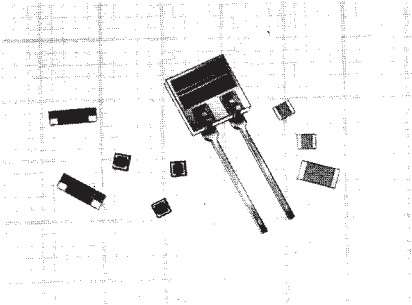



**TFS**

$\begin{matrix} \text{S} \\ \text{C} \\ \text{W} \end{matrix}$

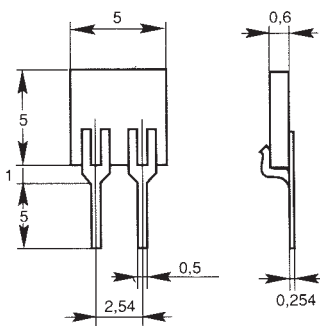
# thin film temperature sensors



Vacuum deposited nickel films are used to produce temperature sensors with the following characteristics:

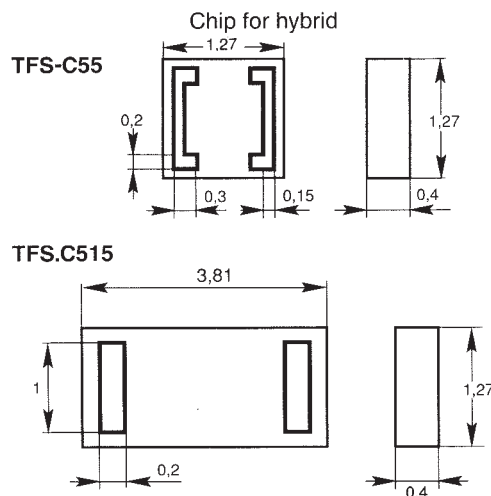
- CONFORM TO THE DIN 43760 SPECS.  
TCR =  $6180 \pm 181$  ppm/°C in the range 0, 100°C
- WIDE OHMIC VALUE RANGE: 25 Ω to 2500 Ω
- WIDE RANGE OF PACKAGING:  
bare chips, W/A, SIL, etc.
- HIGH PRECISION AND STABILITY (down to 0,2%)
- FULLY PASSIVATED WITH SILICON NITRIDE
- SMALL SIZE AND SHORT RESPONSE TIME

**TFS.S**  
Single in line

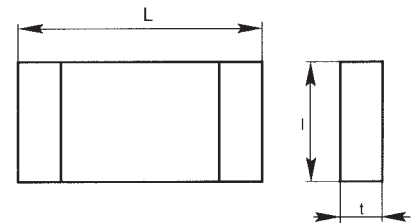


Dimensions in mm.

## STANDARD FEATURES



**TFS.W**  
Chip for SMD



| Size | L   | l    | t   |
|------|-----|------|-----|
| 0705 | 1,9 | 1,25 | 0,5 |
| 1206 | 3,2 | 1,6  | 0,7 |

## SPECIFICATIONS

### MECHANICAL

- SUBSTRATE... 99,6% alumina  
 RESISTIVE ELEMENT... nickel, around 1,5μm thick  
 PASSIVATION... silicon nitride (deposited after trimming to get perfect sealing)  
 PACKAGING... bare chips for wire bonding, W/A for solder reflow or glue attachment  
 single in line, specific packages

### ELECTRICAL

Conformity with DIN 43760 specifications is guarantee in the range -60°C, +180°C

$$R_t/R_0 = 1 + 5,485 \cdot 10^{-3}T + 6,65 \cdot 10^{-6}T^2 + 2,805 \cdot 10^{-11}T^4 + \dots$$

Average T.C.R.:

6180 ± 181 ppm/°C in the range 0, +100°C

Ohmic value range:

TFS.S: 25 Ω, 50 Ω, 100 Ω, 500 Ω, 1000 Ω, 2500 Ω  
 other values on request.

TFS.C55 from 25 Ω to 200 Ω

TFS.C515 from 25 Ω to 500 Ω

TFS.W from 25 Ω to 250 Ω

Absolute tolerance: ± 2%, ± 1%, ± 0,5%, ± 0,2%

Tolerance on temperature: to 0,33°C

Stability (1000 h at +150°C)

$$\frac{\Delta R}{R} < 0,2\%, \quad \frac{\Delta TCR}{TCR} < 0,2\%$$

Self heating, dissipation constant (DC), time constant (TC) will depend on assembly.

Please consult SFERNICE for your specific application.



VISHAY S.A.  
 International Department  
 199, Boulevard de la Madeleine  
 B.P. 1159  
 F 06003 NICE CEDEX 1  
 Tel.: (33) 04 93 37 27 27  
 Fax.: (33) 04 93 37 27 26