

CP0605 Series

Multilayer Chip Couplers

Features

- ❖ Monolithic SMD with ultra-small, low-profiled, and light-weight type.
- ❖ RoHS compliant



Applications

- ❖ 5.15~7.125 GHz wireless communication systems

Specifications

Part Number	Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Coupling (dB)
CP0605-18V6140AM_	5150 ~ 6140	0.5 max. (25°C)	12 min.	18.5 ± 1.5
	6140 ~ 7125	0.9 max. (-40 to 100°C)		17 ± 1.5

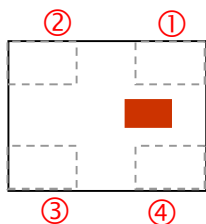
Q'ty/Reel (pcs) : 10,000
 Operating Temperature Range : -40 ~ +100 °C
 Storage Temperature Range : -40 ~ +100 °C
 Storage Period : 12 months max.
 Power Capacity : 1W max.

Part Number

CP 0605 - 18 V 6140 AM □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Type	CP : Coupler	② Dimensions (L × W)	0.65 × 0.5 mm
③ LB Coupling	18 : 18 dB	④ Specification Code I	V
⑤ Central Frequency	6140=6140MHz	⑥ Specification Code II	AM
⑦ Packaging	T: Tape & Reel B: Bulk	⑧ Soldering	/LF=lead-free

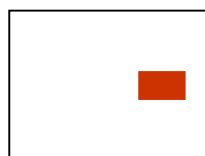
Terminal Configuration



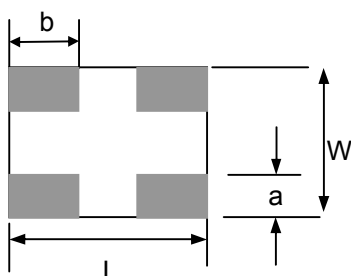
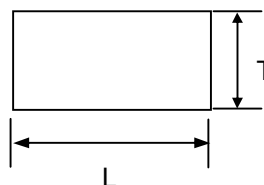
No.	Terminal Name	No.	Terminal Name
①	Coupling	③	Out
②	Termination	④	IN

Dimensions and Recommended PC Board Pattern

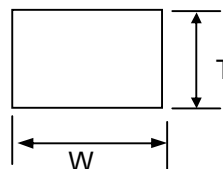
Unit: mm



<Top view>

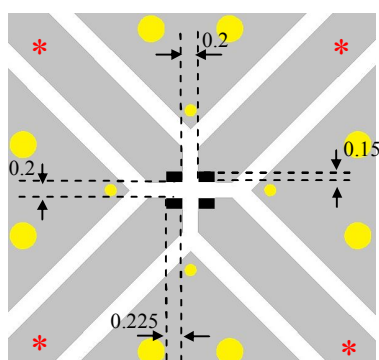


<Bottom view >



<Side view>

Mark	L	W	T	a	b
Dimensions	0.65 ± 0.05	0.5 ± 0.05	0.37 ± 0.05	0.15 +0.1/-0.05	0.225 +0.1/-0.05

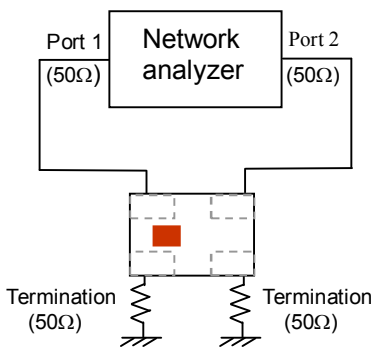


- Solder Resist
- Land
- Through-hole
(ϕ 0.15 and 0.35)

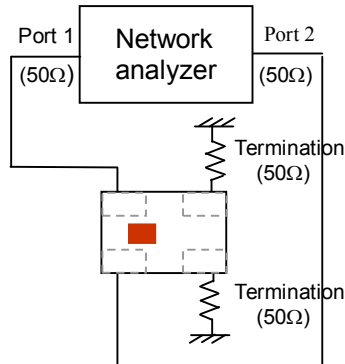
* Line width should be designed to match 50 Ω characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

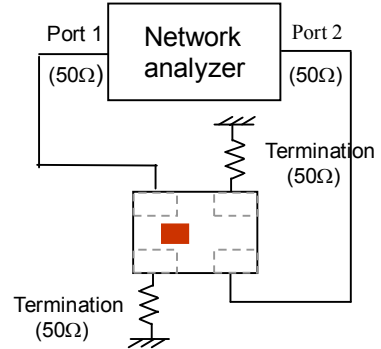
Insertion / Return Loss



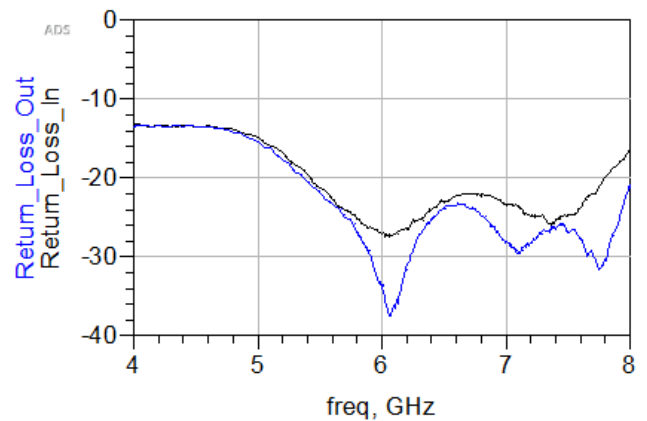
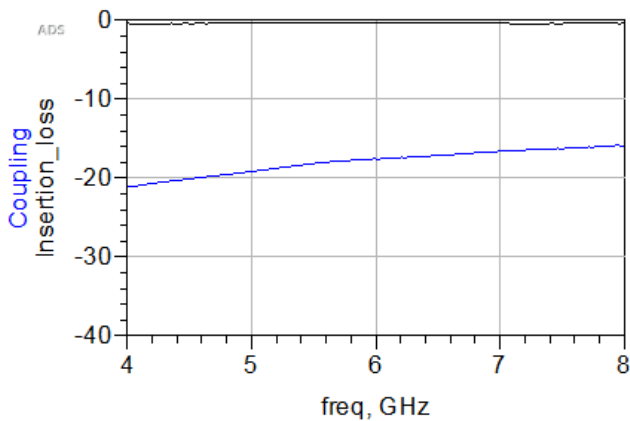
Coupling



Isolation



Electrical Characteristics (T=25oC)

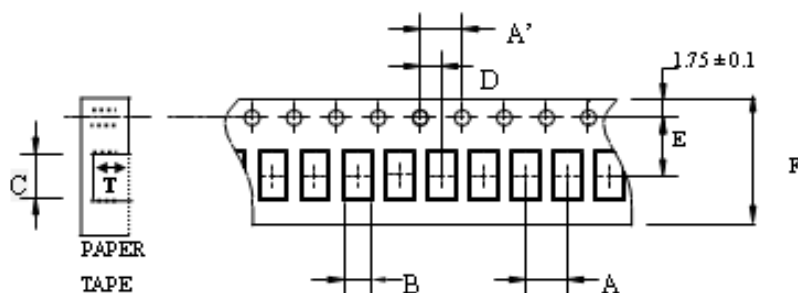


Notes

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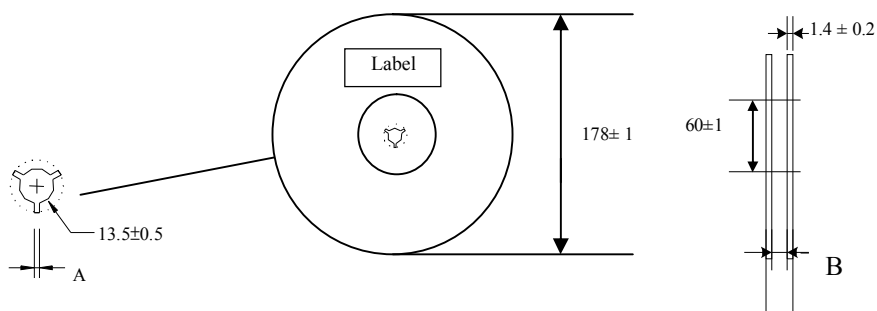
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
0605	2.0±	4.0±	0.58±	0.78±	2.0±	3.5±	8.0±	0.45±	10,000pcs	Paper
	0.05	0.1	0.03	0.03	0.05	0.05	0.2	0.03		

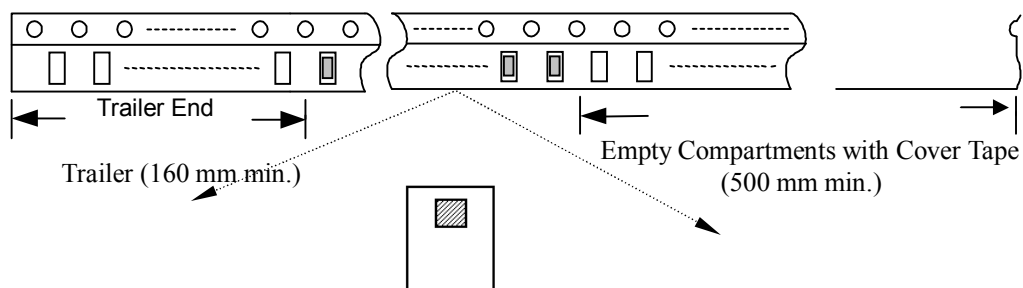
❖Reel Dimensions (Unit: mm)



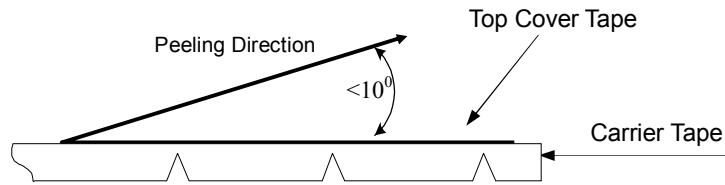
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

Type	A	B
0605	2.3±0.5	9.0±0.3

❖Leader and Trailer Tape



❖ **Peel-off Force**



Peel-off force should be in the range of 0.1 – 0.6 N at a peel-off speed of 300 ± 10 mm/min .

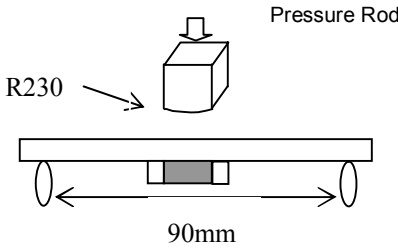
❖ **Storage Conditions**

- (1) Temperature: 5 ~35°C , relative humidity (RH): 45~75%.
- (2) Non-corrosive environment.

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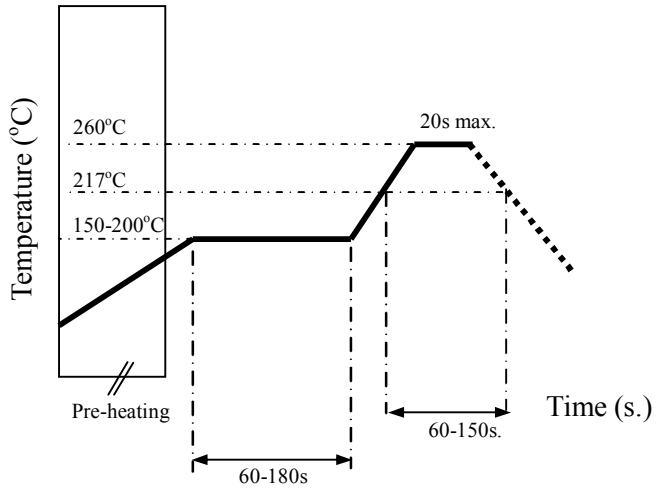
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	<ol style="list-style-type: none"> No apparent damage More than 95% of the terminal electrode shall be covered with new solder 	<ol style="list-style-type: none"> Preheat: $120 \pm 5^{\circ}\text{C}$ Solder: $245 \pm 5^{\circ}\text{C}$ for 5 ± 1 sec
Soldering strength (Termination Adhesion)	<ol style="list-style-type: none"> 2N minimum 	<ol style="list-style-type: none"> Solder specimen onto test jig. Apply push force at 0.5mm/s until electrode pads are peeled off or ceramic are broken. Pushing force is applied to longitude direction.
Deflection (Substrate Bending)	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification 	<ol style="list-style-type: none"> Solder specimen onto test jig (FR4, 1.6 mm) using the recommend soldering profile. Apply a bending force of 2mm deflection. 
Heat/Humidity Resistance	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> Temperature: $85 \pm 2^{\circ}\text{C}$ Humidity: 90% ~ 95% RH Duration: 1000 ± 48hrs Recovery: 1-2hrs
Thermal shock (Temperature Cycle)	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> One cycle/step 1 : $125 \pm 5^{\circ}\text{C}$ for 30 min step 2 : $-40 \pm 5^{\circ}\text{C}$ for 30 min No of cycles : 100 Recovery: 1-2 hrs
Low Temperature Resistance	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> Temperature: $-40 \pm 5^{\circ}\text{C}$ Duration: 500 ± 24hrs Recovery: 1-2hrs

Soldering Conditions

❖ Typical Soldering Profile for Lead-free Process

Reflow Soldering :



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