

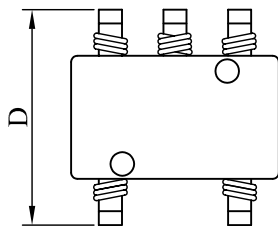
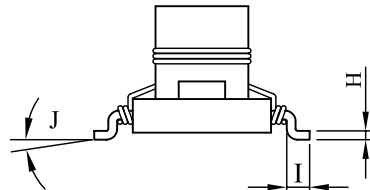
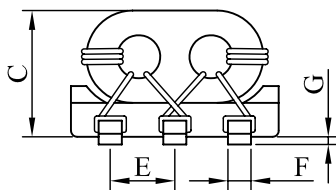
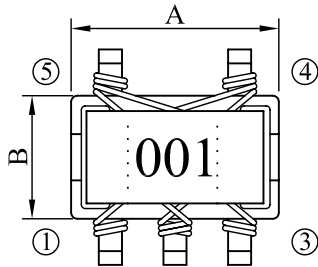
SPECIFICATION FOR APPROVAL

REF :

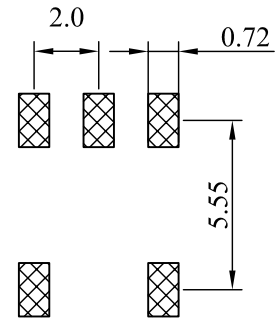
PAGE: 1

| | | | |
|------------|-----------------------|----------------|------------------|
| PROD. NAME | SMD BALUN TRANSFORMER | ABC'S DWG NO. | SC6044□□□□L□-□□□ |
| | | ABC'S ITEM NO. | |

I . MECHANICAL DIMENSIONS :



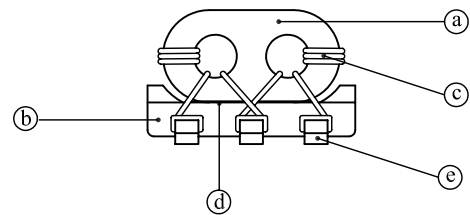
- A : 6.20±0.20 m/m
- B : 4.00±0.20 m/m
- C : 4.40 max. m/m
- D : 6.40±0.30 m/m
- E : 2.00 typ. m/m
- F : 0.60±0.05 m/m
- G : 0.20±0.10 m/m
- H : 0.30±0.10 m/m
- I : 0.70±0.05 m/m
- J : 0° ~ 8° m/m



(PCB Pattern)

II . MATERIALS :

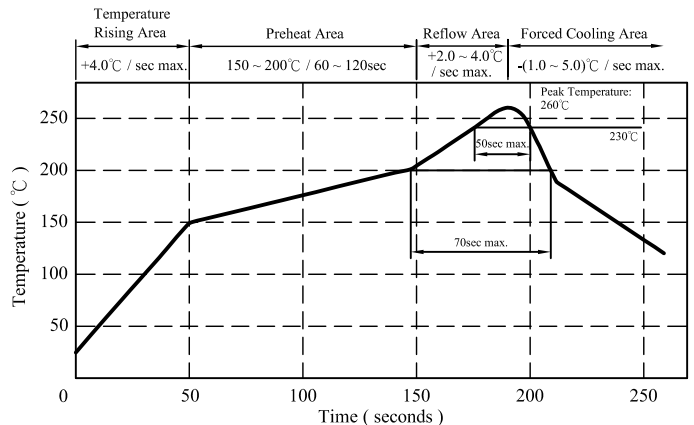
- a. Core : Ferrite RID core
- b. Base : Phenolic
- c. Wire : Enamelled copper wire (class F)
- d. Adhesive : Epoxy resin
- e. Terminal : Cu/Ni/Sn
- f. Remark : Products comply with RoHS' requirements



Peak Temp : 260°C max.
 Max time above 230°C : 50sec max.
 Max time above 200°C : 70sec max.

III . APPLICATIONS :

- a. Double balance mixers , Broad-Band Transformers, Impedance Transformers , ETC.



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SPECIFICATION FOR APPROVAL

REF :

PAGE: 2

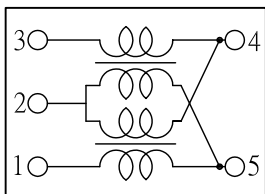
| | | | |
|---------------|-----------------------|----------------|------------------|
| PROD. NAME | SMD BALUN TRANSFORMER | ABC'S DWG NO. | SC6044□□□□L□-□□□ |
| | | ABC'S ITEM NO. | |

IV . ELECTRICAL CHARACTERISTICS :

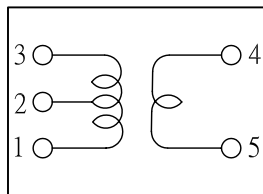
| DWG No. | Winding turns | Operating Frequency range | Insertion loss | FIG. |
|------------------|------------------|---------------------------|---|------|
| SC60440001L□-□□□ | 1 | 50.0MHz-400.0MHz | 10.0dB max. | 1 |
| SC60440002L□-□□□ | 2 | 10.0MHz- 1.0GHz | 6.0dB max. | 1 |
| SC60440003L□-□□□ | 3 | 8.0MHz-800.0MHz | 3.5dB max. | 1 |
| SC60440004L□-□□□ | 4 | 6.0MHz-600.0MHz | 2.5dB max. | 1 |
| SC60440005L□-□□□ | 5 | 5.0MHz-500.0MHz | 2.0dB max. | 1 |
| SC60440006L□-□□□ | 2 | 400.0MHz- 1.3GHz | 4.0dB max. | 1 |
| SC60440007L□-□□□ | Pri 1x2 Sec 1 | 25.0MHz-450.0MHz | 8.0dB max. | 2 |
| SC60440008L□-□□□ | Pri 2x2 Sec 2 | 9.0MHz-350.0MHz | 3.0dB max. | 2 |
| SC60440009L□-□□□ | Pri 3x2 Sec 3 | 3.5MHz-470.0MHz | 3.0dB max. | 2 |
| SC60440010L□-□□□ | Pri 4x2 Sec 4 | 2.2MHz-400.0MHz | 3.0dB max. | 2 |
| SC60440011L□-□□□ | Pri 5x2 Sec 5 | 1.5MHz-300.0MHz | 3.0dB max. | 2 |
| SC60440012L□-□□□ | 4 | 6.0MHz-600.0MHz | IN to OUT-1 1.3dB max. IN to OUT-2 11dB~14dB | 3 |
| SC60440013L□-□□□ | 5 | 6.0MHz-600.0MHz | IN to OUT-1 0.9dB max. IN to OUT-2 13dB~16dB | 3 |
| SC60440014L□-□□□ | 6 | 6.0MHz-600.0MHz | IN to OUT-1 0.8dB max. IN to OUT-2 15dB~17dB | 3 |
| SC60440015L□-□□□ | | 20.0MHz-600.0MHz | IN to OUT-1,2 4.5dB max. OUT-1 to OUT-2 (ISOLATION) 10dB min. | 4 |

- 1). □ : Packaging information ... [A]: Bulk [B]: Taping Reel
 2). "-□□□":Reference code

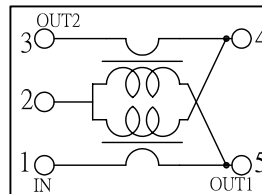
V . SCHEMATIC DIAGRAM :



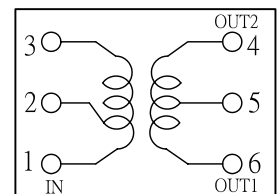
Double balanced mixer
Fig.1



Transformer
Fig.2



Directional coupler
Fig.3



Distributor
Fig.4

SPECIFICATION FOR APPROVAL

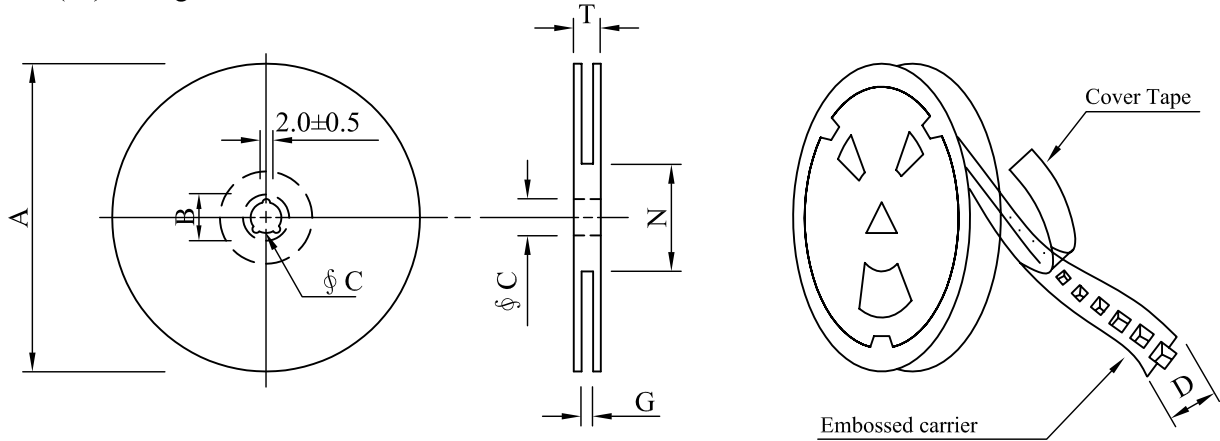
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PAGE: 3

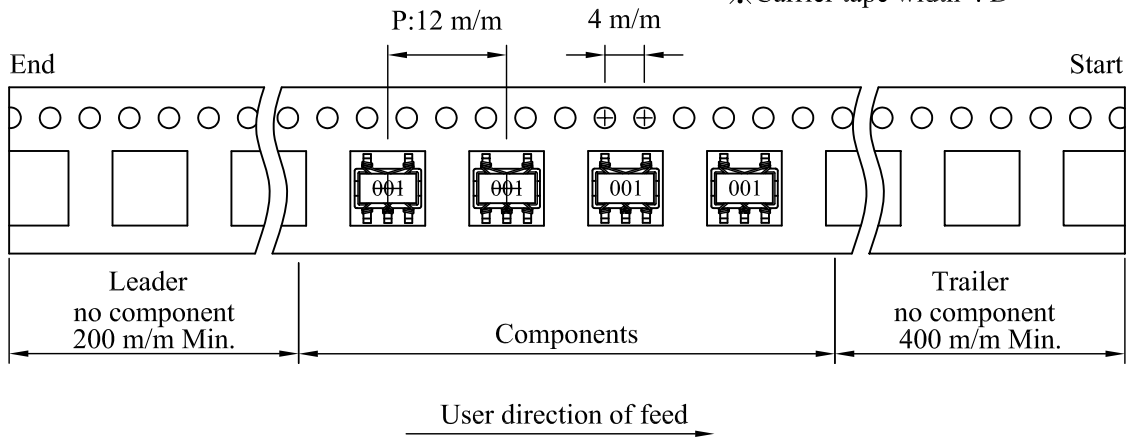
| | | | |
|------------|-----------------------|----------------|------------------|
| PROD. NAME | SMD BALUN TRANSFORMER | ABC'S DWG NO. | SC6044□□□□L□-□□□ |
| | | ABC'S ITEM NO. | |

VI . PACKAGING INFORMATION :

(1) Configuration



※Carrier tape width : D



(2) Dimensions

Unit:m/m

| Style | A | B | C | D | G | N | T |
|---------|-----|--------|--------|----|------------------|------------------|------|
| 13 - 16 | 330 | 21±0.8 | 13±0.5 | 16 | 18 ⁺⁰ | 50 ⁻⁰ | 22.4 |

(3) Q'TY & G.W. Per package

| Series | Inner : Reel | | | Outer : Carton | | |
|--------|--------------|-----------|---------|----------------|-----------|--------------|
| | Q'TY (pcs) | G.W. (gw) | Style | Q'TY (pcs) | G.W. (Kg) | Size (cm) |
| SC6044 | 1,000 | 450 | 13 - 16 | 6,000 | 3.5 | 40 x 40 x 24 |

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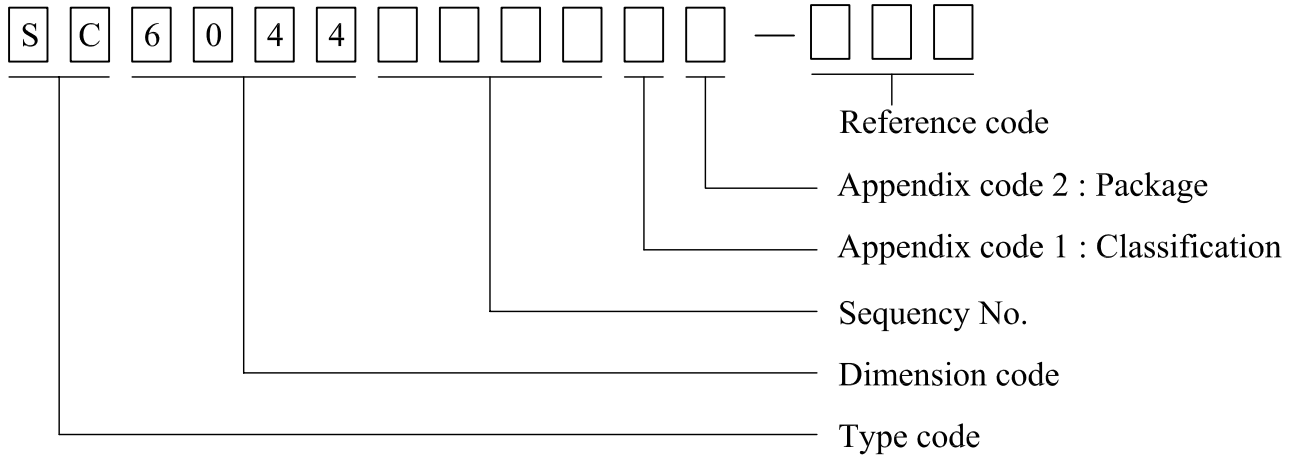
SPECIFICATION FOR APPROVAL

REF :

PAGE: 4

| | | | |
|---------------|-----------------------|----------------|------------------|
| PROD. NAME | SMD BALUN TRANSFORMER | ABC'S DWG NO. | SC6044□□□□L□-□□□ |
| | | ABC'S ITEM NO. | |

VII . DWGING NUMBER EXPRESSION :



Appendix code 1 : Product Classification

L : Lead Free Standard products comply with RoHS' requirements

1 ~ 9 : Lead Free Special products comply with RoHS' requirements

Appendix code 2 : Package Information

| Code | Inner package | Inner package Q'TY | Remark |
|------|------------------------|--------------------|--------|
| A | T.B.D. | T.B.D. | |
| B | T / R (Reel package) | 1000 pcs | |

SPECIFICATION FOR APPROVAL

REF :

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| | | | |
|---------------|-----------------------|----------------|------------------|
| PROD. NAME | SMD BALUN TRANSFORMER | ABC'S DWG NO. | SC6044□□□□L□-□□□ |
| | | ABC'S ITEM NO. | |

VIII . UL CARD :

OBMW2September 8, 2000

Magnet Wire-Component

JUNG SHING WIRE CO LTDE174837

231 CHUNG CHENG RD, SEC 3 JEN-TEH HSIANG, TAINAN
HSIEN TAIWAN

| Mtl Dsg | Mark Dsg | BC | Coat Typ | OC | ANSI Type | Temp Class |
|-------------|-------------|-----------------------|----------|-----------------------|--------------|---------------|
| AIW | --- | Polyamideimide | | --- | MW81-C | 220 |
| CFUEWB | --- | Polyurethane | | --- | MW75C | 130 |
| EIAIW | --- | Polyesterimide | | Polyamideimide | MW35C | 200 |
| EILOCKY | --- | Polyesterimide | | Polyamide | --- | 180 |
| EILOCKW | --- | Polyesterimide | | Modified Epoxy | --- | 200 |
| EIW | --- | Polyesterimide | | --- | --- | 220 |
| EIW-2 | --- | Polyesterimide | | --- | MW74-C | 200 |
| FL.EILOCKY | --- | Modified Polyester | | Polyamide | --- | 155 |
| LSFFW | --- | Polyurethane | | --- | MW79-C | 155 |
| LSUEW | --- | Polyurethane | | --- | --- | 130 |
| PEW | --- | Polyester | | --- | --- | 155 |
| PEY | --- | Polyester | | Nylon | MW24-C | 155 |
| SF.FLW | --- | Modified Polyester | | --- | MW26C | 155 |
| SF.EIW | --- | Polyesterimide | | --- | MW77C | 180 |
| SF.BY@ | --- | Modified Polyester | | Nylon | MW27-C | 155 |
| SF.FLY@ | --- | Modified Polyester | | Nylon | MW27-C | 155 |
| SF.BLOCKBS | --- | Modified Polyester | | Modified Polyamide | --- | 155 |
| SF.EILOCKY# | --- | Polyesterimide | | Polyamide | --- | 180 |
| SF.EILOCKBS | --- | Polyesterimide | | Modified Polyamide | --- | 180 |
| SF.BW@ | --- | Modified Polyester | | --- | MW26C | 155 |
| SFFW | --- | Polyurethane | | --- | MW79 | 155 |

287806002 Page 1 of 2 A not-for-profit organization
dedicated to public safety and
committed to quality service

| Mtl Dsg | Mark Dsg | BC | Coat Typ | OC | ANSI Type | Temp Class |
|------------|-------------|--------------|----------|-----------|--------------|---------------|
| SFFY | --- | Polyurethane | | Polyamide | MW80C | 155 |
| UEW-1 | --- | Polyurethane | | --- | MW2-C | 105 |
| UEW-2 | --- | Polyurethane | | --- | --- | 130 |
| UEW-4 | --- | Polyurethane | | --- | MW75C | 130 |
| UEY | --- | Polyurethane | | Nylon | MW28-C | 130 |
| UEY-2 | --- | Polyurethane | | Polyamide | MW28-C | 130 |

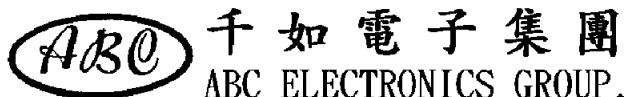
@-May be suffixed by LZ; # - May be suffixed by LZ, EL or LZI.
LZ - Signifies magned wires twisted together; EL - signifies base coated magnet wire laid parallel with top coat applied overall; LZL - signi-
fies base coated magnet wire twisted together and covered with top coat overall.

Marking: Company name or trademarks **JSW** or 榮星電線 , material designation or marked designation on packaed or reel, and
Recognized Component Mark.

See General Information Preceding These Recognitions
For use only in equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

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September 8 , 2000

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SPECIFICATION FOR APPROVAL

REF :

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| | | | |
|---------------|-----------------------|----------------|------------------|
| PROD. NAME | SMD BALUN TRANSFORMER | ABC'S DWG NO. | SC6044□□□□L□-□□□ |
| | | ABC'S ITEM NO. | |

| | | SUMITOMO CHEMICAL CO LTD 5-33 KITAHAMA 4-CHOME CHUO-KO, OSAKA JAPAN | | | | | E54705 (M) | | | | |
|---|------------|--|------------------------|------|-------------|--------------------|-------------|-------------|------------------|------------------|-------------|
| Mtl Dsg | Col | Min Thk mm | UL94 Flame Class | Elec | RTI | | H W I | H A I | H V T R | D 4 9 5 | C T I |
| | | | | | with Imp | Mech w/o Imp | | | | | |
| Liquid crystal polyester (LCP), designated "EKONOL" or "SUMIKASUPER", furnished in the form of pellets, (Contd) | | | | | | | | | | | |
| E4008, E400X | NC, BK | 0.30 | 94V-0 | 130 | 130 | 130 | — | — | — | — | — |
| | | 0.75 | 94V-0 | 130 | 130 | 130 | 3 | 4 | — | — | — |
| | | 1.5 | 94V-0 | 130 | 130 | 130 | 2 | 4 | — | — | — |
| | | 3.0 | 94V-0 | 130 | 130 | 130 | 1 | 4 | 0 | 5 | 4 |
| E4008 | NC, WT, BK | 0.30 | 94V-0 | 130 | 130 | 130 | — | — | — | — | — |
| | | 0.75 | 94V-0 | 220 | 180 | 220 | 3 | 4 | — | — | — |
| | | 1.5 | 94V-0 | 220 | 200 | 240 | 2 | 4 | — | — | — |
| | | 3.0 | 94V-0 | 220 | 200 | 240 | 1 | 4 | 0 | 5 | 4 |
| E4010 | NC, BK | 0.30 | 94V-0 | 130 | 130 | 130 | — | — | — | — | — |
| | | 0.75 | 94V-0 | 220 | 180 | 220 | 3 | 4 | — | — | — |
| | | 1.5 | 94V-0 | 220 | 200 | 240 | 2 | 4 | — | — | — |
| | | 3.0 | 94V-0 | 220 | 200 | 240 | 1 | 4 | 0 | 5 | 4 |
| E400(Y)L, E4008L | NC, BK | 0.30 | 94V-0 | 130 | 130 | 130 | — | — | — | — | — |
| | | 0.75 | 94V-0 | 130 | 130 | 130 | 3 | 4 | — | — | — |
| | | 1.5 | 94V-0 | 130 | 130 | 130 | 2 | 4 | — | — | — |
| | | 3.0 | 94V-0 | 130 | 130 | 130 | 1 | 4 | 0 | 5 | 4 |
| E4810 | NC, BK | 0.30 | 94V-0 | 130 | 130 | 130 | — | — | — | — | — |
| | | 0.75 | 94V-0 | 130 | 130 | 130 | 0 | 4 | — | — | — |
| | | 1.5 | 94V-0 | 130 | 130 | 130 | 0 | 4 | — | — | — |
| | | 3.0 | 94V-0 | 130 | 130 | 130 | 1 | 4 | 0 | 5 | 4 |

(X) Denotes any number 1 thru 9.
(Y) Denotes any number 1 thru 7.

SPECIFICATION FOR APPROVAL

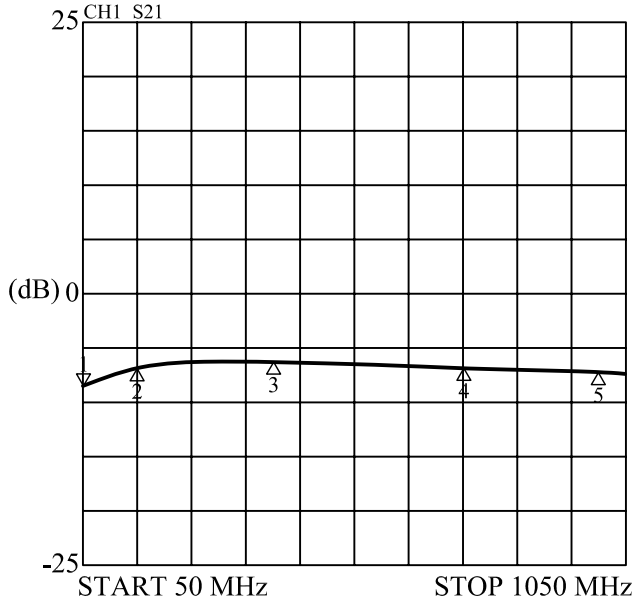
REF :

PAGE: 7

| | | | |
|------------|-----------------------|----------------|------------------|
| PROD. NAME | SMD BALUN TRANSFORMER | ABC'S DWG NO. | SC6044□□□□L□-□□□ |
| | | ABC'S ITEM NO. | |

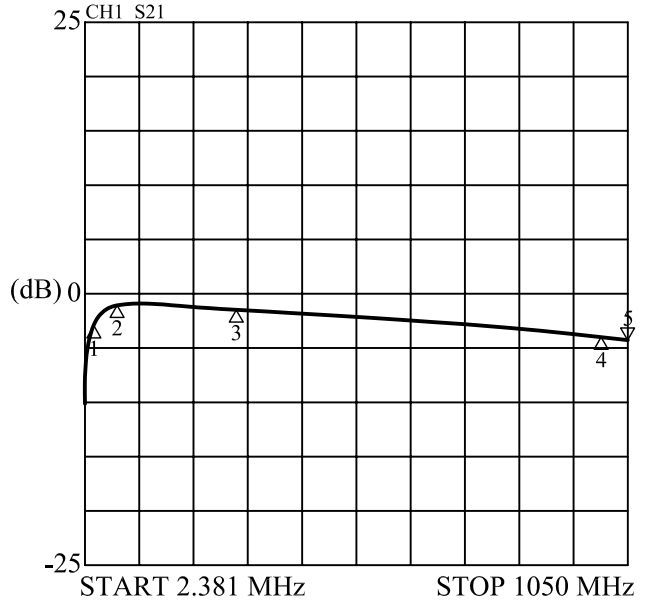
IX . INSERTION LOSS TEST CURVE :

SC60440001



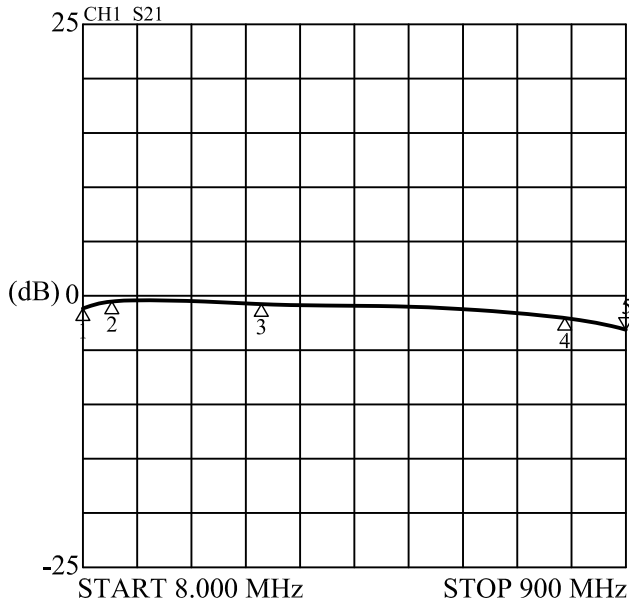
- ① -8.3183 dB / 50 MHz
- ② -6.9458 dB / 150 MHz
- ③ -6.5162 dB / 400 MHz
- ④ -6.9308 dB / 750 MHz
- ⑤ -7.2489 dB / 1000 MHz

SC60440002



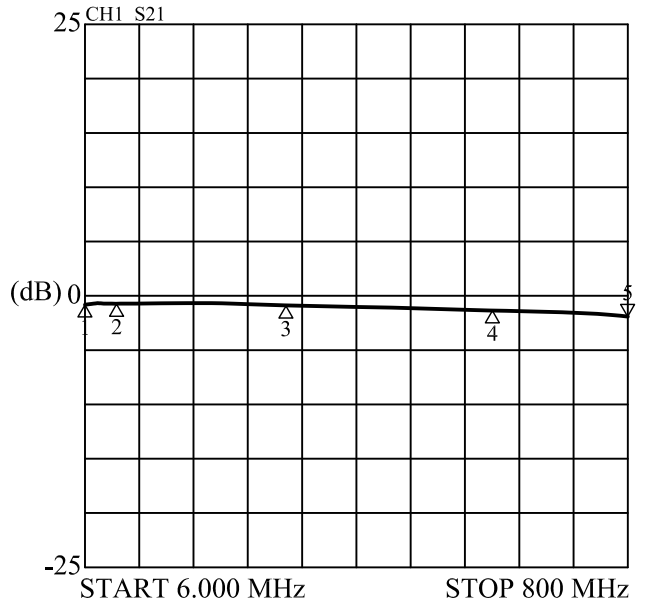
- ① -3.1380 dB / 10 MHz
- ② -1.8866 dB / 50 MHz
- ③ -2.1536 dB / 300 MHz
- ④ -4.5075 dB / 1000 MHz
- ⑤ -4.6947 dB / 1050 MHz

SC60440003



- ① -1.3816 dB / 8 MHz
- ② -0.8999 dB / 50 MHz
- ③ -1.0204 dB / 300 MHz
- ④ -2.2180 dB / 800 MHz
- ⑤ -2.8778 dB / 900 MHz

SC60440004



- ① -0.8196 dB / 6 MHz
- ② -0.5688 dB / 50 MHz
- ③ -0.9145 dB / 300 MHz
- ④ -1.3710 dB / 600 MHz
- ⑤ -2.2616 dB / 800 MHz

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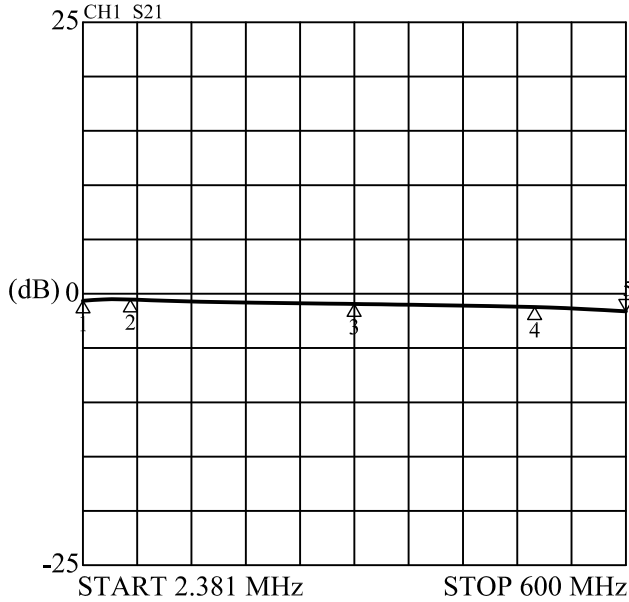
SPECIFICATION FOR APPROVAL

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PAGE: 8

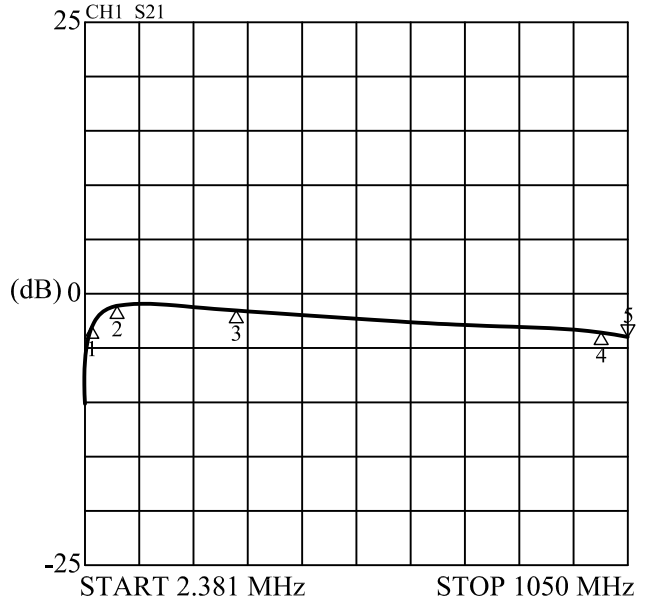
| | | | |
|---------------|-----------------------|----------------|------------------|
| PROD. NAME | SMD BALUN TRANSFORMER | ABC'S DWG NO. | SC6044□□□□L□-□□□ |
| | | ABC'S ITEM NO. | |

SC60440005



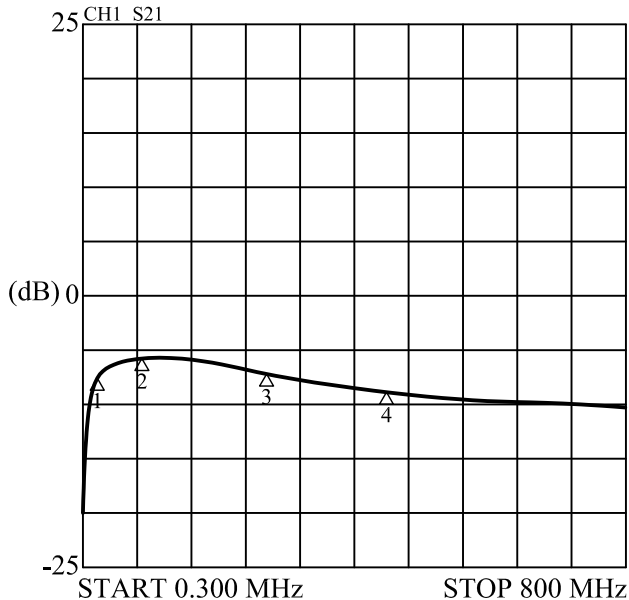
- ① -0.4705 dB / 5 MHz
- ② -0.3969 dB / 50 MHz
- ③ -0.6995 dB / 300 MHz
- ④ -1.0571 dB / 500 MHz
- ⑤ -1.5255 dB / 600 MHz

SC60440006



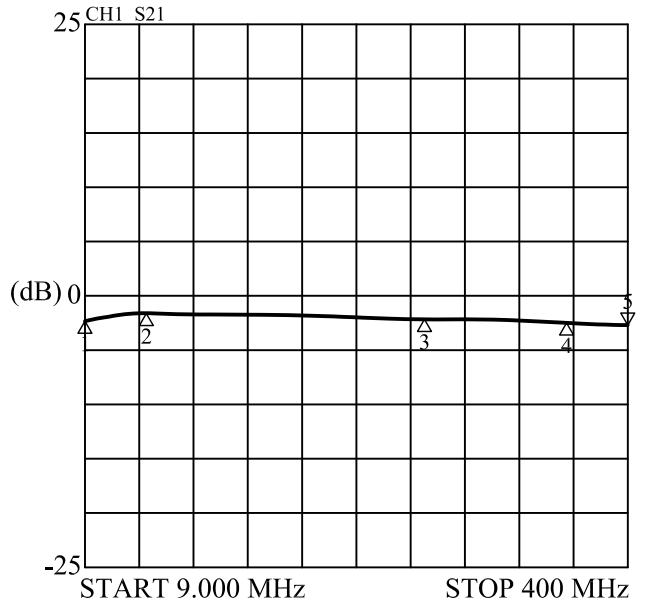
- ① -3.1380 dB / 10 MHz
- ② -1.8866 dB / 50 MHz
- ③ -2.1536 dB / 300 MHz
- ④ -4.5075 dB / 1000 MHz
- ⑤ -4.6947 dB / 1050 MHz

SC60440007



- ① -7.5302 dB / 25 MHz
- ② -5.8535 dB / 100 MHz
- ③ -6.6327 dB / 300 MHz
- ④ -7.7140 dB / 800 MHz

SC60440008



- ① -2.6066 dB / 9 MHz
- ② -1.8676 dB / 50 MHz
- ③ -2.0201 dB / 250 MHz
- ④ -2.3222 dB / 350 MHz
- ⑤ -2.5982 dB / 400 MHz

AR-001A

SPECIFICATION FOR APPROVAL

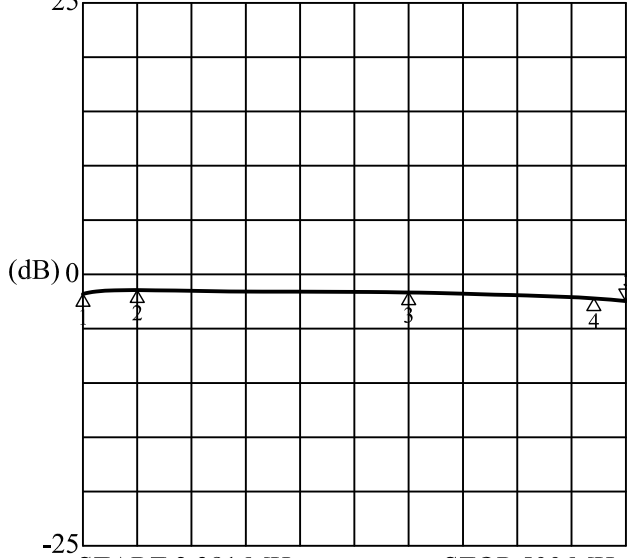
REF :

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| | | | |
|---------------|-----------------------|----------------|------------------|
| PROD. NAME | SMD BALUN TRANSFORMER | ABC'S DWG NO. | SC6044□□□□L□-□□□ |
| | | ABC'S ITEM NO. | |

SC60440009

25 CH1 S21

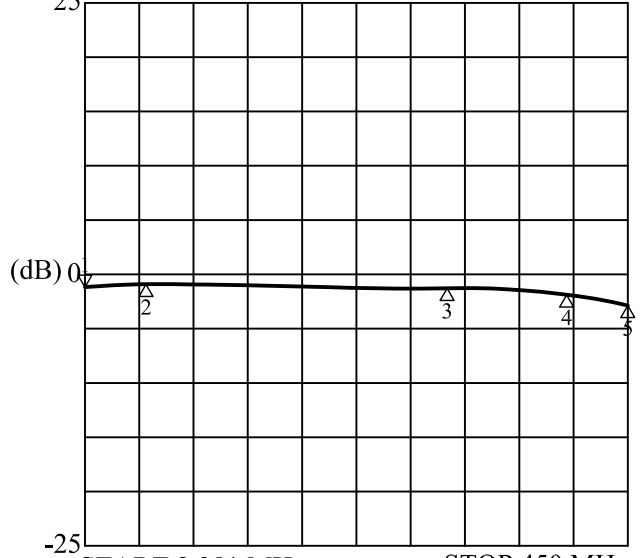


START 2.381 MHz STOP 500 MHz

- ① -1.9681 dB / 3.5 MHz
- ② -1.3742 dB / 50 MHz
- ③ -1.6774 dB / 300 MHz
- ④ -2.1016 dB / 470 MHz
- ⑤ -2.3843 dB / 500 MHz

SC60440010

25 CH1 S21

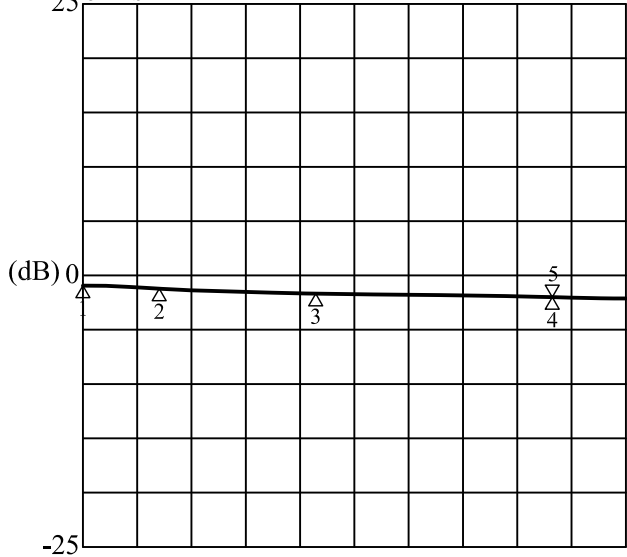


START 2.381 MHz STOP 450 MHz

- ① -0.8878 dB / 2.381 MHz
- ② -0.7163 dB / 50 MHz
- ③ -1.2644 dB / 300 MHz
- ④ -1.9968 dB / 400 MHz
- ⑤ -3.0278 dB / 450 MHz

SC60440011

25 CH1 S21

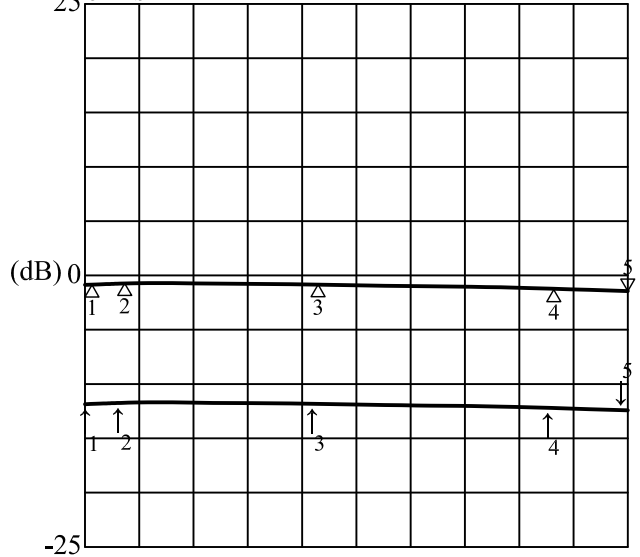


START 1.000 MHz STOP 350 MHz

- ① -0.5992 dB / 1.5 MHz
- ② -0.7765 dB / 50 MHz
- ③ -1.4662 dB / 150 MHz
- ④ -2.3604 dB / 300 MHz
- ⑤ -2.3604 dB / 300 MHz

SC60440012

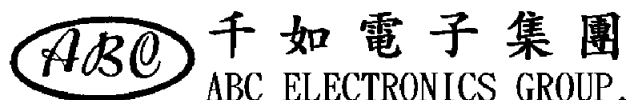
25 CH2 S21



START 2.381 MHz STOP 700 MHz

- "△" : IN-OUT 1 "↑" : IN-OUT 2
- ① -0.9926 dB / 6 MHz
 - ① -12.378 dB / 6 MHz
 - ② -0.7059 dB / 50 MHz
 - ② -12.303 dB / 50 MHz
 - ③ -0.7940 dB / 300 MHz
 - ③ -12.505 dB / 300 MHz
 - ④ -1.1147 dB / 600 MHz
 - ④ -12.907 dB / 600 MHz
 - ⑤ -1.2524 dB / 700 MHz
 - ⑤ -13.049 dB / 700 MHz

AR-001A



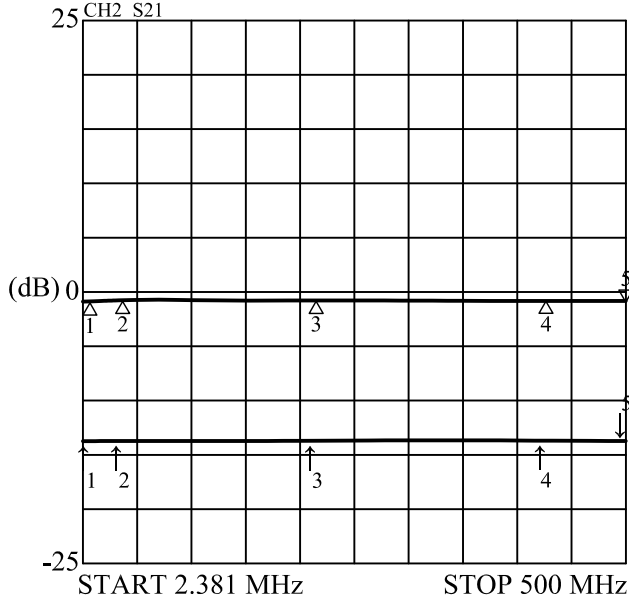
SPECIFICATION FOR APPROVAL

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PAGE: 10

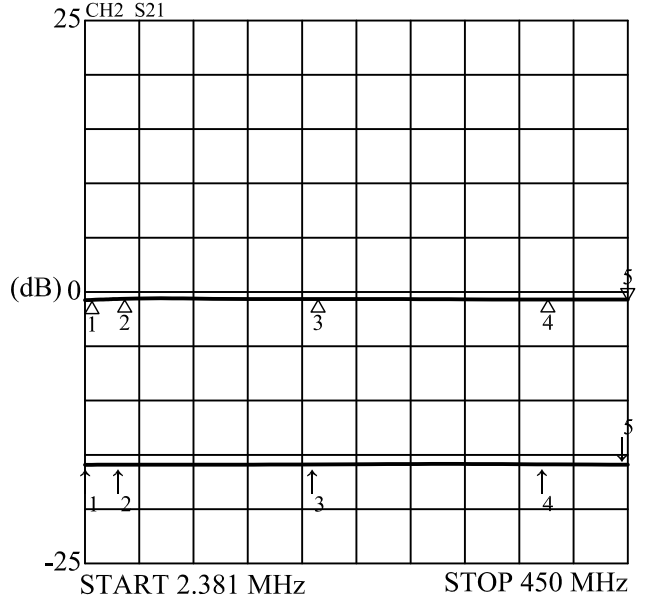
| | | | |
|---------------|-----------------------|----------------|------------------|
| PROD. NAME | SMD BALUN TRANSFORMER | ABC'S DWG NO. | SC6044□□□□L□-□□□ |
| | | ABC'S ITEM NO. | |

SC60440013



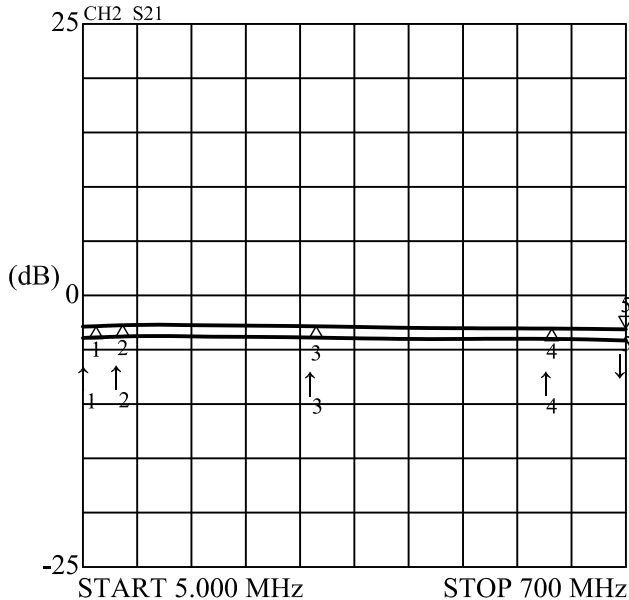
- | | | | |
|------------------------|------------------------|------------------------|------------------------|
| "△" : IN-OUT 1 | | "↑" : IN-OUT 2 | |
| ① -0.6377 dB / 6 MHz | ① -14.222 dB / 6 MHz | ① -0.4321 dB / 6 MHz | ① -15.765 dB / 6 MHz |
| ② -0.4683 dB / 50 MHz | ② -14.177 dB / 50 MHz | ② -0.3222 dB / 50 MHz | ② -15.736 dB / 50 MHz |
| ③ -0.5063 dB / 300 MHz | ③ -14.254 dB / 300 MHz | ③ -0.3882 dB / 300 MHz | ③ -15.829 dB / 300 MHz |
| ④ -0.6722 dB / 600 MHz | ④ -14.309 dB / 600 MHz | ④ -0.5890 dB / 600 MHz | ④ -15.942 dB / 600 MHz |
| ⑤ -0.7370 dB / 700 MHz | ⑤ -14.300 dB / 700 MHz | ⑤ -0.6721 dB / 700 MHz | ⑤ -15.962 dB / 700 MHz |

SC60440014

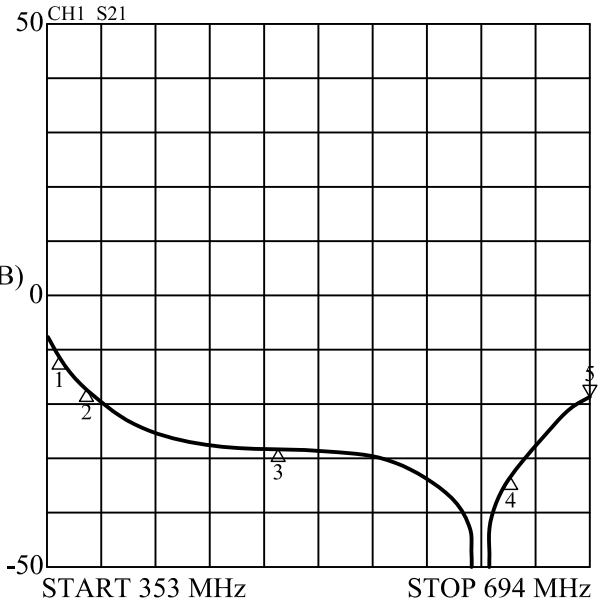


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|------------------------|------------------------|------------------------|------------------------|
| "△" : IN-OUT 1 | | "↑" : IN-OUT 2 | |
| ① -0.4321 dB / 6 MHz | ① -15.765 dB / 6 MHz | ① -0.4321 dB / 6 MHz | ① -15.765 dB / 6 MHz |
| ② -0.3222 dB / 50 MHz | ② -15.736 dB / 50 MHz | ② -0.3222 dB / 50 MHz | ② -15.736 dB / 50 MHz |
| ③ -0.3882 dB / 300 MHz | ③ -15.829 dB / 300 MHz | ③ -0.3882 dB / 300 MHz | ③ -15.829 dB / 300 MHz |
| ④ -0.5890 dB / 600 MHz | ④ -15.942 dB / 600 MHz | ④ -0.5890 dB / 600 MHz | ④ -15.942 dB / 600 MHz |
| ⑤ -0.6721 dB / 700 MHz | ⑤ -15.962 dB / 700 MHz | ⑤ -0.6721 dB / 700 MHz | ⑤ -15.962 dB / 700 MHz |

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|------------------------|------------------------|------------------------|------------------------|
| "△" : IN-OUT 1 | | "↑" : IN-OUT 2 | |
| ① -3.3367 dB / 20 MHz | ① -3.6766 dB / 20 MHz | ① -3.3367 dB / 20 MHz | ① -3.6766 dB / 20 MHz |
| ② -3.3328 dB / 50 MHz | ② -3.6122 dB / 50 MHz | ② -3.3328 dB / 50 MHz | ② -3.6122 dB / 50 MHz |
| ③ -3.6748 dB / 300 MHz | ③ -3.9403 dB / 300 MHz | ③ -3.6748 dB / 300 MHz | ③ -3.9403 dB / 300 MHz |
| ④ -4.0316 dB / 600 MHz | ④ -4.1138 dB / 600 MHz | ④ -4.0316 dB / 600 MHz | ④ -4.1138 dB / 600 MHz |
| ⑤ -4.0401 dB / 700 MHz | ⑤ -3.8037 dB / 700 MHz | ⑤ -4.0401 dB / 700 MHz | ⑤ -3.8037 dB / 700 MHz |



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|------------------------|------------------------|
| "△" : OUT 1-OUT 2 | |
| ① -12.229 dB / 20 MHz | ① -12.229 dB / 20 MHz |
| ② -17.753 dB / 50 MHz | ② -17.753 dB / 50 MHz |
| ③ -27.348 dB / 300 MHz | ③ -27.348 dB / 300 MHz |
| ④ -33.705 dB / 600 MHz | ④ -33.705 dB / 600 MHz |
| ⑤ -18.530 dB / 700 MHz | ⑤ -18.530 dB / 700 MHz |

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