

# TCN SERIES THICK FILM CHIP RESISTOR NETWORK

## Applications

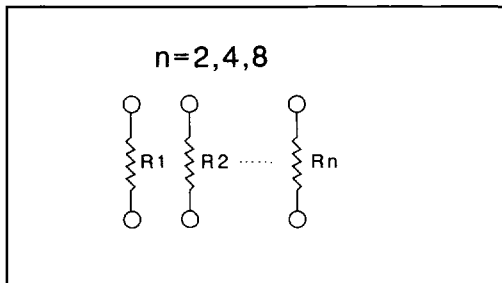
Telecommunication Equipment  
Lap-Top and Note-Book Computer

## Dimensions

(Unit:mm)

| Type  | Number of Resistors | A              | B               | C               | D             | E             | F              | G              |
|-------|---------------------|----------------|-----------------|-----------------|---------------|---------------|----------------|----------------|
| TCN16 | 2                   | $0.5 \pm 0.15$ | $1.6 \pm 0.2$   | $0.8 \pm 0.05$  | $1.6 \pm 0.2$ | $0.5 \pm 0.1$ | $0.3 \pm 0.15$ | $0.3 \pm 0.15$ |
|       | 4                   |                | $3.2 \pm 0.2$   |                 |               |               |                |                |
|       | 8                   |                | $6.4 \pm 0.2$   |                 |               |               |                |                |
| TCN20 | 2                   | $0.9 \pm 0.15$ | $2.54 \pm 0.3$  | $1.27 \pm 0.05$ | $2.0 \pm 0.2$ | $0.6 \pm 0.1$ | $0.4 \pm 0.2$  | $0.4 \pm 0.15$ |
|       | 4                   |                | $5.08 \pm 0.3$  |                 |               |               |                |                |
|       | 8                   |                | $10.16 \pm 0.3$ |                 |               |               |                |                |
| TCN32 | 2                   | $0.9 \pm 0.15$ | $2.54 \pm 0.3$  | $1.27 \pm 0.05$ | $3.2 \pm 0.2$ | $0.6 \pm 0.1$ | $0.5 \pm 0.2$  | $0.5 \pm 0.15$ |
|       | 4                   |                | $5.08 \pm 0.3$  |                 |               |               |                |                |
|       | 8                   |                | $10.16 \pm 0.3$ |                 |               |               |                |                |

## Schematics



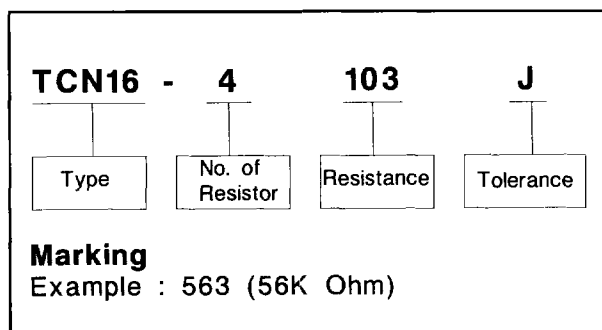
## Characteristics

| Item                  | TCN16                                       | TCN20 | TCN32 |
|-----------------------|---|-------|-------|
| Power Rating          | 1/16W                                       | 1/10W | 1/8W  |
| Max Working Voltage   | 50V   | 100V  | 200V  |
| Resistance Tolerance  | $\pm 1\%$ (F), $\pm 2\%$ (G), $\pm 5\%$ (J) |       |       |
| Resistance Range      | E-24 series(10 ohm~1M ohm)                  |       |       |
| T. C. R.              | $\pm 200\text{ppm}/^\circ\text{C}$          |       |       |
| Number of Resistors   | 2, 4, 8                                     |       |       |
| Operating Temp. Range | $-55^\circ\text{C} \sim 125^\circ\text{C}$  |       |       |
| Rating Temperature    | $+70^\circ\text{C}$                         |       |       |

## Specifications

| Requirements         | Characteristics | Test Method  |
|----------------------|-----------------|--|
| Short time Over-load | $\pm 1\%$       | Rated Voltage X 2.5, 5 seconds   |
| Soldering Heat       | $\pm 1\%$       | $260 \pm 5^\circ\text{C}$ , $10 \pm 1$ seconds   |
| Temperature Cycling  | $\pm 1\%$       | $125^\circ\text{C}$ (30min) $\rightarrow$ normal(15min),<br>$\rightarrow -30^\circ\text{C}$ (30min) $\rightarrow$ normal(15min), 5cycles |
| Moisture Load-Life   | $\pm 2\%$       | Rated Voltage, $40 \pm 2^\circ\text{C}$ , 90~95% RH, $1000 \begin{smallmatrix} +48 \\ -0 \end{smallmatrix}$ Hrs.                         |
| Load-Life            | $\pm 2\%$       | Rated Voltage, $70 \pm 3^\circ\text{C}$ , $1000 \begin{smallmatrix} +48 \\ -0 \end{smallmatrix}$ Hrs.                                    |

## Ordering Code And Marking



## Packing

(Unit:pcs)

|           | Resistor Type | 2R          | 4R   | 8R                      |
|-----------|---------------|-------------|--|-------------------------|
|           |               | Tape & Reel | TCN16<br>5,000<br>TCN20<br>5,000<br>TCN32<br>2,000 | 5,000<br>4,000<br>2,000 |
| Bulk Pack | All Types     | 1,000       | 1,000  | 1,000                   |