

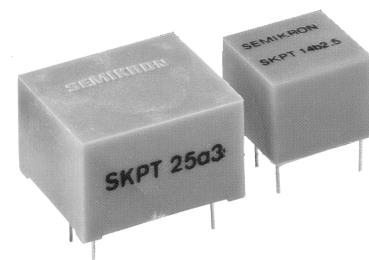
## 14.2 Pulse Transformers

### Range of preferred types

| Absolute Maximum Ratings |                                                   |                  |
|--------------------------|---------------------------------------------------|------------------|
| Symbol                   | Conditions                                        | Values           |
| V <sub>ww</sub>          | Crest working voltage                             | 400 ... 650 V    |
| V <sub>isol</sub>        | A.C. rms; 1 minute, see table below <sup>1)</sup> | 2,5 ... 5 kV     |
| T <sub>op</sub>          | Operating Temperature                             | – 40 ... + 85 °C |
| T <sub>stg</sub>         | Storage Temperature                               | – 50 ... + 90 °C |

## Pulse Transformers

### SKPT 14 to SKPT 27



### Characteristics <sup>2)</sup>

| Types         | N <sub>p</sub> /N <sub>s</sub> | ∫Vdt | R <sub>p</sub> | R <sub>s</sub> | L <sub>p</sub> | L <sub>ss</sub> | C <sub>ps</sub> | I <sub>M</sub> | t <sub>r</sub> | R <sub>L</sub> | V <sub>ww</sub> | V <sub>isol</sub> | Win-<br>ding |
|---------------|--------------------------------|------|----------------|----------------|----------------|-----------------|-----------------|----------------|----------------|----------------|-----------------|-------------------|--------------|
| • New Type    | s                              | μVs  | Ω              | Ω              | mH             | μH              | pF              | mA             | μs             | Ω              | V               | kV                | conf         |
| SKPT 14b2,5   | 1:1:1                          | 250  | 0,86           | 0,86           | 1,8            | 85              | 10              | 150            | 2              | 80             | 500             | 4                 | B            |
| SKPT 14k2,5   | 1:1:1                          | 250  | 0,86           | 0,86           | 1,8            | 85              | 10              | 150            | 2              | 80             | 500             | 4                 | C            |
| SKPT 14c2,5   | 2:1                            | 250  | 1,6            | 0,86           | 7,5            | 400             | 12              | 150            | 2,5            | 80             | 500             | 4                 | D            |
| SKPT 14a3     | 1:1                            | 350  | 1,25           | 1,25           | 2,8            | 135             | 12              | 150            | 2,5            | 80             | 500             | 4                 | A            |
| SKPT 14i3     | 1:1                            | 350  | 1,25           | 1,25           | 2,8            | 135             | 12              | 150            | 2,5            | 80             | 500             | 4                 | D            |
| SKPT 14g3     | 2:1:1                          | 330  | 3,5            | 1,6            | 11             | 148             | 10              | 150            | 5              | 80             | 500             | 4                 | B            |
| SKPT 14c3,5   | 2:1                            | 350  | 3,5            | 2,4            | 13,5           | 82              | 9               | 150            | 2,5            | 80             | 500             | 4                 | D            |
| SKPT 14i5     | 1:1                            | 500  | 2,7            | 2,7            | 5,5            | 75              | 10              | 150            | 2,5            | 80             | 500             | 4                 | D            |
| SKPT 14k6     | 1:1:1                          | 600  | 2,8            | 2,8            | 9              | 290             | 10              | 150            | 2,5            | 80             | 500             | 4                 | C            |
| SKPT 25j2     | 1:2:2                          | 200  | 0,8            | 1,6            | 0,9/1,6        | 30/60           | 7               | 250            | 1,5            | 47             | 500             | 5                 | H            |
| SKPT 25a3     | 1:1                            | 300  | 0,55           | 0,55           | 2              | 45              | 8               | 250            | 1,5            | 47             | 500             | 4                 | A            |
| SKPT 25b3     | 1:1:1                          | 300  | 0,55           | 0,55           | 2              | 48              | 9               | 250            | 1,5            | 47             | 500             | 4                 | B            |
| SKPT 25e3     | 3:1:1                          | 300  | 1,7            | 0,55           | 15             | 300             | 10              | 250            | 1,5            | 47             | 500             | 4                 | B            |
| SKPT 25h3     | 1:1:1:1                        | 300  | 0,55           | 0,55           | 2              | 48              | 9               | 250            | 1,5            | 47             | 500             | 4                 | C            |
| SKPT 25k3/650 | 1:1:1                          | 300  | 0,55           | 0,55           | 2              | 38              | 9               | 250            | 1,5            | 47             | 650             | 4                 | F            |
| SKPT 25m3     | 1:1                            | 300  | 0,55           | 0,55           | 1,8            | 105             | 7               | 250            | 1,5            | 47             | 1000            | 6                 | G            |
| SKPT 25n3     | 3:1                            | 300  | 1,7            | 0,55           | 15             | 870             | 7               | 250            | 1,5            | 47             | 1000            | 6                 | G            |
| SKPT 25p3/650 | 3:1:1                          | 300  | 1,7            | 0,55           | 15             | 300             | 10              | 250            | 1,5            | 47             | 650             | 4                 | F            |
| SKPT 25a4     | 1:1                            | 400  | 0,6            | 0,6            | 4              | 50              | 10              | 250            | 2              | 47             | 500             | 4                 | A            |
| SKPT 25b4     | 1:1:1                          | 400  | 0,6            | 0,6            | 4              | 52              | 10              | 250            | 2              | 47             | 500             | 4                 | B            |
| SKPT 25g4     | 2:1:1                          | 400  | 2,3            | 1,1            | 9/15           | 260/490         | 7               | 250            | 1,5            | 47             | 500             | 5                 | H            |
| SKPT 25a5     | 1:1                            | 500  | 1              | 1              | 5,5            | 85              | 11              | 100<br>250     | 1,1<br>3       | 100<br>47      | 500             | 4                 | A            |

continued on next page

<sup>1)</sup> Material used is according to UL94-V0. Isolation test and pin distance according to IEC 60664-1(1992); (VDE 0110-1:1997-4)

<sup>2)</sup> Explanations see Chapter A, Section 14.2

## 14.2 Pulse Transformers (continued)

| Types<br>• New Type | N <sub>p</sub> /N <sub>s</sub><br>s | $\int V dt$<br>μVs | R <sub>p</sub><br>Ω | R <sub>s</sub><br>Ω | L <sub>p</sub><br>mH | L <sub>ss</sub><br>μH | C <sub>ps</sub><br>pF | I <sub>M</sub><br>mA | t <sub>r</sub><br>μs | R <sub>L</sub><br>Ω | V <sub>ww</sub><br>V | V <sub>isol</sub><br>kV | Win-<br>ding<br>conf |
|---------------------|-------------------------------------|--------------------|---------------------|---------------------|----------------------|-----------------------|-----------------------|----------------------|----------------------|---------------------|----------------------|-------------------------|----------------------|
| SKPT 25b5           | 1:1:1                               | 500                | 1                   | 1                   | 5,5                  | 89                    | 12                    | 100<br>250           | 1,1<br>3             | 100<br>47           | 500                  | 4                       | B                    |
| SKPT 25m5           | 1:1                                 | 500                | 1                   | 1                   | 5,5                  | 170                   | 7                     | 250                  | 1,5                  | 47                  | 1000                 | 6                       | G                    |
| SKPT 25o5           | 2:1                                 | 500                | 2,1                 | 1                   | 32                   | 830                   | 7,5                   | 250                  | 1,5                  | 47                  | 1000                 | 5                       | G                    |
| SKPT 25b8           | 1:1:1                               | 800                | 1,6                 | 1,6                 | 14                   | 220                   | 14                    | 25<br>250            | 1<br>6               | 470<br>47           | 500                  | 4                       | B                    |
| SKPT 25b10          | 1:1:1                               | 1000               | 1,8                 | 1,8                 | 18                   | 260                   | 13                    | 25<br>250            | 1<br>6               | 470<br>47           | 500                  | 4                       | B                    |
| SKPT 26a3           | 1:1                                 | 300                | 0,55                | 0,55                | 2                    | 45                    | 8                     | 250                  | 1,5                  | 47                  | 500                  | 4                       | A                    |
| SKPT 26b3           | 1:1:1                               | 300                | 0,55                | 0,55                | 2                    | 48                    | 8                     | 250                  | 1,5                  | 47                  | 500                  | 4                       | B                    |
| SKPT 26e3           | 3:1:1                               | 300                | 1,7                 | 0,55                | 15                   | 300                   | 10                    | 250                  | 1,5                  | 47                  | 500                  | 4                       | B                    |
| SKPT 26b10          | 1:1:1                               | 1000               | 1,8                 | 1,8                 | 18                   | 260                   | 15                    | 25<br>250            | 1<br>6               | 470<br>47           | 500                  | 4                       | B                    |
| SKPT 21a3           | 1:1                                 | 270                | 0,6                 | 0,6                 | 3,5                  | 3,5                   | 55                    | 800                  | 0,8                  | 15                  | 650                  | 4                       | A                    |
| SKPT 21b3           | 1:1:1                               | 270                | 0,6                 | 0,6                 | 3,5                  | 3,5                   | 55                    | 800                  | 0,8                  | 15                  | 440                  | 2,5                     | B                    |
| SKPT 21b3/650       | 1:1:1                               | 270                | 0,6                 | 0,5/0,7             | 3,5                  | 2,7/3,2               | 30                    | 800                  | 0,8                  | 15                  | 650                  | 4                       | B                    |
| SKPT 21c3           | 2:1                                 | 275                | 1,0                 | 0,6                 | 6,5                  | 10                    | 50                    | 800                  | 0,8                  | 15                  | 650                  | 4                       | A                    |
| SKPT 21d3           | 3:1                                 | 270                | 1,5                 | 0,6                 | 30                   | 20                    | 65                    | 800                  | 0,8                  | 15                  | 650                  | 4                       | A                    |
| SKPT 21e3           | 3:1:1                               | 270                | 1,5                 | 0,6                 | 30                   | 20                    | 65                    | 800                  | 0,8                  | 15                  | 440                  | 2,5                     | B                    |
| SKPT 21b4           | 1:1:1                               | 370                | 0,7                 | 0,7                 | 6                    | 3,5                   | 65                    | 800                  | 0,8                  | 15                  | 440                  | 2,5                     | B                    |
| SKPT 21b4/650       | 1:1:1                               | 370                | 0,7                 | 0,6/0,8             | 6                    | 4,3/7                 | 65                    | 800                  | 0,8                  | 15                  | 650                  | 4                       | B                    |
| SKPT 21a5           | 1:1                                 | 450                | 1,0                 | 1,0                 | 10                   | 10                    | 65                    | 800                  | 0,8                  | 15                  | 650                  | 4                       | A                    |
| SKPT 21b5           | 1:1:1                               | 450                | 1,0                 | 1,0                 | 10                   | 4,5                   | 65                    | 800                  | 0,8                  | 15                  | 440                  | 2,5                     | B                    |
| SKPT 21b5/650       | 1:1:1                               | 450                | 1,0                 | 1,0                 | 10                   | 10                    | 65                    | 800                  | 0,8                  | 15                  | 650                  | 4                       | B                    |
| SKPT 22e3/650       | 3:1:1                               | 280                | 1,2                 | 0,5                 | 35                   | 10                    | 40                    | 800                  | 0,8                  | 47                  | 650                  | 4                       | B                    |
| SKPT 27a3           | 1:1                                 | 300                | 0,3                 | 0,3                 | 2                    | 3                     | 76                    | 1200                 | 1                    | 10                  | 650                  | 4                       | A                    |
| SKPT 27b3           | 1:1:1                               | 300                | 0,3                 | 0,3                 | 2                    | 3                     | 95                    | 1200                 | 1                    | 10                  | 500                  | 3                       | B                    |
| SKPT 27b3/650       | 1:1:1                               | 300                | 0,3                 | 0,2/0,4             | 2                    | 3                     | 65                    | 1200                 | 1                    | 10                  | 650                  | 4                       | B                    |
| SKPT 27d3,5         | 3:1                                 | 350                | 0,6                 | 0,3                 | 20                   | 22                    | 100                   | 2500                 | 1                    | 4,7                 | 650                  | 4                       | A                    |
| SKPT 27e3,5         | 3:1:1                               | 350                | 0,6                 | 0,3                 | 20                   | 25                    | 110                   | 2500                 | 1                    | 4,7                 | 650                  | 4                       | B                    |
| SKPT 27b4/1300      | 1:1:1                               | 450                | 0,1                 | 0,1                 | 0,55                 | 7,5                   | 8,5                   | 2000                 | 0,5                  | 10                  | 1300                 | 6                       | B                    |
| SKPT 27a5           | 1:1                                 | 500                | 0,4                 | 0,4                 | 5                    | 5                     | 105                   | 2000                 | 1                    | 10                  | 650                  | 4                       | A                    |

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<sup>1)</sup> Material used is according to UL94-V0. Isolation test and pin distance according to IEC 60664-1(1992); (VDE 0110-1:1997-4)

<sup>2)</sup> Explanations see Chapter A, Section 14.2

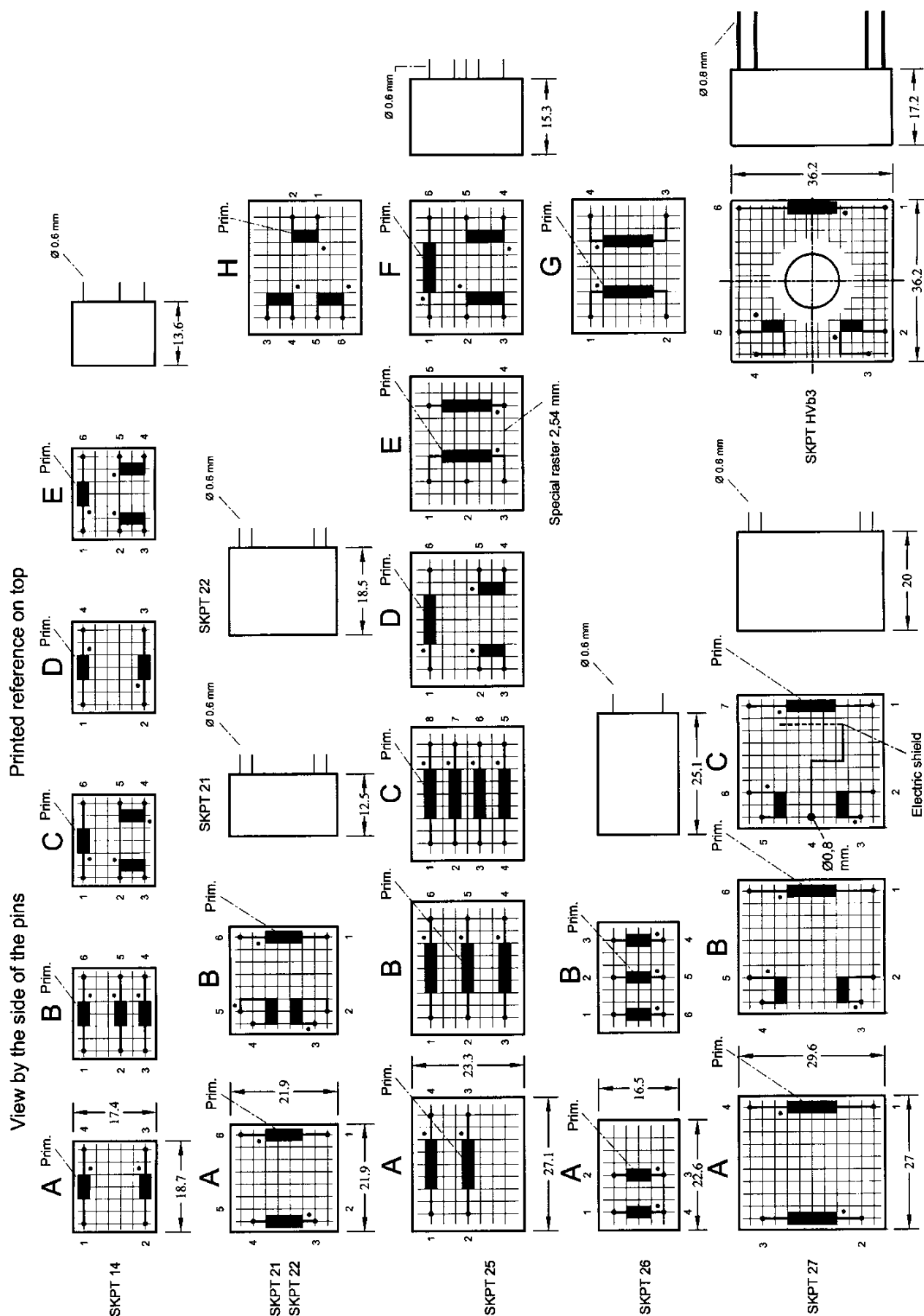
## 14.2 Pulse Transformers (continued)

| Types<br>• New Type | N <sub>p</sub> /N <sub>s</sub><br>s | $\int V dt$<br>μVs | R <sub>p</sub><br>Ω | R <sub>s</sub><br>Ω | L <sub>p</sub><br>mH | L <sub>ss</sub><br>μH | C <sub>ps</sub><br>pF | I <sub>M</sub><br>mA | t <sub>r</sub><br>μs | R <sub>L</sub><br>Ω | V <sub>ww</sub><br>V | V <sub>isol</sub><br>kV | Win-<br>ding<br>conf |
|---------------------|-------------------------------------|--------------------|---------------------|---------------------|----------------------|-----------------------|-----------------------|----------------------|----------------------|---------------------|----------------------|-------------------------|----------------------|
| SKPT 27b5           | 1:1:1                               | 500                | 0,4                 | 0,4                 | 5                    | 5                     | 117                   | 2000                 | 1                    | 10                  | 500                  | 3                       | B                    |
| SKPT 27b5/650       | 1:1:1                               | 500                | 0,4                 | 0,3/0,5             | 5                    | 5                     | 100                   | 2000                 | 1                    | 10                  | 650                  | 4                       | B                    |
| SKPT 27a10          | 1:1                                 | 1000               | 0,3                 | 0,3                 | 2,5                  | 5                     | 83                    | 2000                 | 1                    | 10                  | 650                  | 4                       | A                    |
| SKPT 27b10          | 1:1:1                               | 1000               | 0,3                 | 0,3                 | 2,5                  | 5                     | 97                    | 2000                 | 1                    | 10                  | 500                  | 3                       | B                    |
| SKPT 27b10/650      | 1:1:1                               | 1000               | 0,3                 | 0,2/0,4             | 2,5                  | 5                     | 84                    | 2000                 | 1                    | 10                  | 650                  | 4                       | B                    |
| SKPT 27b10ES        | 1:1:1                               | 1000               | 0,3                 | 0,3                 | 2,5                  | 5                     | 97                    | 2000                 | 1                    | 10                  | 650                  | 4                       | C                    |
| SKPT 27c10          | 2:1                                 | 1000               | 0,5                 | 0,3                 | 10                   | 15                    | 110                   | 2000                 | 1                    | 10                  | 650                  | 4                       | A                    |
| SKPT HVb3           | 1:1:1                               | 300                | 0,3                 | 0,3                 | 3                    | 75                    | 8,5                   | 1000                 | 1                    | 50                  | 3200                 | 12                      | A                    |
| SKPT 25a3/s         | 1:1                                 | 300                | 0,55                | 0,55                | 2                    | 12                    | 20                    | 250                  | 0,8                  | 47                  | 440                  | 3                       | A                    |
| SKPT 25b3/s         | 1:1:1                               | 300                | 0,55                | 0,55                | 2                    | 12                    | 20                    | 250                  | 0,8                  | 47                  | 440                  | 3                       | B                    |
| SKPT 25e3/s         | 3:1:1                               | 300                | 1,8                 | 0,8                 | 15                   | 80                    | 28                    | 250                  | 0,8                  | 47                  | 440                  | 3                       | B                    |
| SKPT 25h3/s         | 1:1:1:1                             | 300                | 0,55                | 0,55                | 2                    | 12                    | 20                    | 250                  | 0,8                  | 47                  | 440                  | 3                       | C                    |
| SKPT 25a4/s         | 1:1                                 | 400                | 0,8                 | 0,9                 | 4                    | 17                    | 28                    | 250                  | 0,8                  | 47                  | 440                  | 3                       | A                    |
| SKPT 909            | 1:1                                 | 400                | 0,8                 | 0,9                 | 4                    | 17                    | 28                    | 600                  | 1                    | 5                   | 900                  | 3                       | E                    |
| SKPT 25b4/s         | 1:1:1                               | 400                | 0,8                 | 0,9                 | 4                    | 17                    | 28                    | 250                  | 0,8                  | 47                  | 500                  | 3                       | B                    |
| SKPT 25b4/hs        | 1:1:1                               | 400                | 0,8                 | 0,9                 | 1,8                  | 15                    | 28                    | 250                  | 0,8                  | 400                 | 700                  | 4                       | D                    |
| SKPT 25a5/s         | 1:1                                 | 500                | 1                   | 1,1                 | 5,5                  | 22                    | 28                    | 100<br>250           | 0,8<br>1             | 100<br>47           | 500                  | 3                       | A                    |
| SKPT 25b5/s         | 1:1:1                               | 500                | 1,1                 | 1,2                 | 5,5                  | 25                    | 30                    | 100<br>250           | 0,8<br>1             | 100<br>47           | 500                  | 3                       | B                    |
| SKPT 25b6/N         | 1:1:1                               | 650                | 1,13                | 1,2                 | 4,6                  | 20                    | 37                    | 250                  | 1                    | 47                  | 600                  | 4                       | B                    |
| SKPT 25b8/s         | 1:1:1                               | 800                | 1,8                 | 2,1                 | 14                   | 40                    | 35                    | 25<br>250            | 0,8<br>1,5           | 470<br>47           | 500                  | 3                       | B                    |
| SKPT 25b10/s        | 1:1:1                               | 1000               | 2,2                 | 2,4                 | 18                   | 50                    | 40                    | 25<br>250            | 0,8<br>1,5           | 470<br>47           | 500                  | 3                       | B                    |
| SKPT 25b20/s        | 1:1:1                               | 2000               | 6                   | 6                   | 55                   | 100                   | 45                    | 250                  | 3                    | 47                  | 500                  | 3                       | B                    |

<sup>1)</sup> Material used is according to UL94-V0. Isolation test and pin distance according to IEC 60664-1(1992); (VDE 0110-1:1997-4)

<sup>2)</sup> Explanations see Chapter A, Section 14.2

## Winding Configurations and Dimensions in mm 2,5 mm grid



## Current Transformer

TI 300/0,3

300 A / 0,3 A

| Absolute Maximum Ratings |                               |                 |
|--------------------------|-------------------------------|-----------------|
| Symbol                   | Term                          | Values          |
| $I_1$                    | Max. primary current          | 300 A           |
| $I_2$                    | Max. secondary current        | 0,3 A           |
|                          | Precision class sec. current  | 0,5 %           |
| $\frac{n_s}{n_p}$        | Transformer current ratio     | 1000 : 1        |
| $P_{out}$                | Max. Power output (50/60 Hz)  | 2 VA            |
| $f_{op}$                 | Operating frequency           | 50 / 60 Hz      |
| $R_2$                    | Load resistance <sup>1)</sup> | > 22,2 $\Omega$ |

