

EDCON-COMPONENTS



Designed for surface mounting on high density circuit board
 Emboss carrier tape packing systems is available for automatic insertion



Technical Informations

| | |
|--|---------------------|
| Voltage: | 16Volt |
| Range: | 2200µF |
| Dimension; D x L mm | 16x16,5mm |
| Impedance (Ω) max., at20°C, 100kHz | no specified |
| Ripple Current (mA rms) at 105°C, 100kHz | 950mA |

| Ordering Code | | | | |
|---------------|----------------|--|-----------|----------|
| 160 | Voltage | | | |
| 222 | Range | | | |
| D= | K | | L= | 7 |

Operating Temperatur Range of -40°C ~ +85°C
 Load Life of 1000~2000 hours at 85°C

| | | | | | | | | | | | |
|---|----------------------|--|------|------|------|------|------|------|------|------|------|
| Leakage current max. | 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 | | | | | | | | | | |
| Dissipation factor max. (at 120Hz, 20°C) | WV | | 4,0 | 6,3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
| | Tanδ | Ø4 ~ Ø10mm | 0,42 | 0,30 | 0,26 | 0,22 | 0,16 | 0,14 | 0,21 | 0,12 | 0,12 |
| | | Ø12,5 ~ Ø16mm | 0,45 | 0,38 | 0,34 | 0,30 | 0,26 | 0,22 | 0,18 | 0,14 | 0,12 |

| | | | | | | | | | | | |
|--|---------------|-----------------|-----|-----|----|----|----|----|----|----|-----|
| Low Temperatur characteristics (Impedance ratio at 120Hz) | WV | | 4,0 | 6,3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
| | Ø4 ~ Ø10mm | Z-25°C / Z+20°C | 7 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | Z-40°C / Z+20°C | 15 | 8 | 6 | 4 | 4 | 3 | 3 | 3 | 4 |
| | Ø12,5 ~ Ø16mm | Z-25°C / Z+20°C | 7 | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 2 |
| Z-40°C / Z+20°C | | 17 | 12 | 10 | 8 | 5 | 4 | 3 | 3 | 3 | |

| | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|
| Load Life (after application of the rated voltage for 1000hrs at 105°C | Leakage current | Less than specified value | | | | | | | | | |
| | Capacitance Change | Within ±20% of initial value | | | | | | | | | |
| | | Within ±30% of initial value for 4V & 6,3V | | | | | | | | | |
| | Tanδ | Less than 200% of specified value | | | | | | | | | |
| Shell life (at 85°C) | After 1000hours no load test, leakage current, capacitance and tanδ are same as load life value. | | | | | | | | | | |

| | |
|--|---------------|
| CHIP Wide Temperature Range 105°C | |
| Part No.: | I15005 |
| Customer: | |

| | | | | | | | | | |
|-------|--------|------|--------|--------|--------|-----------|-----------|------|------------|
| DRW: | Jason | CHKD | Wilson | MATL: | Wilson | TOLERANCE | Mason | DATE | 03.06.2014 |
| APPD: | Schumi | | | FINISH | Jamy | | Sheet No. | | 2 from 7 |

EDCON-COMPONENTS



Designed for surface mounting on high density circuit board
 Emboss carrier tape packing systems is available for automatic insertion



| | | |
|-------------------------------------|---|------------------------------------|
| Resistance to soldering heat | 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 δ | Less than specified value |

| FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT | | | | | | |
|---|---------------|-----------|-------|-------|------|--------------|
| Diameter | Capacitance | Frequency | | | | |
| | μF | 50Hz | 120Hz | 300Hz | 1KHz | 10KHz \leq |
| $\varnothing 4 \sim \varnothing 10\text{mm}$ | 0,1 ~68 | 0,70 | 1,00 | 1,17 | 1,36 | 1,50 |
| | 100 ~3300 | 0,85 | 1,00 | 1,08 | 1,20 | 1,30 |
| $\varnothing 12,5 \sim \varnothing 16\text{mm}$ | ~68 | 0,75 | 1,00 | 1,35 | 1,57 | 2,00 |
| | 100 ~680 | 0,80 | 1,00 | 1,23 | 1,34 | 1,50 |
| | 1000 ~6800 | 0,85 | 1,00 | 1,10 | 1,13 | 1,15 |

| | |
|--|---------------|
| CHIP Wide Temperature Range 105°C | |
| Part No.: | I15005 |
| Customer: | |

| | | | | | | | | | |
|-------|--------|------|--------|--------|--------|-----------|-----------|------|------------|
| DRW: | Jason | CHKD | Wilson | MATL: | Wilson | TOLERANCE | Mason | DATE | 03.06.2014 |
| APPD: | Schumi | | | FINISH | Jamy | | Sheet No. | | 3 from 7 |

EDCON-COMPONENTS



Designed for surface mounting on high density circuit board
 Emboss carrier tape packing systems is available for automatic insertion



Technical Drawing

Dimension of Size \varnothing 8x10,5 ~ 16mm



Dimension of Size \varnothing 4~ 8x6,2mm



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

*3 (L +/- 0.5) is applicable to \varnothing 8x10,5 ~ \varnothing 10mm

*2 (L +/- 0.3) is applicable to \varnothing 6,3 ~ 7.7 and \varnothing 8 + 6,2mm

*4 (L +/- 1.0) is applicable to \varnothing 12,5 ~ \varnothing 16mm

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

**CHIP Wide Temperature
 Range 105°C**

Part No.: **115005**

| | | | | | | | | | |
|-------|--------|------|--------|--------|--------|-----------|-----------|------|------------|
| DRW: | Jason | CHKD | Wilson | MATL: | Wilson | TOLERANCE | Mason | DATE | 03.06.2014 |
| APPD: | Schumi | | | FINISH | Jamy | | Sheet No. | | 4 from 7 |

Customer:

EDCON-COMPONENTS



Designed for surface mounting on high density circuit board
 Emboss carrier tape packing systems is available for automatic insertion



Ordering Informations

| Serie | Voltage Code | Tolerance Code | Range Code | Size Code D | Size Code L | Special function | ROHS | Packing Code | | |
|-------|--------------|----------------|------------|-------------|-------------|------------------|------|--------------|--|--|
|-------|--------------|----------------|------------|-------------|-------------|------------------|------|--------------|--|--|

| | | | | | | | | | | |
|---------------|------------|----------|------------|----------|----------|-----------|----------|-----------|--|--|
| I15005 | 160 | M | 222 | K | 7 | XX | R | TR | | |
|---------------|------------|----------|------------|----------|----------|-----------|----------|-----------|--|--|

| | | | | | | | | | |
|-------------------------|----------------|---------------------|-------------------|-------------------|------------------------|--|------------------------------|--|--|
| look table Voltage Code | M= ±20% | Ordering Code Range | Look table Code D | Look table Code L | XX= No function | R= ROHS Conform N= NON ROHS Conform | TR= Tape Reel Packing | | |
|-------------------------|----------------|---------------------|-------------------|-------------------|------------------------|--|------------------------------|--|--|

BU= Bulk-Ware

| | |
|--|---------------|
| CHIP Wide Temperature Range 105°C | |
| Part No.: | I15005 |
| Customer: | |

| | | | | | | | | | |
|-------|--------|------|--------|--------|--------|-----------|-----------|------|------------|
| DRW: | Jason | CHKD | Wilson | MATL: | Wilson | TOLERANCE | Mason | DATE | 03.06.2014 |
| APPD: | Schumi | | | FINISH | Jamy | | Sheet No. | | 6 from 7 |

EDCON-COMPONENTS



Designed for surface mounting on high density circuit board
 Emboss carrier tape packing systems is available for automatic insertion



Soldering Profile Curve

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



| | |
|--|---------------|
| CHIP Wide Temperature Range 105°C | |
| Part No.: | I15005 |
| Customer: | |

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