

Features

- High Q
- Working Voltage: 50 V
- Shunt Configured 1.2 X 1.5 mm DFN Package
- Excellent Stability

Applications

- MACOM KV CAPS™ are suitable for use in resonant circuits and as RF bypass capacitors.

Description

The MACOM KV CAPS™ Si capacitors feature very low loss and excellent stability by virtue of their novel internal construction and very high quality dielectric layers. These capacitors are also available as unpackaged chips. The chips have gold bonding surfaces on both terminals to enable excellent bonding and minimum contact resistance.

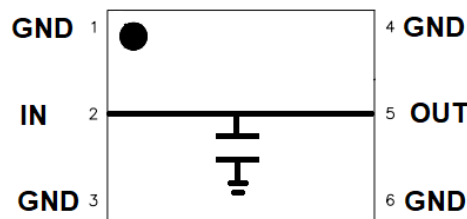
The capacitance tolerance is $\pm 10\%$ of nominal value. Contact the factory for other tolerance values.

These capacitors have high insulation resistance, low dissipation factor and low temperature coefficient, as well as excellent long term stability.

These capacitors are capable of meeting the environmental requirements of MIL-STD-750 and MIL-STD-883.

Ordering Information

Part Number	Qty. per Reel
MKVC-0547R0-14460T	1000
MKVC-050100-14460T	1000



Center pad is Ground

ODS-1446

Electrical Specifications:

Working Voltage = 50 V @ $T_A = +25^\circ\text{C}$

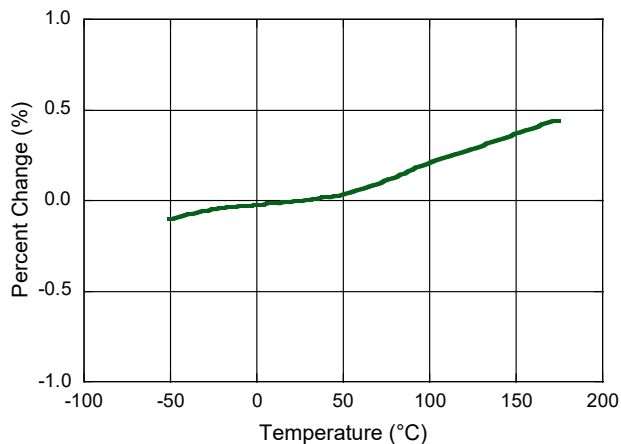
Part Number	Capacitance (pF)
MKVC-0547R0-14460T	47
MKVC-050100-14460T	100

Absolute Maximum Ratings^{1,2}

Parameter	Absolute Maximum
Applied Voltage	100 V
Operating Temperature	-55 °C to +175 °C
Storage Temperature	-65 °C to +200 °C

1. Exceeding any one or more of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

Percent Change in Capacitance vs. Temperature



Handling Procedures

Please observe the following precautions to avoid damage:

Static Sensitivity

These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Radiation Hardness

MACOM KV CAPS™ have been qualified to survive 300 krad(Si) total dose irradiation per MIL-STD-750 Method 1019.5, condition A.

Assembly Instructions

MACOM KV CAPS™ may be attached to a circuit substrate using solder or conductive epoxy.

Solder Die Attach

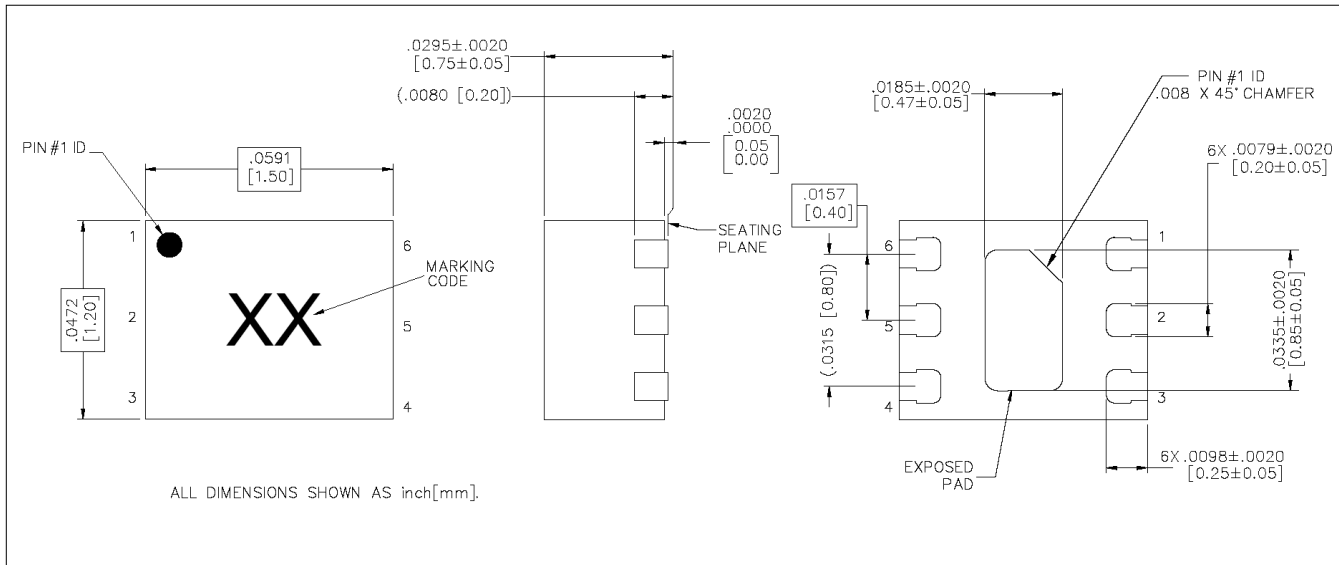
Solder die attach may be accomplished using a eutectic solder, such as Au(80)/Sn(20), leaded solders such as Sn63Pb37 or with any of several RoHS-compatible solders such as Sn96.53Ag0.5Cu (SAC305), etc. For leaded or RoHS solder pastes it is recommended that a no-clean solder paste be used to prevent trapped fluxes which cannot be cleaned, as recommended by IPC-7093.

Conductive Epoxy Die Attach

MACOM recommends that the surface preparation and curing profiles provided by the manufacturer of the conductive epoxy should be followed. The typical epoxy bondline thickness is 0.0005 to 0.001 inches (12.5 to 25 µm). The curing temperature shall not exceed 350°C.

Refer to MACOM application note M541 for more information.

Outline (ODS-1446)



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