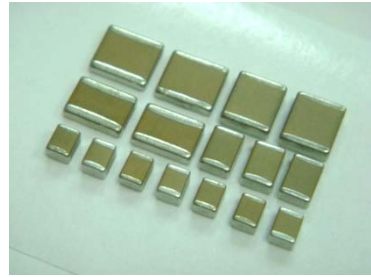


## HCX Series High Capacitance X7R - 100nF and above



### ◆ Features

- Rated working voltage of 50V and 100Vdc.
- Small size & high capacitance.
- Excellent bias, high temperature stability & low tan  $\delta$ .
- Low ESR and excellent ripple current characteristics
- RoHS compliant

### ◆ Application

- DC-DC converters (filter)
- Industrial controls
- Power supplies
- Surge protection

### ◆ Summary of Specifications

Operating Temperature	-55~+125 °C
Rated Voltage	50V to 100Vdc
Temperature Coefficient	X7R : $\leq \pm 15\%$ at -55~+125 °C (EIA Class II )
Capacitance Range	100nF ~ 10uF
Dissipation Factor	2.5% max. at 1KHz 25°C
Insulation Resistance	10G $\Omega$ or 500/C $\Omega$ whichever is smaller (C in Farad )
Dielectric Strength	50V : 250% rated voltage for 5 second @ 50mA max. current
	100V : 200% rated voltage for 5 second @ 50mA max. current
Capacitance Tolerance	$\pm 10\%$ , $\pm 20\%$
Ageing	1.0% per decade hr , typical

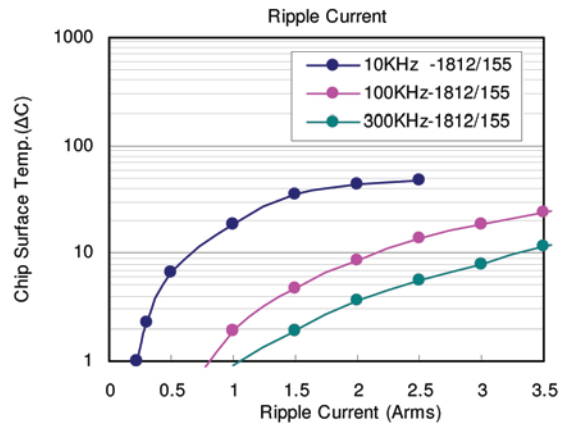
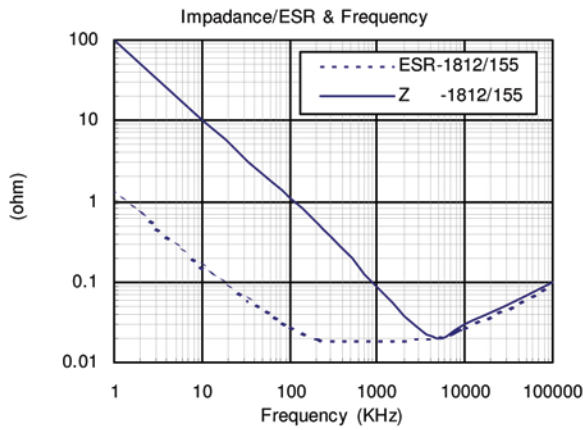
### ◆ How To Order



Product Code	Chip Size	Dielectric	Capacitance Unit : pF	Tolerance	Rated Voltage	Packaging	Special Requirement
C : MLCC Multilayer Ceramic Capacitor	Ex. : 1210 1812 1825 2220 2225	X : X7R	Ex. : 102 : 10 $\times$ 10 <sup>2</sup> 224 : 22 $\times$ 10 <sup>4</sup> 105 : 10 $\times$ 10 <sup>5</sup>	Ex. : K : +/- 10% M : +/- 20%	Ex. : 050 : 50Vdc 101 : 100Vdc	T : Tape & Reel B : Bulk	Ex. : O : Arc Prevention Coating X : Flexible Termination (Super Term)

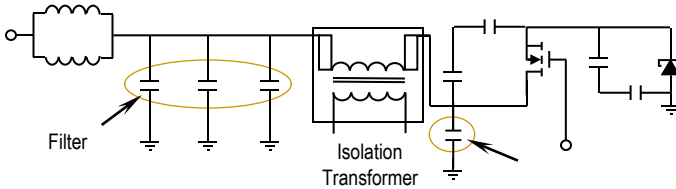
Sinus Electronic GmbH  
07132 9969 25  
Michael.Feimer@sinus-electronic.de

## ◆ Characteristics



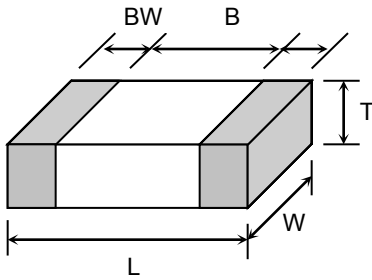
## ◆ Application Example Circuit

DC-DC Converter



## ◆ Dimensions

Unit : mm [inches]



TYPE	L	W	T (max)	B (min)	BW (min)
1210	3.20±0.3 [.126±.012]	2.50±0.2 [.098±.008]	2.60 [.102]	1.60 [.063]	0.30 [.012]
1812	4.60±0.3 [.181±.012]	3.20±0.3 [.126±.012]	3.00 [.118]	2.50 [.098]	0.30 [.012]
1825	4.60±0.3 [.181±.012]	6.35±0.4 [.250±.016]	3.00 [.118]	2.50 [.137]	0.30 [.012]
2220	5.70±0.4 [.220±.016]	5.00±0.4 [.197±.016]	3.00 [.118]	3.50 [.137]	0.30 [.012]
2225	5.70±0.4 [.220±.016]	6.35±0.4 [.250±.016]	3.00 [.118]	3.50 [.137]	0.30 [.012]

## ◆ Capacitance Range

Size	1210		1812		1825		2220		2225		
Code	50V	100V	50V	100V	50V	100V	50V	100V	50V	100V	
104	100nF	C	C	D	D/E	D	D				
154	150nF	C	C	D	D/E	D	D				
224	220nF	C	C	D	D/E	D	D				
334	330nF	C	C	D	D/E	D	D				
474	470nF	C	C	D	E	D	D	E	E	D	D
564	560nF	D	D	D	E	D	D	E	E	D	D
684	680nF	D	E	D	E	D	D	E	E	D	D
105	1uF	D	F	D	E	D	D	F	F	D	E
155	1.5uF	F	F	E	F	E	F	F	F	D	F
225	2.2uF	G	G	E	G	E	F	F	F	E	F
335	3.3uF			F		F	F	F	E	F	F
475	4.7uF			H		F		F	F	E	F
685	6.8uF							G		F	
106	10uF							H		G	

Symbol Code	S	O	A	B	C	D	E	F	G	H
Thickness(mm)	0.3±0.03	0.5±0.05	0.6±0.1	0.85±0.1	1.0±0.1	1.25±0.15	1.6±0.2	2.0±0.2	2.4±0.2	2.8±0.2

■ Other dimensions, capacitance values and voltage ratings are available. Please contact HEC.