Multi-layer Chip Diplexer

ADID-R-0004

Request Samples

Check Inventory

1.0 x 0.5 x 0.4 mm

RoHS Compliant

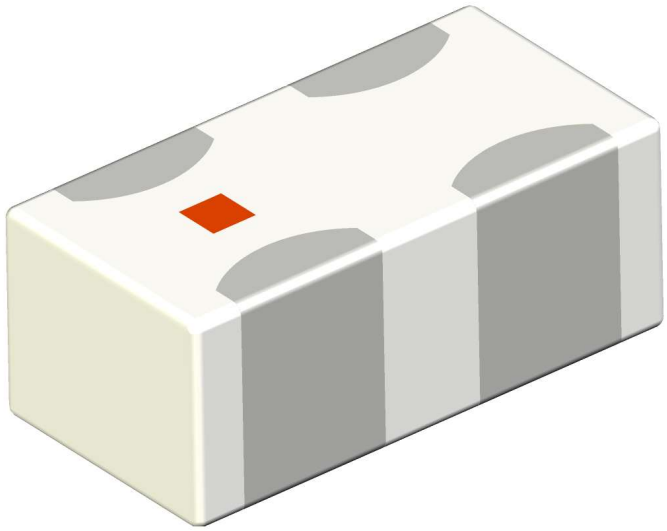
Features

- LTCC diplexer supporting 2400~2500 / 5150~7125 MHz
- Small Form Factor 1.0 x 0.5 x 0.4 mm
- Low Insertion Loss 0.5 dB
- VSWR as low as 1.2
- RoHS Compliant

Applications

- Wi-Fi 6/6E Standards
- Wi-Fi Speakers and Sound Bars
- Video Streaming and Network Cameras
- VR Head Mount Displays
- Car Infotainment Systems
- Broadband Gateways

Product Image



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 02-19-24

Multi-layer Chip Diplexer

ADID-R-0004

Request Samples | Check Inventory

1.0 x 0.5 x 0.4 mm

RoHS Compliant

Electrical Specifications

Parameters	Specification		Units	Notes
Center Frequency	2400-2500	5150-7125	MHz	
Insertion Loss (Max)	0.50	0.90	dB	@25℃
Insertion Loss (Max)	0.65	1.10		@-40~85℃
Absolute Attenuation	15.0 dB min. @4800~6000 MHz 15.0 dB min. @5150-7125 MHz 20.0 dB min. @7200-7500 MHz	24.0 dB min. @ 500~2400 MHz 26.0 dB min. @ 2400~2500 MHz 19.0 dB min. @ 2500~2690 MHz 9.0 dB min. @ 10300~11900 MHz 13.5 dB min. @ 11900~12490 MHz 11.5 dB min. @ 12490~14250 MHz 8.0 dB min. @ 15510~21375 MHz	dB	
Isolation (Min)	24	16.5	dB	
Return Loss (Min)	10		dB	@25℃
Power Capacity	2.0		W	-

Mechanical Specifications

Parameters	Specifications
Filter Dimension	1.0 x 0.5 x 0.4 mm
Mounting Type	SMD Mount

Environmental Specifications

Parameters	Specifications
Operating Temperature	-40ºC ~ +85ºC
Storage Temperature	-10ºC ~ +45ºC
Humidity	70% R.H.
RoHS Compliant	Yes

ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 02-19-24

Multi-layer Chip Diplexer

ADID-R-0004

Request Samples

Check Inventory

1.0 x 0.5 x 0.4 mm

RoHS Compliant

Ordering Information

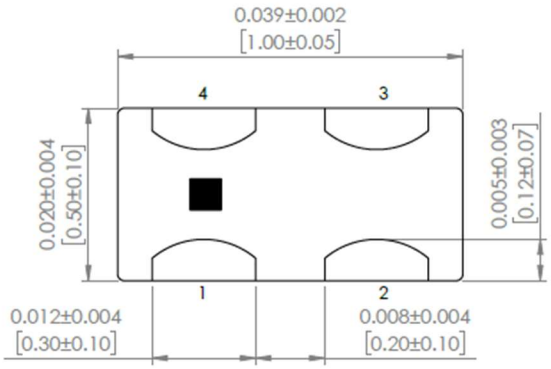
Part Identification

ADID-R-004 ☐

Packaging
Blank: Bulk
T: Tape & Reel

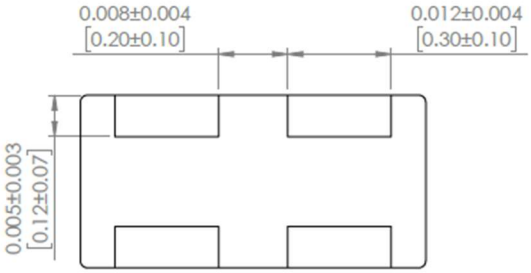
Package Dimensions & PCB Footprint

DIMENSIONS: INCHES [mm]



TOP VIEW

SIDE VIEW



BOTTOM VIEW

FRONT VIEW

Pin #	Function
1	Common Port
2	GND
3	High Freq. Port
4	Lower Freq. Port

ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 02-19-24

ABRACON IS
ISO9001-2015
CERTIFIED

Multi-layer Chip Diplexer

ADID-R-0004

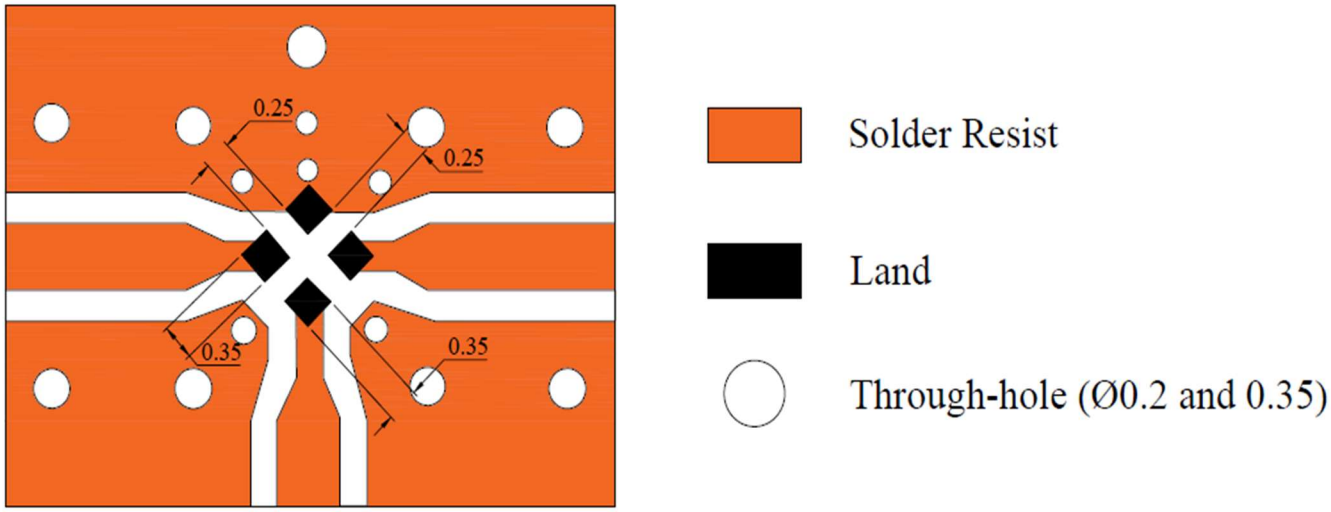
Request Samples

Check Inventory

1.0 x 0.5 x 0.4 mm

RoHS Compliant

Recommended Footprint (PCB Layout)



Units: mm

Note: Line width to be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.
The transmission line is Gound Coplanar Waveguide (GCPW)

ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 02-19-24

ABRACON IS
ISO9001-2015
CERTIFIED

Multi-layer Chip Diplexer

ADID-R-0004

Request Samples

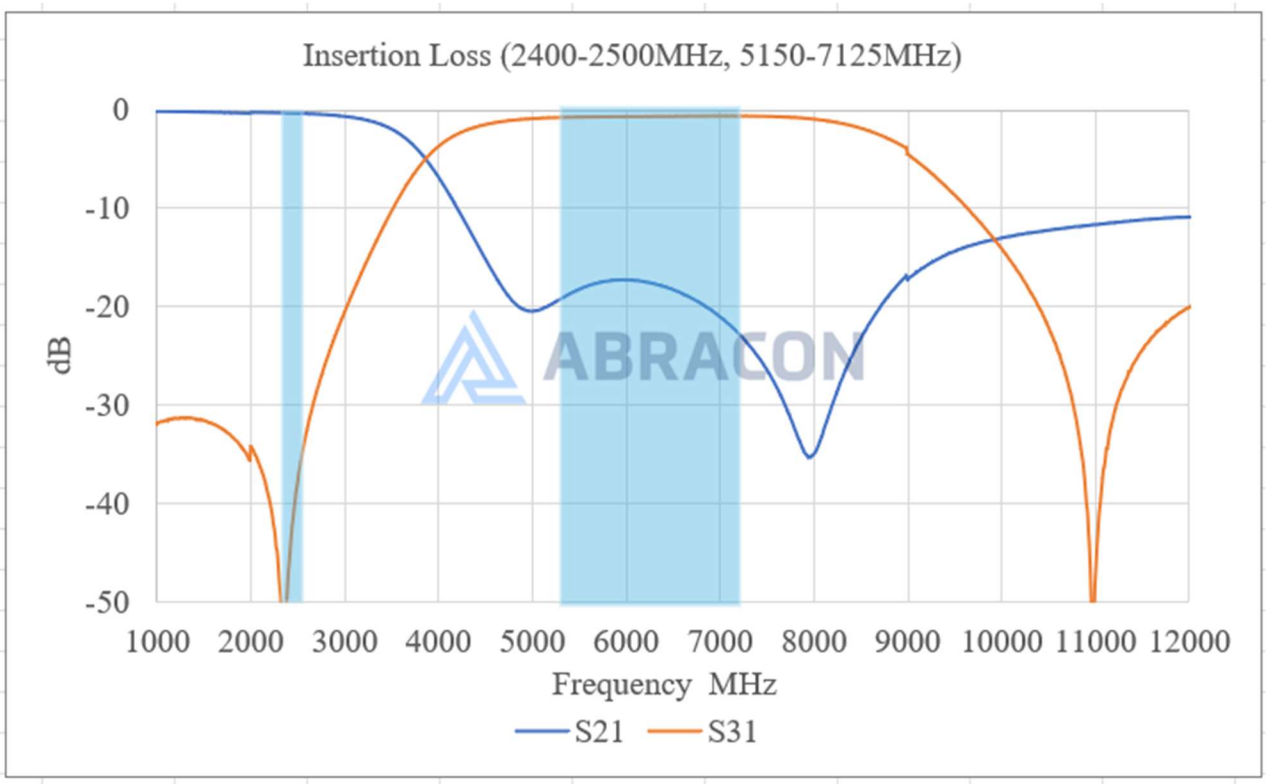
Check Inventory

1.0 x 0.5 x 0.4 mm

RoHS Compliant

Frequency Characteristics

Insertion Loss (S21 & S31) 2400-2500, 5150- 7125MHz



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 02-19-24

ABRACON IS
ISO9001-2015
CERTIFIED

Multi-layer Chip Diplexer

ADID-R-0004

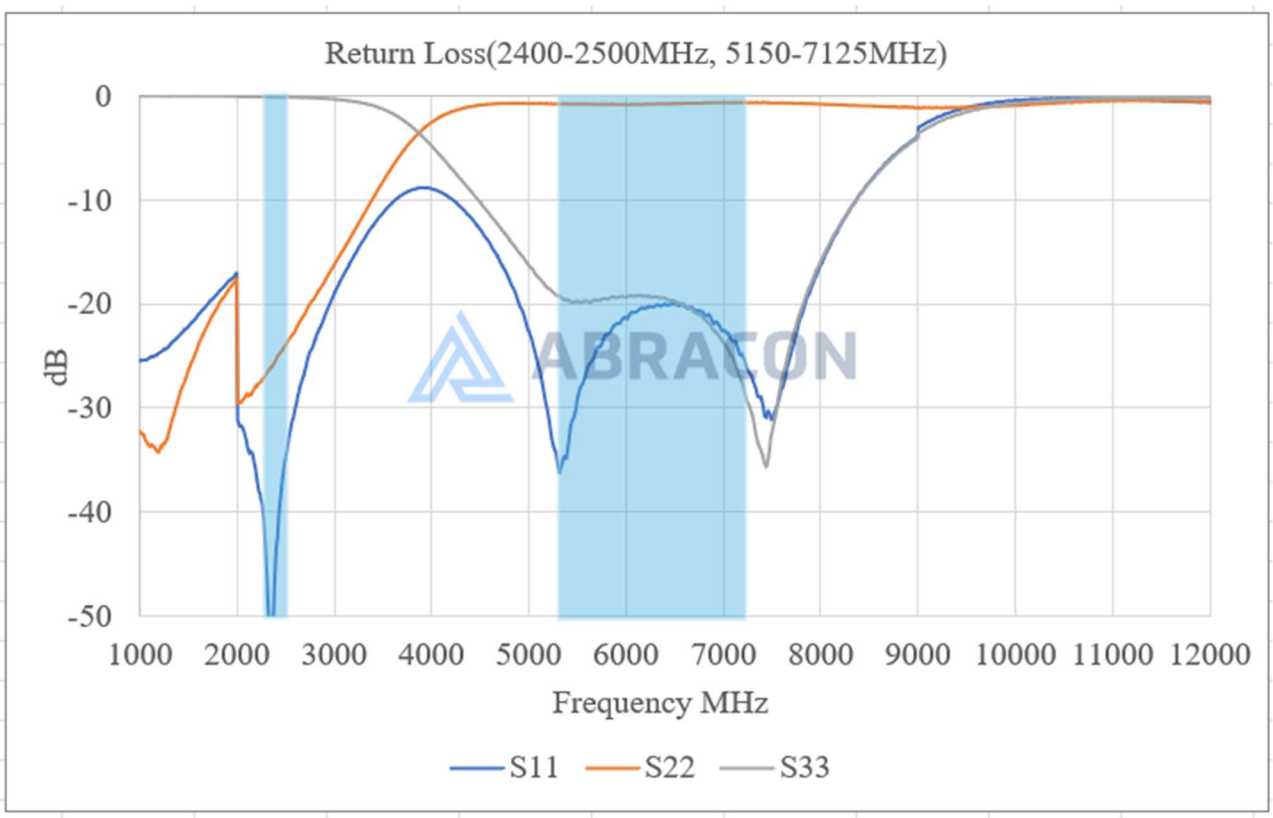
Request Samples

Check Inventory

1.0 x 0.5 x 0.4 mm

RoHS Compliant

Return Loss (S11 & S22 & S33)



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 02-19-24

Multi-layer Chip Diplexer

ADID-R-0004

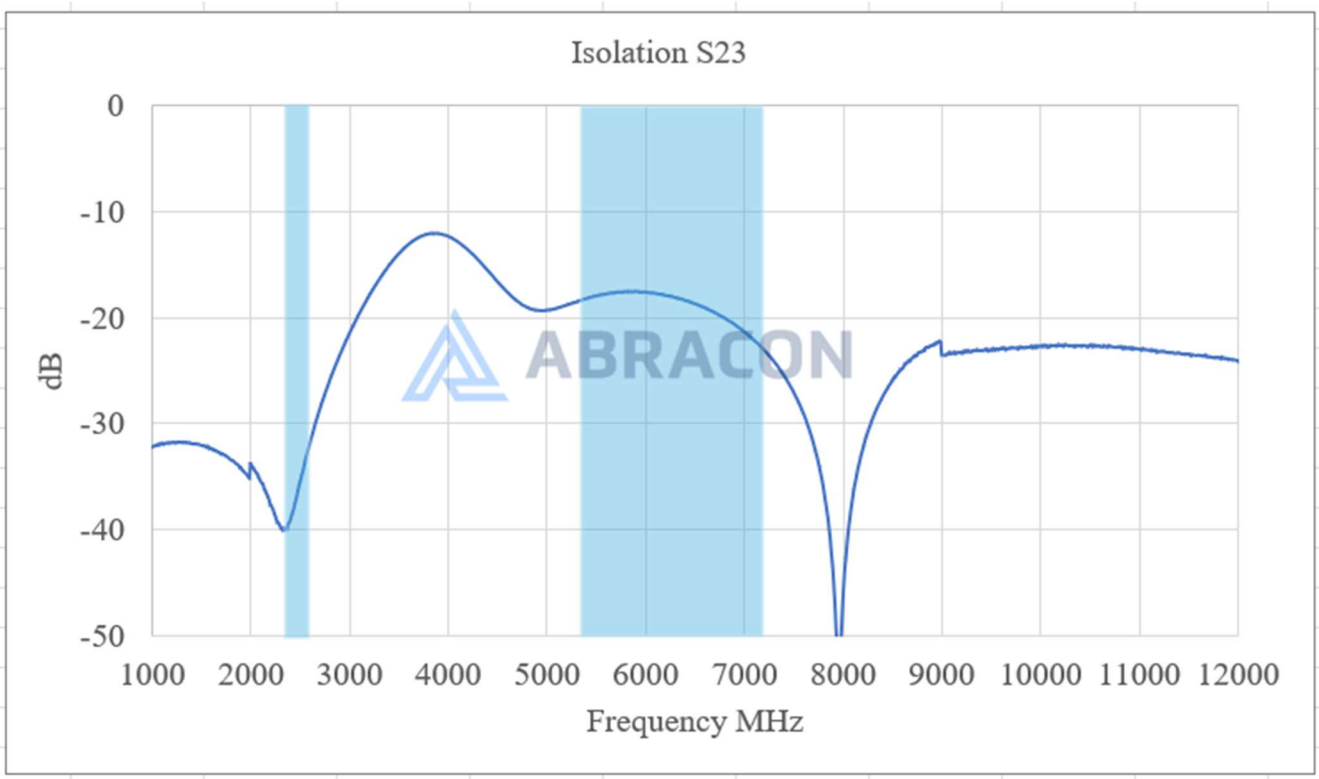
Request Samples

Check Inventory

1.0 x 0.5 x 0.4 mm

RoHS Compliant

Isolation (2400-2500, 5150- 7125MHz)



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 02-19-24

ABRACON IS
ISO9001-2015
CERTIFIED

Multi-layer Chip Diplexer

ADID-R-0004

Request Samples | Check Inventory

1.0 x 0.5 x 0.4 mm

RoHS Compliant

Reflow Profile

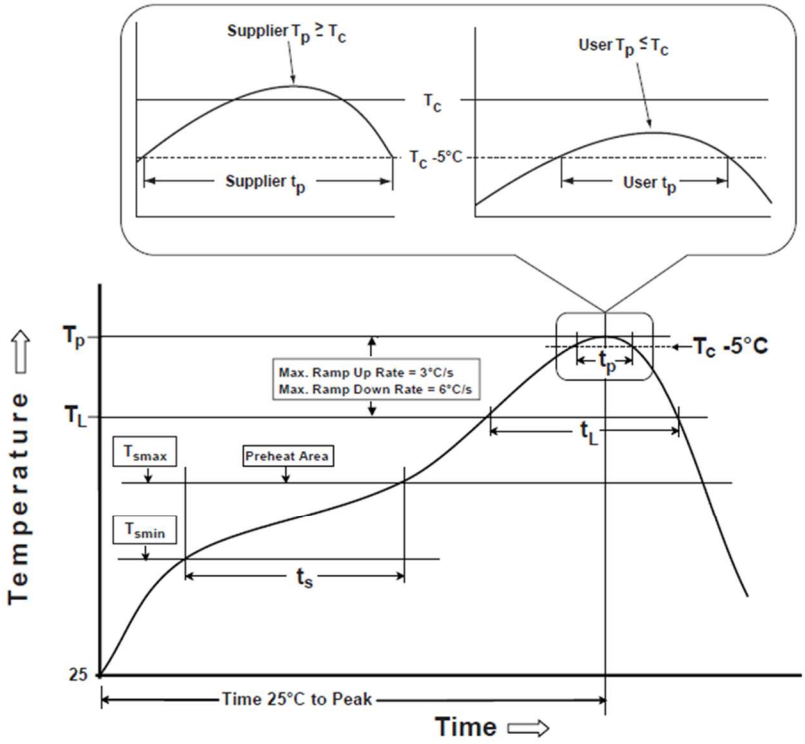


Table 1

SnPb Eutectic Process Classification Temperatures (T_c)		
Package Thickness	Volume mm³ <350	Volume mm³ ≥350
<2.5 mm	235 °C	220 °C
≥2.5 mm	220 °C	220 °C

Table 2

Pb-Free Process Classification Temperatures (T_c)			
Package Thickness	Volume mm³ <350	Volume mm³ 350-2000	Volume mm³ >2000
<1.6 mm	260 °C	260 °C	260 °C
1.6 mm - 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat / soak		
Temperature minimum (T_{smin})	100°C	150°C
Temperature maximum (T_{smax})	150°C	200°C
Time (T_{smin} to T_{smax}) (t_s)	60 - 120 sec.	60 - 120 sec.
Average ramp-up rate (T_{smax} to T_P)	3°C/sec. max	3°C/sec. max
Liquidous temperature (T_L)	183°C	217°C
Time at liquidous (t_L)	60 - 150 sec.	60 - 150 sec.
Peak package body temperature (T_P)*	**see Table 1**	**see Table 2**
Time (t_p)** within 5°C of the specified classification temperature (T_C)	20 sec.	30 sec.
Ramp-down rate (T_p to T_{smax})	6°C/sec. max	6°C/sec. max
Time 25°C to peak temperature	6 min. max	8 min. max
Reflow cycles	2 max	2 max

*Tolerance for peak profile temperature (T_P) is defined as a supplier minimum and a user maximum.

**Tolerance for time at peak profile temperature (t_p) is defined as supplier minimum and a user maximum.

ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 02-19-24

ABRACON IS ISO9001-2015 CERTIFIED

Multi-layer Chip Diplexer

ADID-R-0004

Request Samples

Check Inventory

1.0 x 0.5 x 0.4 mm

RoHS Compliant

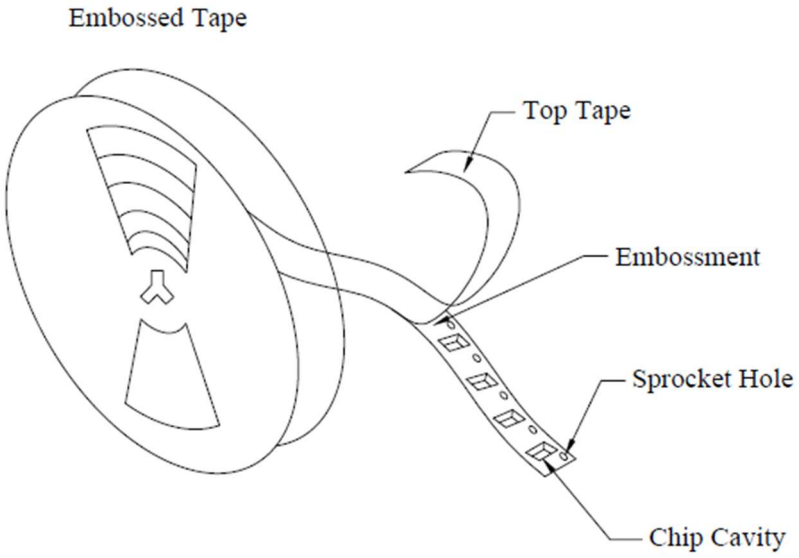
Packaging

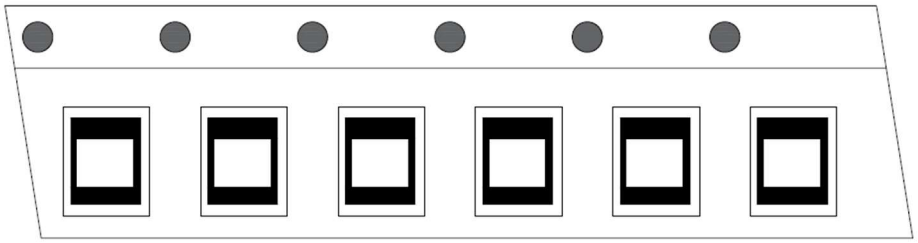
Tape Carrier Packaging:

Tape carrier packaging quantity please see the following table:

Type	1005[0402]
Tape	Paper Tape
Quantity	10K

Taping Drawings (Unit: mm)





ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 02-19-24

ABRACON IS ISO9001-2015 CERTIFIED

Multi-layer Chip Diplexer

ADID-R-0004

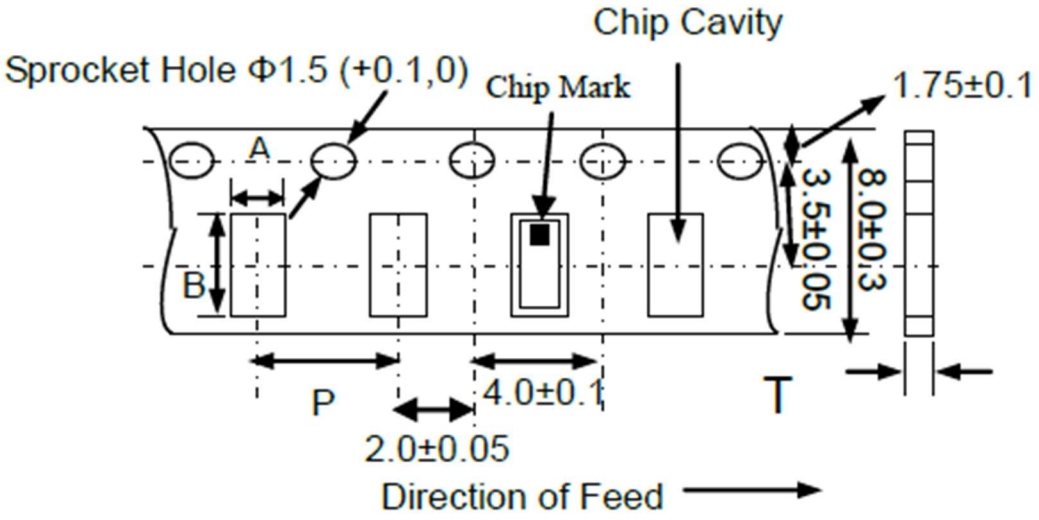
Request Samples

Check Inventory

1.0 x 0.5 x 0.4 mm

RoHS Compliant

Taping Dimensions (Unit: mm)



A	B	P	T max
0.65±0.1	1.15±0.10	2.0±0.05	0.6

ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 02-19-24

ABRACON IS ISO9001-2015 CERTIFIED

Multi-layer Chip Diplexer

ADID-R-0004

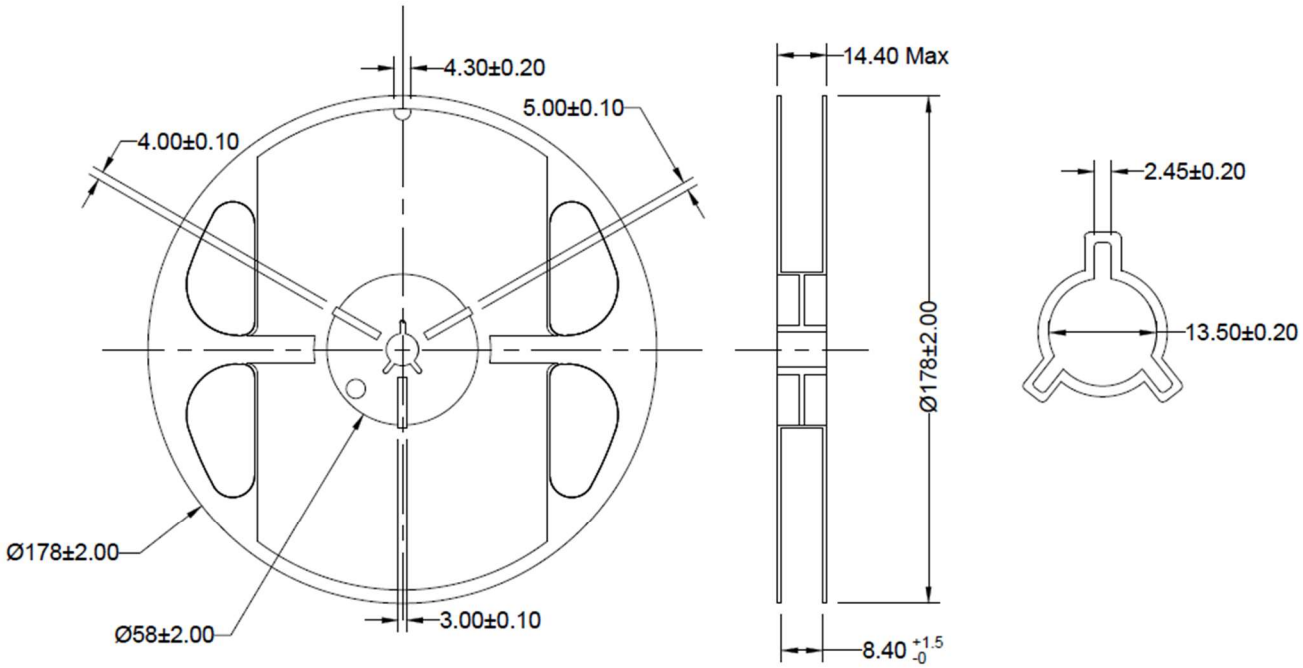
Request Samples

Check Inventory

1.0 x 0.5 x 0.4 mm

RoHS Compliant

Reel Dimensions (Unit: mm)



Unit: mm

ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 02-19-24