



# FlipChip Series

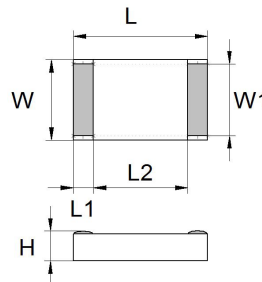
## FC platinum sensor

For automated assembly on PCB by soldering or bonding

### Benefits & Characteristics

- Excellent long-term stability
- Minimum space consumption on PCB
- Fast response time
- Low thermal mass
- Optimal price-performance ratio
- Bondable versions available
- Customer-specific sensor available upon request

### Illustration<sup>1)</sup>



1) For actual size, see dimensions

### Technical Data

Operating temperature range:	1FC	-50 °C to +150 °C
	3FC	-50 °C to +250 °C
	5FC	-50 °C to +400 °C
	6FC	-50 °C to +600 °C
Nominal resistance:*	100 Ω at 0 °C	
	500 Ω at 0 °C	
	1000 Ω at 0 °C	
Characteristics curve: *	3850 ppm/K	
Long-term stability:	< 0.04 % at 1000 h at +130 °C	
Tolerance class (dependent on temperature range):*	IST AG reference	
	IEC 60751 F0.3	B
	IEC 60751 F0.6	C
Connection:*	1FC	tin-coated, LMP lead-free, 96.5Sn/3Ag/0.5Cu) (reflow soldering)
	3FC	Au-Pads (solderable and bondable pads), various types available
	5FC	reinforced thin-film Pt-pads (solderable pads)
	6FC	thick-film Pt-pads (weldable)



Solderability: <sup>1)</sup>	235 °C ≤ 8 s (DIN IEC 68 T2-20, Ta Meth. 1) - 1FC, 3FC, 5FC
<i>1) The soldering process can influence accuracy</i>	
Resistance to soldering heat:	260 °C 10 s (DIN IEC 68 T2-20, Ta Meth. 1A) - 1FC, 3FC, 5FC
Recommended applied current: <sup>2)</sup>	1 mA at 100 Ω
<i>2) Self-heating must be considered</i>	
	0.5 mA at 500 Ω
	0.3 mA at 1000 Ω
Other alternatives:*	Metallized backside Substrate thickness
Packaging:	< 100 pcs in trays > 100 pcs taped on reel Diced on tape upon request (only complete substrates)

\* Customer-specific alternatives available

## Order Information - 1FC (Contacts tin-coated (96.5Sn/3Ag/0.5Cu), LMP lead-free)

Size                      Dimensions (L / L1 / L2 x W / W1 x H in mm)                      F0.3 (class B)

### Packed in trays (< 100 pcs)

Nominal resistance: 100 Ω at 0 °C

0603 (±0.2)	1.5 / 0.25 / 0.9 x 0.75 / 0.7 x 0.45 (±0.15)	POK1.0603.1FC.B
Order code		310.00655
0805 (±0.2)	1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.45 (±0.15)	POK1.0805.1FC.B
Order code		010.02586

Nominal resistance: 500 Ω at 0 °C

0805 (±0.2)	1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.45 (±0.15)	POK5.0805.1FC.B
Order code		010.02705

Nominal resistance: 1000 Ω at 0 °C

0603 (±0.2)	1.5 / 0.25 / 0.9 x 0.75 / 0.7 x 0.45 (±0.15)	P1K0.0603.1FC.B
Order code		310.00656
0805 (±0.2)	1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.45 (±0.15)	P1K0.0805.1FC.B
Order code		010.02557

### Taped on reel (> 100 pcs )

Nominal resistance: 500 Ω at 0 °C

0805 (±0.2)	1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.45 (±0.15)	POK5.0805.1FC.B.S
Order code	Sensor side down	010.02706

Nominal resistance: 1000 Ω at 0 °C

0805 (±0.2)	1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.45 (±0.15)	P1K0.0805.1FC.B.S
Order code	Sensor side down	010.02558



## Order Information - 3FC (Au-Pads (solderable and bondable pads), various types available)

Size                      Dimensions (L / L1 / L2 x W / W1 x H in mm)                      F0.3 (class B)

### Packed in trays (< 100 pcs)

Nominal resistance: 100  $\Omega$  at 0 °C

0805 ( $\pm 0.2$ )	1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.4 ( $\pm 0.15$ )	POK1.0805.3FC.B
Order code		310.00536
1206 ( $\pm 0.2$ )	2.9 / 0.35 / 2.1 x 1.4 / 1.3 x 0.4 ( $\pm 0.15$ )	POK1.1206.3FC.B
Order code		310.00818

Nominal resistance: 1000  $\Omega$  at 0 °C

0603 ( $\pm 0.2$ )	1.5 / 0.25 / 0.9 x 0.75 / 0.7 x 0.4 ( $\pm 0.15$ )	P1K0.0603.3FC.B.S
Order code		310.00653
0805 ( $\pm 0.2$ )	1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.4 ( $\pm 0.15$ )	P1K0.0805.3FC.B
Order code		010.02749
161 ( $\pm 0.2$ )	1.6 x 1.2 x 0.25 ( $\pm 0.15$ )	P1K0.161.3FC.B
Order code		010.01863

### Taped on reel (sensor side down)

Nominal resistance: 100  $\Omega$  at 0 °C

0805 ( $\pm 0.2$ )	1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.4 ( $\pm 0.15$ )	POK1.0805.3FC.B.S
Order code		010.02873

Nominal resistance: 1000  $\Omega$  at 0 °C

0805 ( $\pm 0.2$ )	1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.4 ( $\pm 0.15$ )	P1K0.0805.3FC.B.S
Order code		010.03644

## Order Information - 5FC (reinforced thin-film Pt-pads (solderable pads))

Available upon request

## Order Information - 6FC (thick-film Pt-pads (weldable))

Size                      Dimensions (L / L1 / L2 x W / W1 x H in mm)                      F0.3 (class B)

Nominal resistance: 1000  $\Omega$  at 0 °C

0805 ( $\pm 0.2$ )	2.0 / 0.525 / 0.8 x 1.2 / 0.95 x 0.45 ( $\pm 0.15$ )	P1K0.0805.6FC.B.S
		310.01443
161 ( $\pm 0.2$ )	1.6 x 1.2 x 0.25 ( $\pm 0.15$ )	P1K0.161.6FC.B
Order code		010.00626



## Additional Documents

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Application Note:

Document name:

ATP\_E



# Order Information

## FC platinum sensor

### Secondary reference

Material	P = Platinum					
TCR	Pt 3850 ppm/K					
Resistance in Ω at 0 °C						
Size in mm						
Operating temperature range	<table border="0"> <tr> <td>1 = -50 °C to +150 °C</td> <td>5 = -50 °C to +400 °C</td> </tr> <tr> <td>3 = -50 °C to +250 °C</td> <td>6 = -50 °C to +600 °C</td> </tr> </table>		1 = -50 °C to +150 °C	5 = -50 °C to +400 °C	3 = -50 °C to +250 °C	6 = -50 °C to +600 °C
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Connection	<table border="0"> <tr> <td>(1)FC = tin-coated, LMP lead-free, 6.5Sn/3Ag/0.5Cu</td> </tr> <tr> <td>(3)FC = Au-Pads (bonding pads), various types available</td> </tr> <tr> <td>(5)FC = reinforced thin-film Pt-pads</td> </tr> <tr> <td>(6)FC = thick-film Pt-pads</td> </tr> </table>		(1)FC = tin-coated, LMP lead-free, 6.5Sn/3Ag/0.5Cu	(3)FC = Au-Pads (bonding pads), various types available	(5)FC = reinforced thin-film Pt-pads	(6)FC = thick-film Pt-pads
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Tolerance class	<table border="0"> <tr> <td>B = IEC 60751 F0.3</td> <td>K = customer-specific</td> </tr> <tr> <td>C = IEC 60751 F0.6</td> <td></td> </tr> </table>		B = IEC 60751 F0.3	K = customer-specific	C = IEC 60751 F0.6	
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Special	<table border="0"> <tr> <td>S = special</td> <td>M = metallized backside</td> </tr> </table>		S = special	M = metallized backside		
S = special	M = metallized backside					
P	OK1. 0805. 3	FC. B. S				



Innovative Sensor Technology IST AG, Stegrütistrasse 14, 9642 Ebnat-Kappel, Switzerland  
Phone: +41 71 992 01 00 | Fax: +41 71 992 01 99 | Email: info@ist-ag.com | www.ist-ag.com

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