

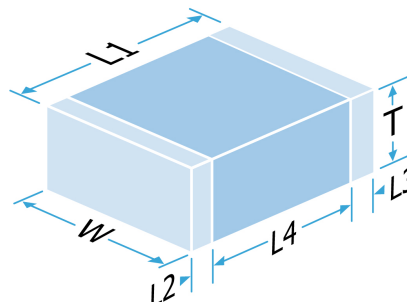
Part Number: 1812YA250151FGRSYX

Description: 1812 250Vac (Y2), 305Vac (X1), 50/60Hz / 1000Vdc 150pF $\pm 1\%$ C0G/NP0 (1B)

Approval Specifications: IEC/EN60384-14:2023
UL60384-14, CAN/CSA E60384-14:14

Certification: TÜV R60186739 / ID1111314115
UL/cUL E228790-20201127

Classification: IEC/EN 60384-14:2023 Class Y2 / X1
UL/cUL FOWX2, FOWX8



Component Marking and Certification Bodies:

Material Group I : CTI ≥ 600



Mechanical Specification

Size Code	1812
Length (L1) in mm (")	4.95 $\pm$ 0.35 (0.195 $\pm$ 0.014)
Width (W) in mm (")	3.2 $\pm$ 0.30 (0.126 $\pm$ 0.012)
Thickness (T) in mm (")	1.5 Max (0.06 Max)
Minimum Termination Band (L2,L3) in mm (")	0.30 (0.012)
Maximum Termination Band (L2,L3) in mm (")	0.80 (0.030)
Minimum Band Gap (L4) in mm (") (per IEC/EN 60384-14)	4.0 (0.158)
Termination Material	FlexiCap™ Polymer termination, Nickel barrier, Sn Plated Solder (RoHS compliant)
Solderability	IEC-60068-2-58
Packaging	13" Reel, 2000 per reel

General Electrical Specification

Rated Voltage	Class Y2 (250Vac), Class X1 (305Vac), 50/60Hz, 5kV impulse
Humidity Grade	Grade IIIB (IEC/EN60384-14:2023 Annex I)
Maximum DC Working Voltage	1000Vdc to Annex H / (2500Vdc outside scope of any specification)
Nominal Capacitance Value	150pF
Capacitance Tolerance	$\pm 1\%$
Tangent of Loss Angle (Tan δ)	≤ 0.0015
Capacitance and Tan δ Test Conditions	1.0Vrms @ 1MHz
Voltage Proof	100% test: 4000Vdc 1s min / 5s max
(50mA max charging current for DC tests. 50% Max, RH)	AQL test: 4000Vdc / 3000Vac 60s min / 5kV 1.2x50 μ s impulse
Min Insulation Resistance (IR)	100.00GOhm @ 100Vdc
Dielectric Classification	C0G/NP0 (1B)
Rated Temperature Range	-55°C / +125°C
Maximum Capacitance Change over Temperature Range	No DC Voltage 0 $\pm$ 30ppm/°C
Climatic Category (IEC)	Rated DC Voltage -
Ageing Characteristic	55/125/56
	Zero

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This datasheet is for a standard item and is confirmed valid on the date generated, the latest published data for this part may differ and is available at <http://www.knowlescapacitors.com> or by contacting us.

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Data is correct to the best of our knowledge, errors and omissions excepted.

Date: Monday, August 17, 2026

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Description: 1812 250Vac (Y2), 305Vac (X1), 50/60Hz / 1000Vdc 150pF $\pm 1\%$ C0G/NP0 (1B)

Environmental

RoHS Compliant to 2011/65/EC as amended by 2015/863/EU	Compliant
REACH Compliant	253 compliant
California Proposition 65	No exposure risk

Board Layout

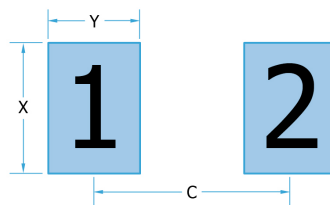
Knowles' conventional 2-terminal chip capacitors can generally be mounted using pad designs in accordance with international specification IPC-7351, Generic Requirements for Surface Mount Design and Land Pattern Standards, but there are some other factors that have been shown to reduce mechanical stress, such as reducing the pad width to less than the chip width. In addition, the position of the chip on the board should be considered.

Some high voltage parts may require modifications to the board layout and/or the addition of a conformal coating to prevent flashover, especially under high humidity conditions. Board cleanliness and environmental conditions can also impact this. Refer to application note AN0043 for further information.

Dimensions given are for guidance. It is ultimately the customers responsibility to confirm that the circuit layout is in accordance with their own product requirements.

IPC-7351 pad design

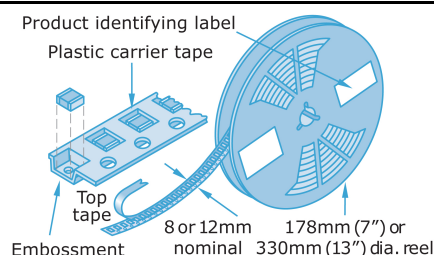
	1812	
C	5.35mm	0.211"
Y	1.25mm	0.049"
X	3.40mm	0.134"



Packaging

Tape packaging information for tape-and-reel parts:

Tape and reel packing of surface mounting chip capacitors for automatic placement are in accordance with IEC60286-3.



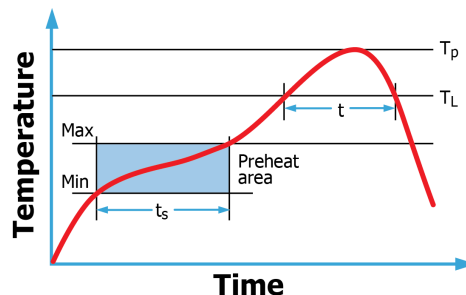
Soldering

Reflow solder in accordance with IPC-A-610. Recommended reflow profile as laid down in IPC/JEDEC J-STD-020.

Wave soldering is also possible, but care must be taken for case sizes 1210 and larger and component thickness $> 1.0\text{mm}$. Trials are encouraged.

Hand soldering is not recommended and can lead to component damage through thermal shock.

Application notes with mounting and handling guidance are available on request.



Compex

DLI

Johanson MFG

Novacap

Syfer

Voltronics

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