



# DATA SHEET

## CHIP 5000Hours Load Life 105°C

### Serie: I15009

Voltage: 16Volt Range: 22 $\mu$ F

Impedance: no specified Dimension 5x5,8mm

Ripple Current: 30mA

CHIP 5000Hours Load Life 105°C

Serie No.: I15009

Customer:

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	03.06.2014
APPD:	Schumi			FINISH	Jamy		Sheet No.	1 from 7	

# EDCON-COMPONENTS



Designed for surface mounting on high density circuit board

Emboss carrier tape packing systems is available for automatic insertion



## Technical Informations

Voltage:	<b>16Volt</b>
Range:	<b>22µF</b>
Dimension; D x L mm	<b>5x5,8mm</b>
Impedance (Ω) max., at20°C, 100hKz	<b>no specified</b>
Ripple Current (mA rms) at 105°C, 100kHz	<b>30mA</b>

Ordering Code			
<b>160</b>	<b>Voltage</b>		
<b>220</b>	<b>Range</b>		
<b>D=</b>	<b>B</b>	<b>L=</b>	<b>1</b>

Operating Temperatur Range of -55°C ~ +105°C  
Load Life of 3000~5000 hours

<b>Leakage current max.</b>	Ø4 ~ Ø10mm	I= 0,01CV or 3µA whichever is greater ( after 2 minutes)
	Ø12,5 ~ Ø16mm	I= 0,03CV or 4µA whichever is greater ( after 1 minutes)

**Capacitance tolerance** ± 20% at 120Hz, 20°C

<b>Dissipation factor max. (at 120Hz, 20°C)</b>	WV		6,3	10	16	25	35	50	63	100				
	Tanδ	Ø4 ~ Ø10mm	0,28	0,24	0,20	0,16	0,13	0,12	0,12	0,12				
		Ø12,5 ~ Ø16mm	0,38	0,34	0,30	0,26	0,22	0,18	0,18	0,18				

<b>Low Temperatur characteristics ( Impedance ratio at 120Hz )</b>	WV		6,3	10	16	25	35	50	63	100				
	Ø4 ~ Ø10mm	Z-25°C / Z+20°C	3	3	2	2	2	2	2	2				
		Z-55°C / Z+20°C	8	5	4	3	3	3	3	3				
	Ø12,5 ~ Ø16mm	Z-25°C / Z+20°C	5	4	3	2	2	2	2	2				
Z-55°C / Z+20°C		12	10	8	5	4	3	3	3					

<b>Load Life ( after application of the rated voltage for 5000hrs at 125°C</b>	Leakage current	Less than specified value
	Capacitance Change	Within ±30% of initial value
	Tanδ	Less than 300% of specified value
	Ø4 ~ Ø6,3x5,8 , Ø8x6,2 ~ Ø6,3: 3000hours	

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**Shell life (at 105°C)** After 1000hours no load test, leakage current, capacitance and tan $\delta$  are same as load life value.

<b>Resistance to soldering heat</b>	After reflow soldering and resistance at room temperature, they meet the characteristics requirements listed at underside	
	Leakage current	Less than specified value
	Capacitance Change	Within $\pm 10\%$ of initial value
	Tan $\delta$	Less than specified value

Size	Capacitance $\mu\text{F}$	FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT				
		Frequency				
		50Hz	120Hz	300Hz	1KHz	10KHz $\leq$
$\varnothing 4 \sim \varnothing 10\text{mm}$		0,70	1,00	1,17	1,36	1,50
$\varnothing 12,5 \sim \varnothing 16\text{mm}$	<b>~68</b>	0,75	1,00	1,35	1,57	2,00
	<b>100 ~470</b>	0,80	1,00	1,23	1,34	1,50
	<b>680 ~3300</b>	0,85	1,00	1,10	1,13	1,15

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APPD:	Schumi			FINISH	Jamy		Sheet No.	3 from 7		

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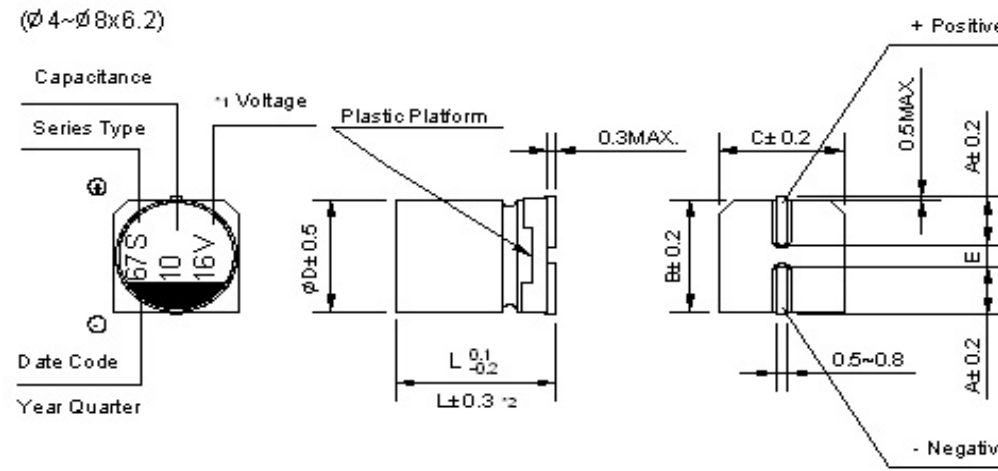


## Technical Drawing

### Dimension of Size $\varnothing 8 \times 10,5 \sim 16 \text{mm}$



### Dimension of Size $\varnothing 4 \sim 8 \times 6,2 \text{mm}$



D x L	$\varnothing 4 \times 5,8$	$\varnothing 5 \times 5,8$	$\varnothing 6,3 \times 5,8$	$\varnothing 6,3 \times 7,7$	$\varnothing 8 \times 6,2$	$\varnothing 8 \times 10,5$	$\varnothing 10 \times 10,5$	$\varnothing 10 \times 13,5$	$\varnothing 12,5 \times 13,5$	$\varnothing 12,5 \times 16$	$\varnothing 16 \times 16,5$
A	2,0	2,2	2,6	2,6	3,4	3,0	3,3	3,3	4,9	4,9	5,8
B	4,3	5,3	6,6	6,6	8,4	8,4	10,4	10,4	13,0	13,0	17,0
C	4,3	5,3	6,6	6,6	8,4	8,4	10,4	10,4	13,0	13,0	17,0
E +/-0.2	1,0	1,3	1,9	1,9	2,3	3,1	4,7	4,7	4,7	4,7	6,4
L	5,8	5,8	5,8	7,7	6,2	10,5	10,5	13,5	13,5	16,0	16,5

\*1 Voltage mark (6V) represents 6,3V for  $\varnothing 4 \sim 10 \text{mm}$

\*3 (L +/- 0.5) is applicable to  $\varnothing 8 \times 10,5 \sim \varnothing 10 \text{mm}$

\*2 (L +/- 0.3) is applicable to  $\varnothing 6,3 \sim 7,7$  and  $\varnothing 8 + 6,2 \text{mm}$

\*4 (L +/- 1.0) is applicable to  $\varnothing 12,5 \sim \varnothing 16 \text{mm}$

RE. Date code and seriew type -1st digit for Year 2nd digit for Quarter, 4 quarter codes in one year area 1,4,7,0

3rd character for Serie S

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APPD:	Schumi			FINISH	Jamy		Sheet No.	4 from 7		

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Voltage Ordering Code	Code
4,0	<b>4V0</b>
6,3	<b>6V3</b>
10	<b>100</b>
16	<b>160</b>
25	<b>250</b>
35	<b>350</b>
50	<b>500</b>
63	<b>630</b>
80	<b>800</b>
100	<b>101</b>

Diameter ordering Code D	Code
3mm	<b>3</b>
4mm	<b>A</b>
5mm	<b>B</b>
6,3mm	<b>C</b>
8mm	<b>E</b>
10mm	<b>G</b>
12,5mm	<b>I</b>
16mm	<b>K</b>

Height ordering Code L	Code
4mm	<b>A</b>
5,4mm	<b>0</b>
5,8mm	<b>1</b>
6,2mm	<b>2</b>
7,7mm	<b>3</b>
10,5mm	<b>4</b>
13,5mm	<b>5</b>
16mm	<b>6</b>
16,5mm	<b>7</b>
21,5mm	<b>8</b>

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DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	03.06.2014
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Customer:

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## Ordering Informations

Serie	Voltage Code	Tolerance Code	Range Code	Size Code D	Size Code L	Special function	ROHS	Packing Code		
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<b>I15009</b>	<b>160</b>	<b>M</b>	<b>220</b>	<b>B</b>	<b>1</b>	<b>XX</b>	<b>R</b>	<b>TR</b>		
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look table Voltage Code	<b>M= ±20%</b>	Ordering Code Range	Look table Code D	Look table Code L	<b>XX= No function</b>	<b>R= ROHS Conform</b> <b>N= NON ROHS Conform</b>	<b>TR= Tape Reel Packing</b> <b>BU= Bulk-Ware</b>		
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APPD:	Schumi			FINISH	Jamy		Sheet No.	6 from 7		

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## Soldering Profile Curve

### Classification Reflow Profile (JEDEC J-STD-020C)



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APPD:	Schumi			FINISH	Jamy		Sheet No.	7 from 7		