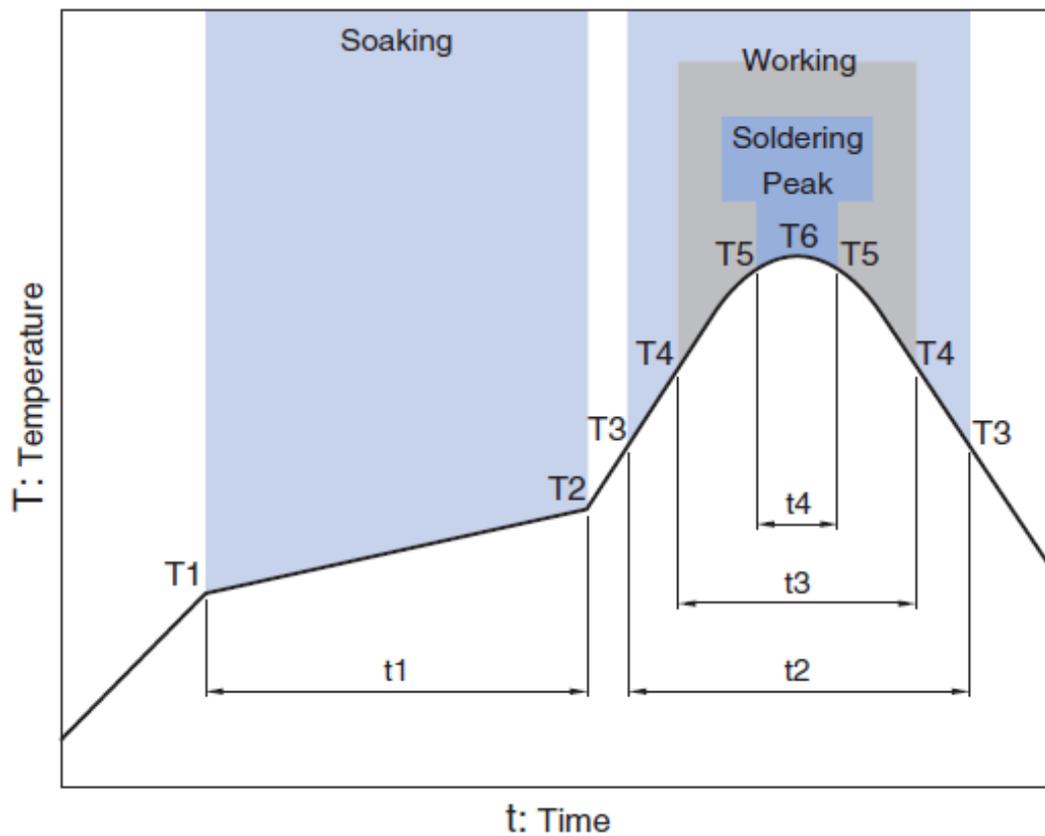
RoHS Statement
RoHS Compliance

Moisture Sensitivity Level (MSL) : 1

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■ RECOMMENDED REFLOW PROFILE

In this product, the recommended soldering condition is 'reflow'.
The recommended temperature profile is shown in below.
Lead Free Reflow Soldering (Sn-3Ag-0.5Cu)
Reflow Soldering : Maximum 2 times



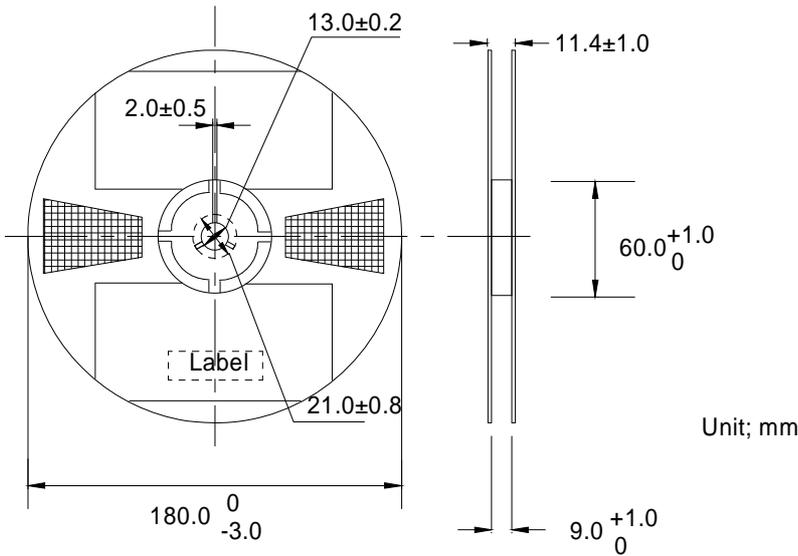
Soaking			Working			
Temp.		Time	Temp.		Time	
T1	T2	t1	T3	T4	t2	t3
150°C	180°C	60 to 120sec	217°C	230°C	60 to 150sec	more than 45sec

Soldering		Peak
Temp.	Time	Temp.
T5	t4	T6
247 to 253°C	within 10sec	260°C Max.

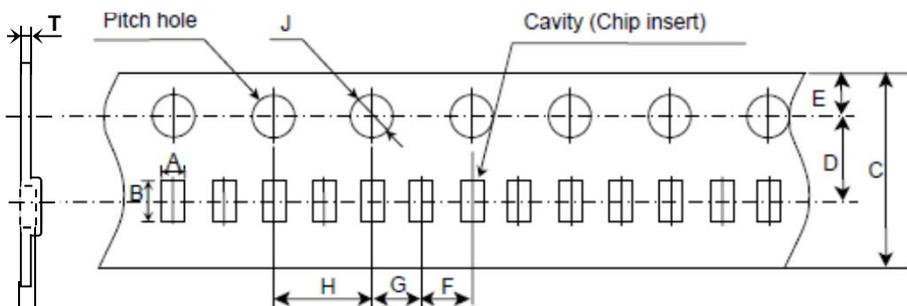
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PACKAGING STYLE

Reel Dimensions



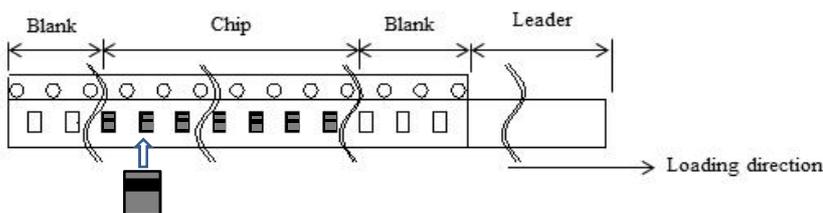
Carrier Tape



« TFS0605 » (Unit : mm)

Symbol	A	B	C	D	E	F
Dimension	0.63 ± 0.03	0.81 ± 0.03	8.0 ± 0.2	3.5 ± 0.05	1.75 ± 0.1	2.0 ± 0.05

Symbol	G	H	J	K	T
Dimension	2.0 ± 0.05	4.0 ± 0.1	Ø1.5 +0.1 0	0.34 ± 0.03	0.20 ± 0.05



STANDARD PACKAGE QUANTITY (pieces/reel)
10,000

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.