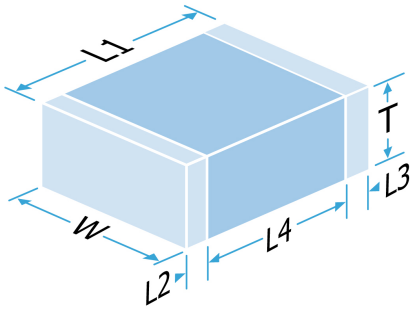
Multilayer Ceramic Chip Capacitor

Legacy - Not Recommended for New Designs - See Enhanced Range

Part Number: 1808JA250681KXTSY2

Description: 1808 250Vac 50/60Hz / 2500Vdc 680pF ±10% X7R (2R1)

Approval Specifications:	IEC/EN60384-14:2023 UL-60950-1, 2nd Ed CSA 60950-1-07 2nd Ed
Certification:	Unmarked parts are uncertified but manufactured in accordance with the above specifications.
Classification:	These capacitors comply with the requirements of IEC/EN 60384-14:2023 for Class X1



Component Marking and Certification Bodies:

Not Applicable

Material Group I : CTI >= 600

Mechanical Specification

Size Code	1808
Length (L1) in mm (")	4.5 ± 0.35 (0.180 ± 0.014)
Width (W) in mm (")	2.0 ± 0.30 (0.08 ± 0.012)
Thickness (T) in mm (")	2.0 Max (0.08 Max)
Minimum Termination Band (L2,L3) in mm (")	0.50 (0.020)
Maximum Termination Band (L2,L3) in mm (")	0.80 (0.030)
Minimum Band Gap (L4) in mm (") (per IEC/EN 60384-14)	3.0 (0.118)
Termination Material	Nickel Barrier, Sn Plated Solder (RoHS compliant)
Solderability	IEC-60068-2-58
Packaging	7" Reel Horizontal Orientation, 1500 per reel

General Electrical Specification

Rated Voltage	250Vac 50/60Hz, 4kV impulse
Humidity Grade	Not applicable
Maximum DC Working Voltage	2500Vdc
Nominal Capacitance Value	680pF
Capacitance Tolerance	±10%
Tangent of Loss Angle (Tan δ)	≤0.025
Capacitance and Tan δ Test Conditions	1.0Vrms @ 1kHz
Voltage Proof (50mA max charging current for DC tests. 50% Max, RH)	100% test: 3000Vdc 1s min / 5s max AQL test: 3000Vdc / 2000Vac 60s min / 4kV 1.2x50µs impulse
Min Insulation Resistance (IR)	100.00GOhm @ 100Vdc
Dielectric Classification	X7R (2R1)
Rated Temperature Range	-55°C / +125°C
Maximum Capacitance Change over Temperature Range	No DC Voltage ±15% Rated DC Voltage -
Climatic Category (IEC)	55/125/56
Ageing Characteristic	<2% per decade (nominal capacitance is 1000 hour value)

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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, October 19, 2026

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Multilayer Ceramic Chip Capacitor

Legacy - Not Recommended for New Designs - See Enhanced Range

Part Number: 1808JA250681KXTSY2	**Description:** 1808 250Vac 50/60Hz / 2500Vdc 680pF ±10% X7R (2R1)

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

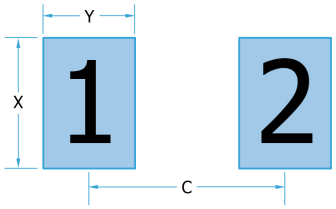
Knowles' conventional 2-terminal chip capacitors can generally be mounted using pad designs in accordance with international specification IPC-7351, Generic Requirements for Surface Mount Design and Land Pattern Standards, but there are some other factors that have been shown to reduce mechanical stress, 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

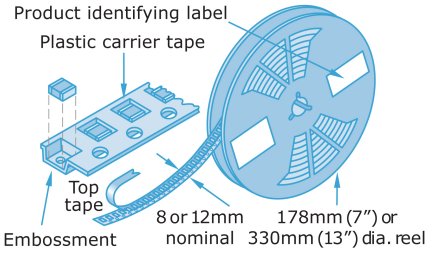
	1808	
C	4.10mm	0.161"
Y	1.50mm	0.059"
X	2.30mm	0.091"



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.

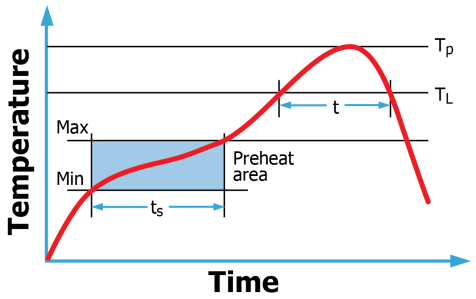


Soldering

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 >1.0mm. 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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