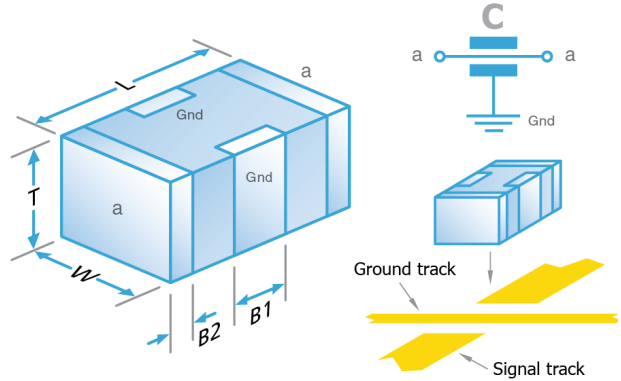


Multilayer Ceramic Chip Capacitor

Part Number: 1206Y0500473MXTE07

Description: 1206 50Vdc 47nF ±20% X7R (2R1)

A range of ceramic MLCC feedthrough 'C' filters with enhanced current carrying capabilities. Internal electrodes conduct signals through the MLCC body, with the capacitance formed to ground pads on the side of the chip, providing low inductance and high performance. Available with a variety of termination options including FlexiCap™ (on X7R), the world's first commercially available flexible termination.



Mechanical Specification

| | |
|-------------------------------------|--|
| Size Code | 1206 |
| Length (L1) in mm (") | 3.2 +0.40/-0.30 (0.126 +0.016/-0.012) |
| Width (W) in mm (") | 1.6 ± 0.20 (0.063 ± 0.008) |
| Thickness (T) in mm (") | 1.1 ± 0.2 (0.043 ± 0.008) |
| Termination Bands (B2) in mm (") | 0.50 ± 0.25 (0.02 ± 0.01) |
| Center (Ground) Band (B1) in mm (") | 0.95 ± 0.30 (0.037 ± 0.012) |
| Termination Material | FlexiCap™ Polymer termination, Nickel barrier, Sn Plated Solder (RoHS compliant) |
| Solderability | IEC-60068-2-58 |
| Packaging | 7" Reel Horizontal Orientation, 2500 per reel |

General Electrical Specification

| | |
|---|---|
| Rated Voltage | 50Vdc |
| Rated DC Current | 2A |
| DC Resistance | 0.06Ω |
| Nominal Capacitance Value | 47nF |
| Capacitance Tolerance | ±20% |
| Tangent of Loss Angle (Tan δ) | ≤0.025 |
| Capacitance and Tan δ Test Conditions | 1.0Vrms @ 1kHz |
| Voltage Proof (Voltage applied for 5 secs max. @ 50mA max. charge current) | 125Vdc |
| Min Insulation Resistance (IR) | 21.28GOhm @ 50Vdc |
| 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) |

Knowles Precision Devices - Sales

Europe: KPD-Europe-sales@knowles.com

Asia: KPD-Asia-sales@knowles.com

USA: KPD-NA-sales@knowles.com

www.knowlescapacitors.com

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.

© The information contained on this drawing is confidential and may not be copied in whole or part in any form or disclosed to a third party without the consent of Knowles and any customer mentioned within this specification.

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

Date: Tuesday, January 16, 2024

20240116 172010370UTC

Multilayer Ceramic Chip Capacitor

Part Number: 1206Y0500473MXTE07

Description: 1206 50Vdc 47nF ±20% X7R (2R1)

Environmental

| | |
|--|------------------|
| RoHS Compliant to 2011/65/EC as amended by 2015/863/EU | Compliant |
| REACH Compliant | 235 compliant |
| California Proposition 65 | No exposure risk |

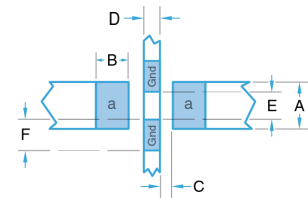
Board Layout

Knowles' conventional 3-terminal chip capacitors should be mounted using the pad design supplied.

It has been developed in conjunction with our customers over the years and has been shown to yield successful soldering results. It incorporates factors that have been shown to reduce mechanical stress, such as reducing the pad width to less than the chip width, but the position of the chip on the board should also be considered.

Note that for optimum noise rejection the ground pads should be placed on the circuit board ground plane, or connected to the ground plane by the shortest and widest route possible.

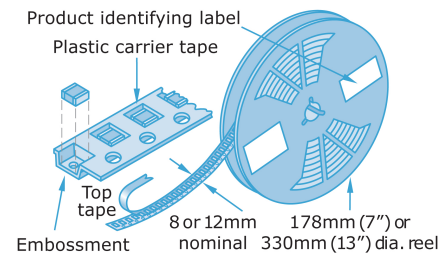
| 1206 | | |
|------|--------|--------|
| A | 1.20mm | 0.047" |
| B | 0.90mm | 0.035" |
| C | 0.60mm | 0.024" |
| D | 0.80mm | 0.031" |
| E | 1.00mm | 0.039" |
| F | 0.70mm | 0.028" |



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.



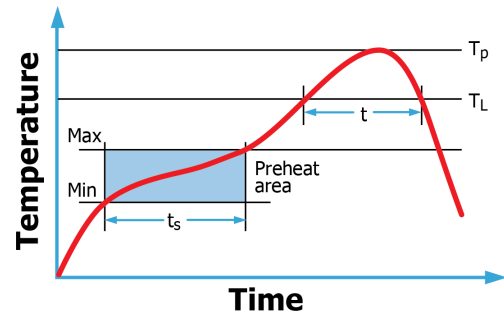
Soldering

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

Knowles Precision Devices - Sales

Europe: KPD-Europe-sales@knowles.com

Asia: KPD-Asia-sales@knowles.com

USA: KPD-NA-sales@knowles.com

www.knowlescapacitors.com

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.

© The information contained on this drawing is confidential and may not be copied in whole or part in any form or disclosed to a third party without the consent of Knowles and any customer mentioned within this specification.

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

Date: Tuesday, January 16, 2024

20240116 172010370UTC