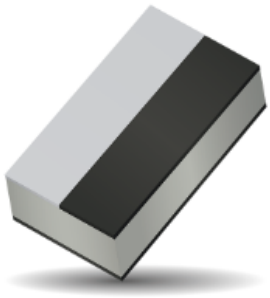
Part No. A9005868
Automotive 2.4 GHz Corner Chip Antenna
2.400 - 2.480 MHz
Supports: Automotive, Wi-Fi applications, Bluetooth, BLE, Zigbee, WLAN, ISM



KYOCERA AVX A-Series automotive antennas deliver on the key needs of device designers for higher functionality.
KYOCERA AVX has completed rigorous testing to qualify the A series antennas for automotive applications. This antenna has been AEC-Q200 tested.

KYOCERA AVX A9005868 chip antenna designed for corner placement on PCB exhibits high efficiency for 2.4 GHz applications.

For support integrating, optimizing and testing this antenna in your device or custom designs, contact our Customer Support Team.

Automotive 2.4 GHz Corner Chip Antenna

2.400 – 2.480 MHz

KEY BENEFITS

Stay-in-Tune
This chip antenna provides superior RF field containment, resulting in less interaction with surrounding components.

Quicker Time-to-Market
By optimizing antenna size, performance and emissions, customer and regulatory specifications are more easily met.

Environmental Compliance
Products are the latest RoHS version compliant.

APPLICATIONS

- Embedded design
- Headsets, Tablets
- Smart Home
- TPMS
- Wearables
- Handheld
- IoT devices
- Telematics (TCU)
- wBMS

Electrical Specifications
Typical performance on 10 x 52 mm PCB

Frequency	2.40 – 2.48 GHz
Peak Gain	4 dBi
Average Efficiency	62%
S11 Match	< -15 dB
Feed Point Impedance	50 ohms
Polarization	Linear
Power Handling	0.5 W
Radiation Pattern	Omnidirectional

Mechanical Specifications & Ordering Part Number

Ordering Part Number	A9005868
Size (mm)	1.00 x 0.58 x 0.35
Mounting	SMT
Weight (grams)	0.0009
Storage Temperature/ Humidity	15°C to 35°C / ≤ 65%
Operating Temperature	-55°C to +125°C
Packaging	Tape & Reel, A9005868 – 5,000 pieces per reel
Demo Board	A9005868-01

Automotive 2.4 GHz Corner Chip KYOCERA AVX Embedded Antenna Specifications
KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs

Environmental Specs Summary

Part Number	A9005868
Temperature Cycle	JESD22 Method 104
Biased Humidity	MIL-STD-202 Method 103. per spec
Vibration	MIL-STD-202 Method 204
Mechanical Shock	MIL-STD-202 Method 213
Solderability	J-STD-002
Flammability	UL-94
Board Flex	AEC-Q200-005

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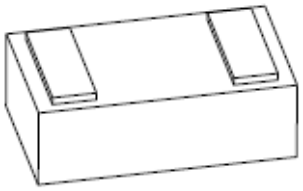
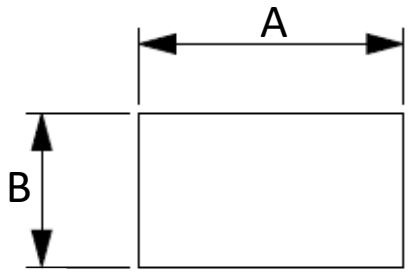
Antenna Dimensions

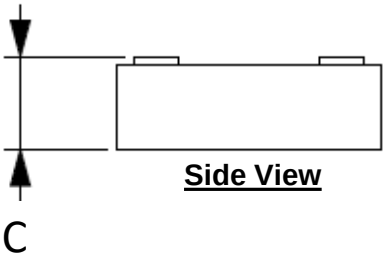
Typical antenna dimensions (mm)

Part Number	A (mm)	B (mm)	C (mm)
A9005868	1.00 ± 0.10	0.58 ± 0.075	0.35 ± 0.10





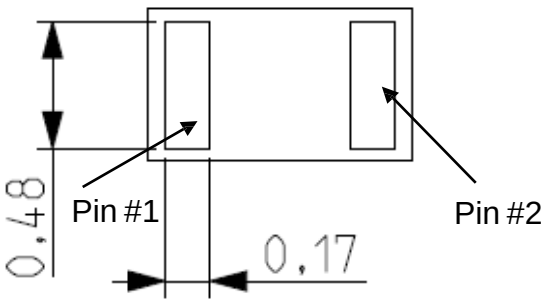
Top View



Side View

Pin	Description
1	Feed
2	Floating

*Pin #1 and Pin #2 are interchangeable.



Bottom View

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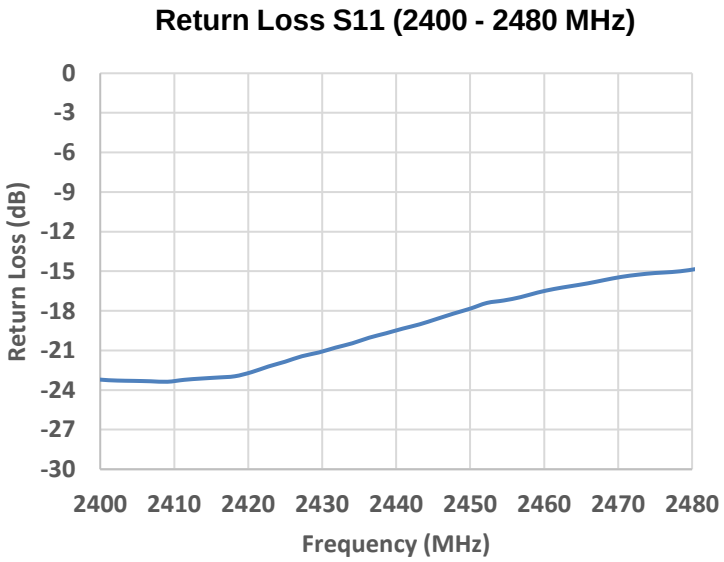
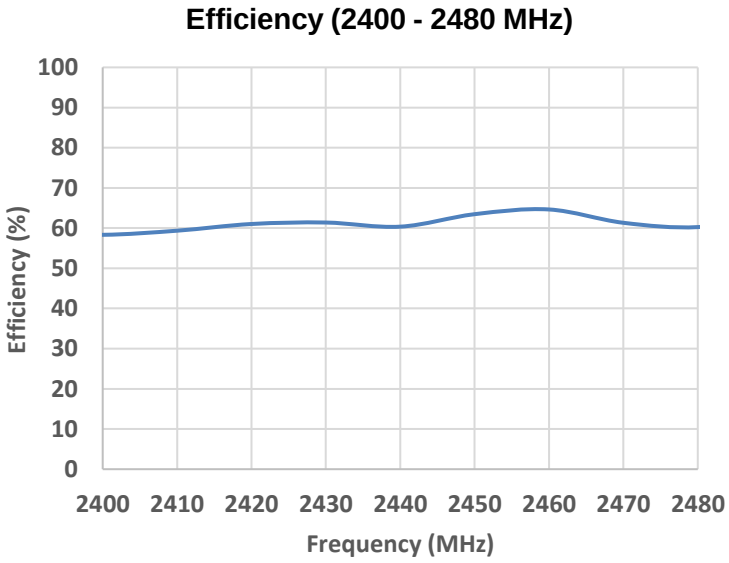
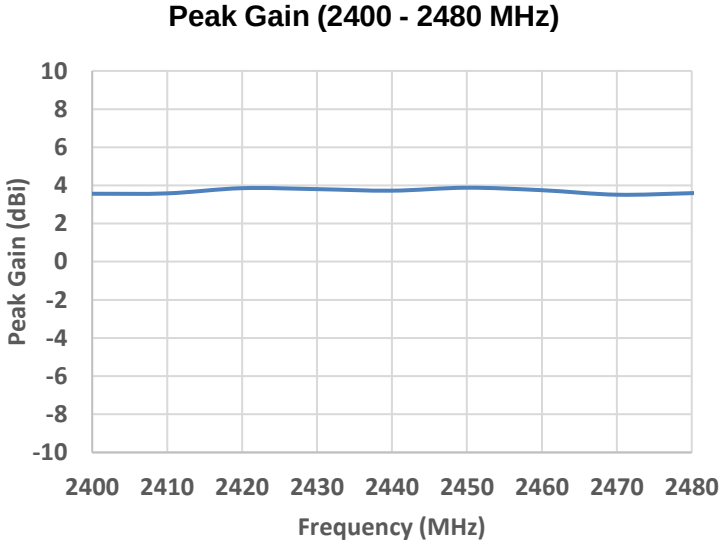
Return Loss S11, Efficiency, and Peak Gain Plots

Typical performance on 10 x 52 mm PCB







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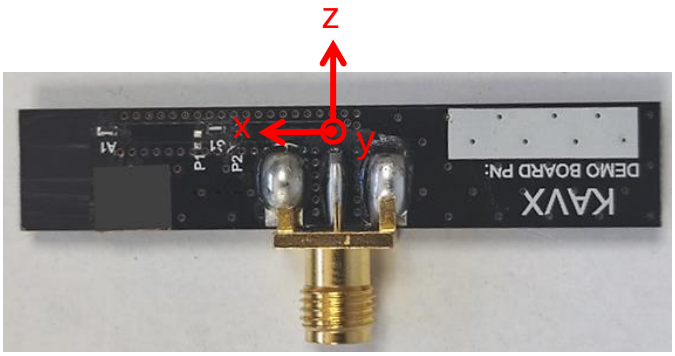
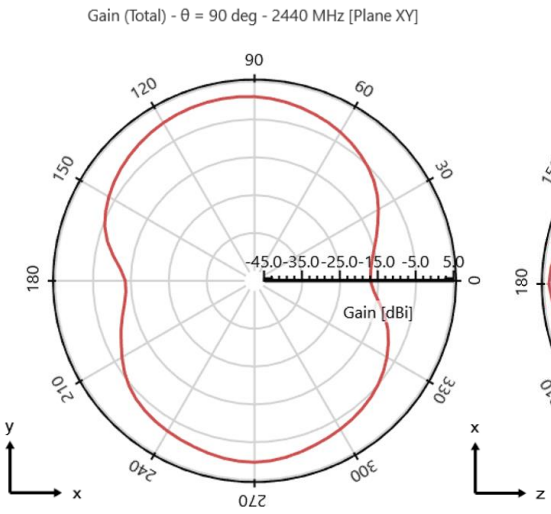
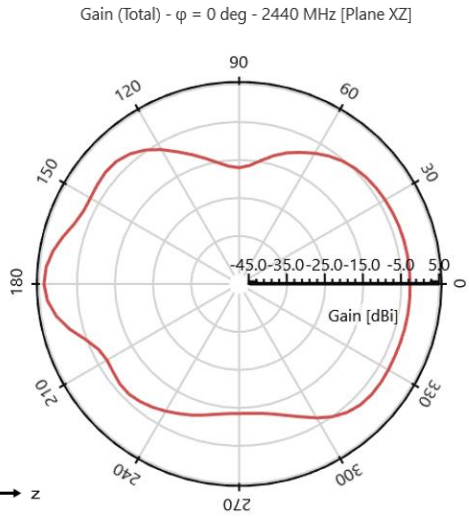
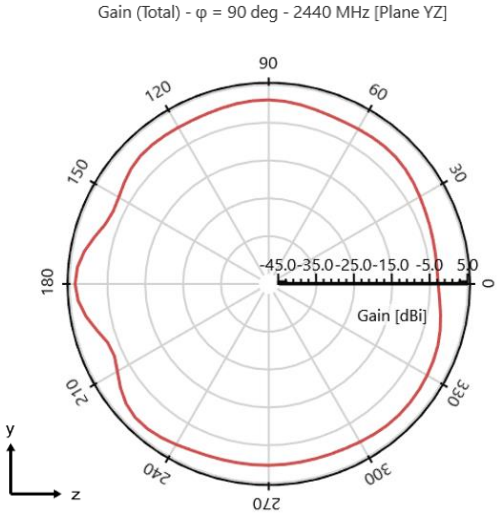
Antenna Radiation Patterns

Typical performance on 10 x 52 mm PCB
Measured @ 2440 MHz









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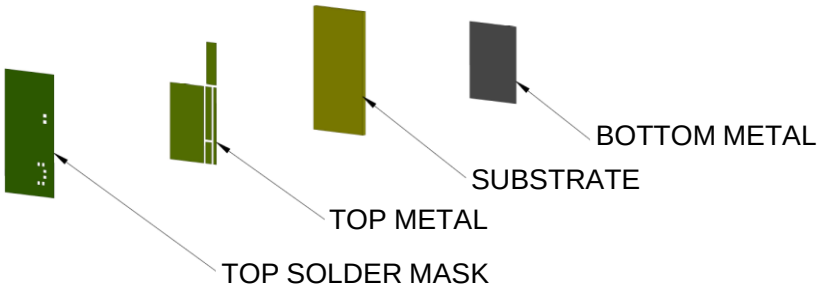
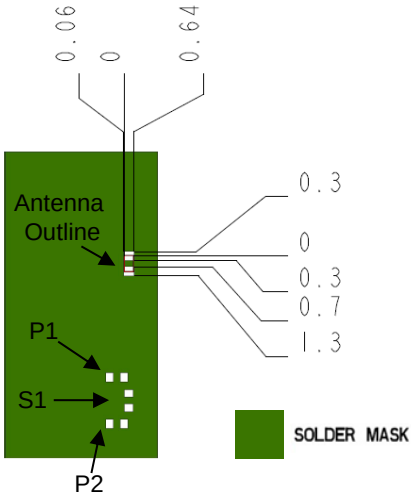
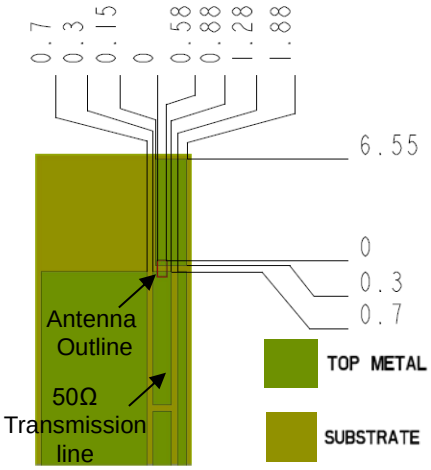
Antenna Layout (A9005868-01)

Typical layout dimensions (mm)





* Vias: Diam. 0.2mm, (no vias on transmission lines).
* Via holes must be covered by solder mask



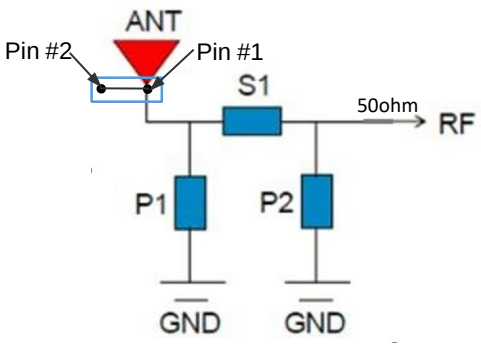
Pin Descriptions

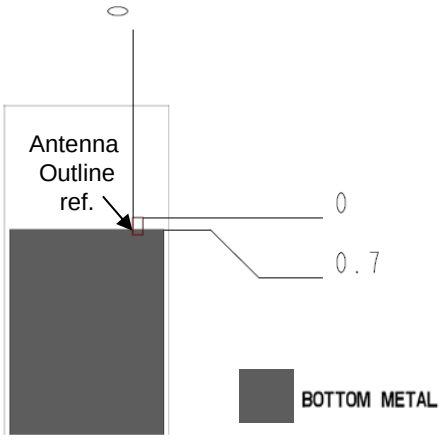
Pin#	Description
1	Feed
2	Floating

Matching Pi Network (Demo Board)

Component	Value	Tolerance
P1	DNI	N/A
S1	2.2nH	±0.05nH
P2	1.8pF	±0.05pF

*Actual matching values depend on customer's design.





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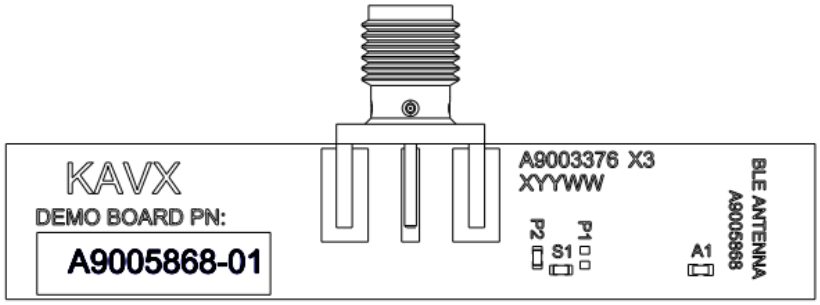
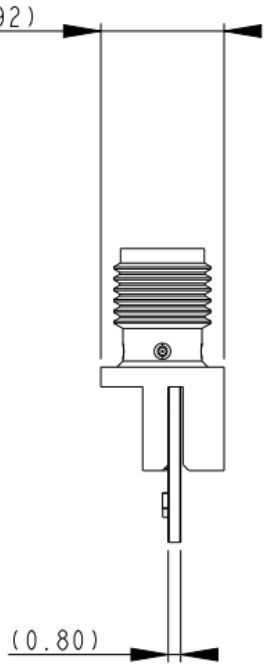
Antenna Demo Board

Typical layout dimensions (mm)

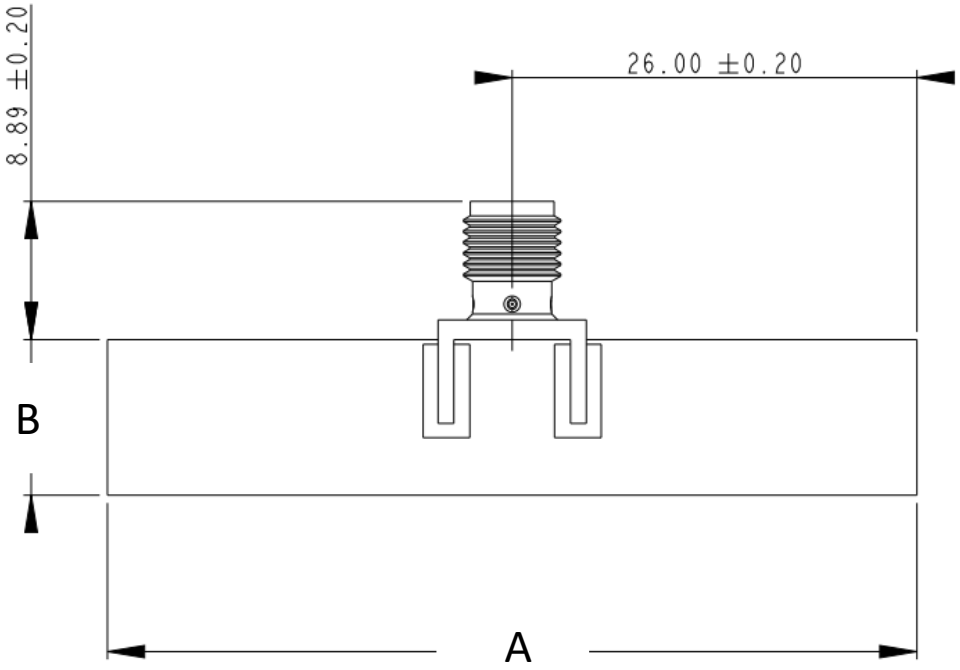
Part Number	A	B
A9005868-01	52.00 ± 0.20	10.00 ± 0.20



Front View



Side View



Back View

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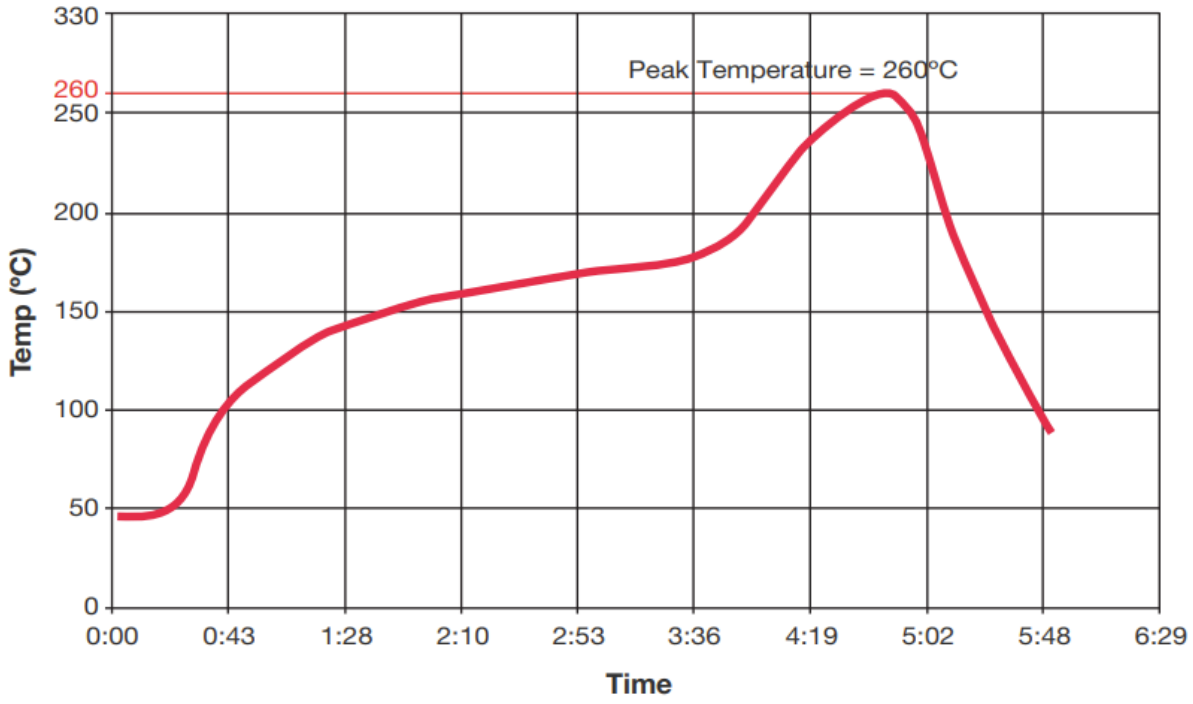
Recommended Reflow Soldering Profile

The recommended method for soldering the antenna to the board is forced convection reflow soldering. The following suggestions provide information on how to optimize the reflow process for the Chip antenna:



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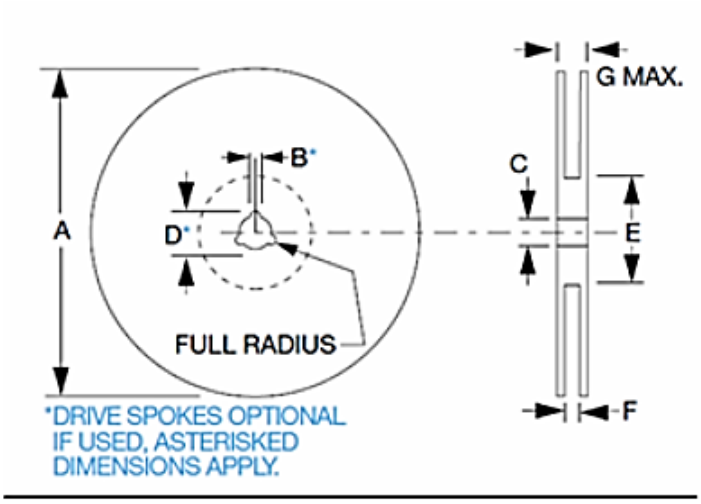
Packaging

Reel Dimensions, mm (Inches)

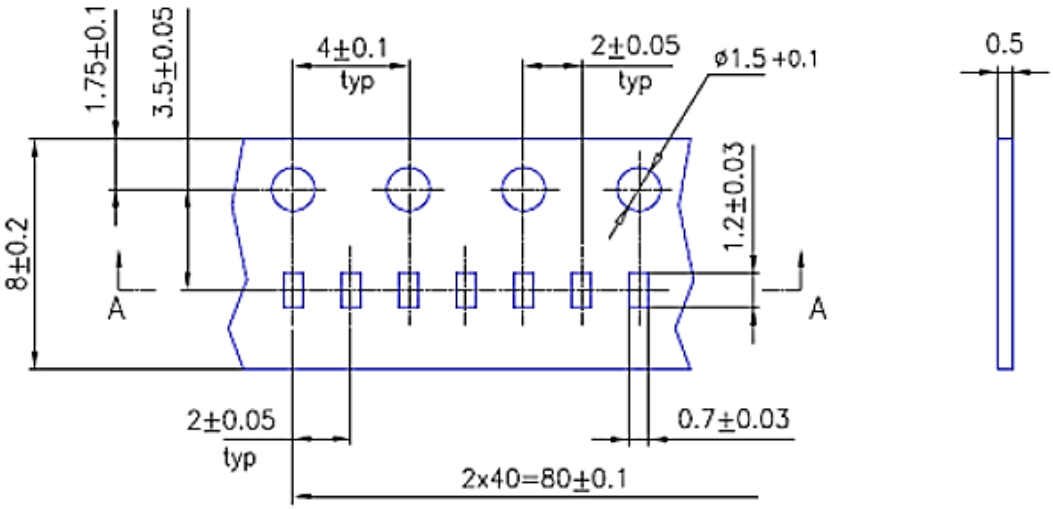


A(1)	B	C	D	E	F	G
180 ± 1.0 (7.087 ± 0.039)	1.5 min (0.059 min)	13 ± 0.2 (0.512 ± 0.008)	20.2 min (0.795 min)	50 min (1.969 min)	9.6 ± 1.5 (0.370 ± 0.050)	14.4 max (0.567 max)

Metric dimensions will govern. Inch measurements rounded for reference only.

(1) 330mm (13 inch) reels are available

Tape Dimensions, mm



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