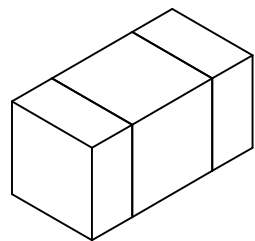
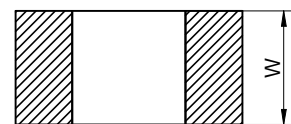
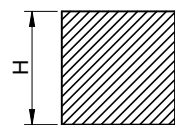
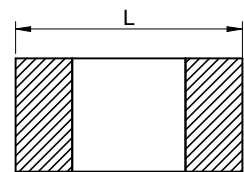
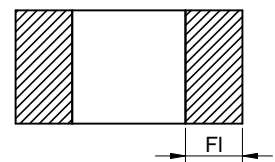


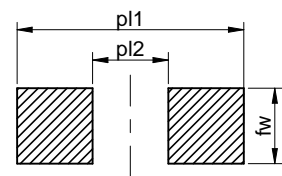
Dimensions: [mm]



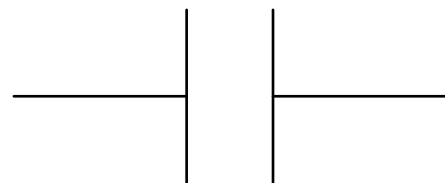
Properties		Value	Unit	Tol.
Length	L	5.7	mm	±0.4
Width	W	2.8	mm	±0.3
Height	H	2.5	mm	±0.3
Pad Dimension	FI	0.75	mm	±0.35

pl1 - Reflow	7	mm	pl2 - Reflow	4.3	mm	fw - Reflow	3.7	mm
--------------	---	----	--------------	-----	----	-------------	-----	----

Recommended Land Pattern: [mm]



Schematic:



Electrical Properties:

Properties	Test conditions		Value	Unit	Tol.
Capacitance	1 ±0.2 V _{RMS} , 1 kHz ±10% @25 °C	C	1	nF	±10%
Rated Voltage		U _R	250	V (AC)	max.
Impulse Voltage		U _{IMP}	5000	V (DC)	max.
Dissipation Factor	1 ±0.2 V _{RMS} , 1 kHz ±10% @25 °C	DF	2.5	%	max.
Insulation Resistance	Apply 500 V for 60 s max.	R _{ISO}	10	GΩ	min.

Precondition for Class II MLCC measurement: Apply a preheat treatment @150 ±10 °C for 1 hour. The measurement should be applied after 24 ±2 hrs the part was stored under ambient conditions. There is not any precondition necessary for Class I MLCC.

General Information:

Safety Certified MLCC	
Ceramic Type	X7R
Safety Class	X1 / Y2
Temperature Coefficient	± 15 % max.
Storage Conditions	5-35 °C, < 75% RH
Operating Temperature	-55 °C up to +125 °C
Test conditions of Electrical Properties: +20 °C, 35% RH if not specified differently	
FIT according to separate documentation	
Component conform to REAcH and RoHS requirements and standards	

Würth Elektronik eiSos GmbH & Co. KG
EMC & Inductive Solutions

Max-Eyth-Str. 1
74638 Waldenburg
Germany
Tel. +49 (0) 79 42 945 - 0

www.we-online.com
eiSos@we-online.com


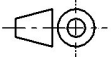


CREATED KaS	CHECKED PSL	GENERAL TOLERANCE DIN ISO 2768-1m	PROJECTION METHOD
DESCRIPTION WCAP-CSSA Ceramic Capacitors		TECHNICAL REFERENCE X7R2211102KE00IFCT10000	
		ORDER CODE 885352213011	
SIZE 2211	REVISION 001.000	STATUS Valid	PAGE 1/6
DATE (YYYY-MM-DD) 2015-11-10		BUSINESS UNIT eiCap	

This electronic component has been designed and developed for usage in general electronic equipment only. This product is not authorized for use in equipment where a higher safety standard and reliability standard is especially required or where a failure of the product is reasonably expected to cause severe personal injury or death, unless the parties have executed an agreement specifically governing such use. Moreover Würth Elektronik eiSos GmbH & Co KG products are neither designed nor intended for use in areas such as military, aerospace, aviation, nuclear control, submarine, transportation (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information network etc.. Würth Elektronik eiSos GmbH & Co KG must be informed about the intent of such usage before the design-in stage. In addition, sufficient reliability evaluation checks for safety must be performed on every electronic component which is used in electrical circuits that require high safety and reliability functions or performance.

Mechanical Properties:

Properties	Definition	
Termination		Ag/ Ni/ Sn
Adhesice Strength of Termination	all sizes	10 ±1 sec; 10 N
Vibration Resistance		all 3 directions, 2 hours each @ 10 - 55 Hz/ min., amplitude 0.75 mm or 10 g
Resistance to Solder Heat	Specific	Refer to Soldering Profile

<div>Würth Elektronik eiSos GmbH & Co. KG EMC & Inductive Solutions</div> <div>Max-Eyth-Str. 1 74638 Waldenburg Germany Tel. +49 (0) 79 42 945 - 0</div> <div>www.we-online.com eiSos@we-online.com</div> <div></div>		CREATED KaS	CHECKED PSL	GENERAL TOLERANCE DIN ISO 2768-1m	PROJECTION METHOD 		
		DESCRIPTION WCAP-CSSA Ceramic Capacitors			TECHNICAL REFERENCE X7R2211102KE00IFCT10000		
					ORDER CODE 885352213011		
SIZE 2211	REVISION 001.000	STATUS Valid		DATE (YYYY-MM-DD) 2015-11-10	BUSINESS UNIT eiCap	PAGE 2/6	

This electronic component has been designed and developed for usage in general electronic equipment only. This product is not authorized for use in equipment where a higher safety standard and reliability standard is especially required or where a failure of the product is reasonably expected to cause severe personal injury or death, unless the parties have executed an agreement specifically governing such use. Moreover Würth Elektronik eiSos GmbH & Co KG products are neither designed nor intended for use in areas such as military, aerospace, aviation, nuclear control, submarine, transportation (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information network etc.. Würth Elektronik eiSos GmbH & Co KG must be informed about the intent of such usage before the design-in stage. In addition, sufficient reliability evaluation checks for safety must be performed on every electronic component which is used in electrical circuits that require high safety and reliability functions or performance.

Classification Reflow Profile for SMT components:



Classification Reflow Soldering Profile:

Profile Feature		Value
Preheat Temperature Min	$T_{s\ min}$	150 °C
Preheat Temperature Max	$T_{s\ max}$	200 °C
Preheat Time t_s from $T_{s\ min}$ to $T_{s\ max}$	t_s	60 - 120 seconds
Ramp-up Rate (T_L to T_p)		3 °C/ second max.
Liquidous Temperature	T_L	217 °C
Time t_L maintained above T_L	t_L	60 - 150 seconds
Peak package body temperature	T_p	see table
Time within 5°C of actual peak temperaure	t_p	20 - 30 seconds
Ramp-down Rate (T_L to T_p)		6 °C/ second max.
Time 25°C to peak temperature		8 minutes max.

refer to IPC/ JEDEC J-STD-020E

Package Classification Reflow Temperature:

Properties	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly Package Thickness < 1.6 mm	260 °C	260 °C	260 °C
PB-Free Assembly Package Thickness 1.6 mm - 2.5 mm	260 °C	250 °C	245 °C
PB-Free Assembly Package Thickness ≥ 2.5 mm	250 °C	245 °C	245 °C

refer to IPC/ JEDEC J-STD-020E

Würth Elektronik eiSos GmbH & Co. KG
EMC & Inductive Solutions

Max-Eyth-Str. 1
74638 Waldenburg
Germany
Tel. +49 (0) 79 42 945 - 0

www.we-online.com
eiSos@we-online.com



CREATED KaS	CHECKED PSL	GENERAL TOLERANCE DIN ISO 2768-1m	PROJECTION METHOD
DESCRIPTION WCAP-CSSA Ceramic Capacitors		TECHNICAL REFERENCE X7R2211102KE001FCT10000	
		ORDER CODE 885352213011	
SIZE 2211	REVISION 001.000	STATUS Valid	DATE (YYYY-MM-DD) 2015-11-10
		BUSINESS UNIT eiCap	PAGE 3/6

This electronic component has been designed and developed for usage in general electronic equipment only. This product is not authorized for use in equipment where a higher safety standard and reliability standard is especially required or where a failure of the product is reasonably expected to cause severe personal injury or death, unless the parties have executed an agreement specifically governing such use. Moreover Würth Elektronik eiSos GmbH & Co KG products are neither designed nor intended for use in areas such as military, aerospace, aviation, nuclear control, submarine, transportation (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information network etc... Würth Elektronik eiSos GmbH & Co KG must be informed about the intent of such usage before the design-in stage. In addition, sufficient reliability evaluation checks for safety must be performed on every electronic component which is used in electrical circuits that require high safety and reliability functions or performance.

Cautions and Warnings:

The following conditions apply to all goods within the product series of WCAP-CSSA of Würth Elektronik eiSos GmbH & Co. KG:

1. General

- The capacitor is engineered, designed and manufactured to be used within the datasheet specified values.
- Do not use the capacitor neither short term nor long term outside the specified values, which are given in the data sheet.
- Do not apply any kind of flexural or compressive force onto soldered or unsoldered component.
- Prevent the capacitor surface from any damage or scratches with sharp edges (e.g. chassis, screwdrivers, pincers)

2. Product specific

The responsibility for the applicability of customer specific products and use in a particular customer design is always within the authority of the customer. All technical specifications for standard products do also apply to customer specific products.

Follow all instructions mentioned in the data sheet, especially the following items:

2.01 Storage conditions

- These ceramic capacitors must be stored in stable conditions within an ambient temperature between 5°C to 40°C with a relative humidity of
- The environment in which the capacitors are operated and stored has to have atmospheric characteristics and must be free of dew condensation and toxic gases (e.g. chlorine, ammonia, sulfur, hydrogen sulphide and hydrogen sulfate).
- All products shall be used before the end of the period of 12 months based on the product date code, if not, a 100% solderability cannot be guaranteed.
- The capacitance tolerance as specified within the datasheet is only valid on the date of delivery.

2.02 Operating climatic conditions

- Do not exceed the lower nor the upper specified temperature under no condition.
- Be aware that the specified capacitance tolerance is only valid at the date delivery and according specified measurement criteria.
- Do not use the capacitors under high humidity, high temperature nor under high or low atmospheric pressure which may affect capacitors reliability.
- Surface temperature including self-heating must be kept below the maximum operating temperature.
- The temperature rise of the capacitor's temperature compared to ambient temperature shall be below 20°C.
- Avoid any water or heavy dust on capacitors surface, which may cause electrical leakage, damage, overheating or corrosion.

2.03 Operating load conditions

- Do not use the capacitor with any higher than specified voltage.
- Violation of the technical product specifications such as exceeding the specified voltage will void the warranty.
- Operating voltage across the terminals including AC and DC peaks and AC or pulse overshooting, Vp-p as well as irregular voltage because of resonance or switching must be below the rated voltage.
- Due to self-heating the reliability of the capacitor may be reduced, if high frequency AC or pulse is applied.
- Avoid any overload or conditions that are not specified in the capacitors datasheet.
- Consider carefully possible specific changes of electrical characteristics like capacitance over temperature, voltage and time as well as the specific performance over frequency for the actual use conditions. For detailed information see datasheet.

2.04 Design of the P.C. board

- The chip capacitor shall be located to minimize any possible mechanical stress from deflection or board wrap.
- It is recommended to position the chip capacitor in parallel to slits and perforations and as far away from slits, perforations, separation points, screw holes, frames and edges of the P.C. board to avoid mechanical stress.
- Determine the shape and size of the solder pads to have proper amount of solder on the terminations as the amount of solder at the terminations has a direct effect on the reliability of the capacitor.
- Provide individual solder pads for each termination. Solder pads are specified in the datasheet.
- The PCB design (e.g. land pattern design and grounding planes) must be evaluated for each individual circuit to achieve the optimal soldering results.


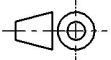
2.05 Mounting

- Avoid any stress from the mounting head to avoid cracks.
- Adjust the bottom dead center of the mounting head not to press on the P.C. board surface.
- The mounting head pressure has to be adjusted to 1 N up to 3 N of static force.
- Provide support from the bottom side of the P.C. board by a support pin for minimizing the impact energy from the mounting head.
- Provide sufficient close up dimension, preventive maintenance and replacement of the centering jaw to avoid a crack when it is worn out.

2.06 Adhesive

Selection of adhesive

- The adhesive should have sufficient coating and viscosity and should harden rapidly.
- The adhesive should be strong enough to hold parts on the board during the mounting and solder process and should have sufficient strength at high temperatures.
- The adhesive should have corrosion resistance, excellent insulation characteristics and no emission of toxic gasses nor any effect on the human body.

<div>Würth Elektronik eiSos GmbH & Co. KG EMC & Inductive Solutions</div> <div>Max-Eyth-Str. 1 74638 Waldenburg Germany Tel. +49 (0) 79 42 945 - 0</div> <div>www.we-online.com eiSos@we-online.com</div> <div></div>		CREATED KaS	CHECKED PSL	GENERAL TOLERANCE DIN ISO 2768-1m	PROJECTION METHOD 	
		DESCRIPTION WCAP-CSSA Ceramic Capacitors			TECHNICAL REFERENCE X7R2211102KE00IFCT10000	
					ORDER CODE 885352213011	
SIZE 2211	REVISION 001.000	STATUS Valid		DATE (YYYY-MM-DD) 2015-11-10	BUSINESS UNIT eiCap	PAGE 4/6

Important Notes

The following conditions apply to all goods within the product range of Würth Elektronik eiSos GmbH & Co. KG:

1. General Customer Responsibility

Some goods within the product range of Würth Elektronik eiSos GmbH & Co. KG contain statements regarding general suitability for certain application areas. These statements about suitability are based on our knowledge and experience of typical requirements concerning the areas, serve as general guidance and cannot be estimated as binding statements about the suitability for a customer application. The responsibility for the applicability and use in a particular customer design is always solely within the authority of the customer. Due to this fact it is up to the customer to evaluate, where appropriate to investigate and decide whether the device with the specific product characteristics described in the product specification is valid and suitable for the respective customer application or not.

2. Customer Responsibility related to Specific, in particular Safety-Relevant Applications

It has to be clearly pointed out that the possibility of a malfunction of electronic components or failure before the end of the usual lifetime cannot be completely eliminated in the current state of the art, even if the products are operated within the range of the specifications. In certain customer applications requiring a very high level of safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health it must be ensured by most advanced technological aid of suitable design of the customer application that no injury or damage is caused to third parties in the event of malfunction or failure of an electronic component. Therefore, customer is cautioned to verify that data sheets are current before placing orders. The current data sheets can be downloaded at www.we-online.com.

3. Best Care and Attention

Any product-specific notes, cautions and warnings must be strictly observed. Any disregard will result in the loss of warranty.

4. Customer Support for Product Specifications

Some products within the product range may contain substances which are subject to restrictions in certain jurisdictions in order to serve specific technical requirements. Necessary information is available on request. In this case the field sales engineer or the internal sales person in charge should be contacted who will be happy to support in this matter.

5. Product R&D

Due to constant product improvement product specifications may change from time to time. As a standard reporting procedure of the Product Change Notification (PCN) according to the JEDEC-Standard inform about minor and major changes. In case of further queries regarding the PCN, the field sales engineer or the internal sales person in charge should be contacted. The basic responsibility of the customer as per Section 1 and 2 remains unaffected.

6. Product Life Cycle


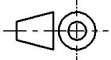
Due to technical progress and economical evaluation we also reserve the right to discontinue production and delivery of products. As a standard reporting procedure of the Product Termination Notification (PTN) according to the JEDEC-Standard we will inform at an early stage about inevitable product discontinuance. According to this we cannot guarantee that all products within our product range will always be available. Therefore it needs to be verified with the field sales engineer or the internal sales person in charge about the current product availability expectancy before or when the product for application design-in disposal is considered. The approach named above does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.

7. Property Rights

All the rights for contractual products produced by Würth Elektronik eiSos GmbH & Co. KG on the basis of ideas, development contracts as well as models or templates that are subject to copyright, patent or commercial protection supplied to the customer will remain with Würth Elektronik eiSos GmbH & Co. KG. Würth Elektronik eiSos GmbH & Co. KG does not warrant or represent that any license, either expressed or implied, is granted under any patent right, copyright, mask work right, or other intellectual property right relating to any combination, application, or process in which Würth Elektronik eiSos GmbH & Co. KG components or services are used.

8. General Terms and Conditions

Unless otherwise agreed in individual contracts, all orders are subject to the current version of the “General Terms and Conditions of Würth Elektronik eiSos Group”, last version available at www.we-online.com.

<div>Würth Elektronik eiSos GmbH & Co. KG EMC & Inductive Solutions</div> <div>Max-Eyth-Str. 1 74638 Waldenburg Germany Tel. +49 (0) 79 42 945 - 0</div> <div>www.we-online.com eiSos@we-online.com</div> <div></div>		CREATED KaS	CHECKED PSL	GENERAL TOLERANCE DIN ISO 2768-1m	PROJECTION METHOD 		
		DESCRIPTION WCAP-CSSA Ceramic Capacitors			TECHNICAL REFERENCE X7R2211102KE00IFCT10000		
					ORDER CODE 885352213011		
SIZE 2211	REVISION 001.000	STATUS Valid		DATE (YYYY-MM-DD) 2015-11-10	BUSINESS UNIT eiCap	PAGE 6/6	



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.