



# 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 ratioBondable 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	1000 Ω at 0 °C						
Characteristics curve:*	3850 ppm/K							
Long-term stability:	< 0.04 % at 1000 h a	t +130 °C						
Tolerance class (dependent on temperature range):*		IST AG reference						
	IEC 60751 F0.3	В						
	IEC 60751 F0.6	С						
Connection:*	1FC	tin-coated, LMP lead-free, 96.5Sn/3Ag/0.5Cu) (reflow soldering)						
	3FC	Au-Pads (solderable and bondable pads), various types available						

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	5FC	reinforced thin-film Pt-pads (solderable pads)
	6FC	thick-film Pt-pads (weldable)
Solderability: 1) 1) The soldering process can influence accuracy	235 °C $\leq$ 8 s (DIN IEC	68 T2-20, Ta Meth. 1) - 1FC, 3FC, 5FC
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	
2) Self-heating must be considered	0.5 mA at 500 $\Omega$	
	0.3 mA at 1000 Ω	
Other alternatives:*	Metallized backside	
	Substrate thickness	
Packaging:	< 100 pcs in trays	
	> 100 pcs taped on re	eel
	Diced on tape upon re	equest (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) Order Code Former Order code	1.5 / 0.25 / 0.9 x 0.75 / 0.7 x 0.45 (±0.15) POK1.0603.1FC.B   104110 310.00655											
0805 (±0.2) 1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.45 (±0.15) P0K1.0805.1FC.B   0rder Code 101146   Former Order code 010.02586												
Nominal resistance	e: 500 Ω at 0 °C											
0805 (±0.2) Order Code Former Order code	1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.45 (±0.15) e	POK5.0805.1FC.B 101221 <i>010.02705</i>										
Nominal resistance	e <sup>,</sup> 1000 O at 0 °C											
0603 (±0.2) Order Code Former Order cod	1.5 / 0.25 / 0.9 x 0.75 / 0.7 x 0.45 (±0.15)	P1K0.0603.1FC.B 104111 <i>310.00656</i>										
0805 (±0.2) Order Code <i>Former Order cod</i>	1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.45 (±0.15) e	P1K0.0805.1FC.B 101130 <i>010.02557</i>										

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Size	Dimensions (L / L1 / L2 x W / W1 x H in mm)	F0.3 (class B)			
Taped on reel	(> 100 pcs )				
Nominal resista	ance: 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		101222			
Former Order o	code	010.02706			
Nominal resista	ance: 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		101131			
Former Order o	ode	010 02558			

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

### Packed in trays (< 100 pcs)

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

0805 (±0.2)	1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.4 (±0.15)	POK1.0805.3FC.B
Order Code		Upon request
Former Order code	<u>j</u>	310.00536
1206 (±0.2)	2.9 / 0.35 / 2.1 x 1.4 / 1.3 x 0.4 (±0.15)	POK1.1206.3FC.B
Order Code		104143
Former Order code	<u>j</u>	310.00818

## Nominal resistance: 1000 $\Omega$ at 0 $^{\circ}\text{C}$

0603 (±0.2)	1.5 / 0.25 / 0.9 x 0.75 / 0.7 x 0.4 (±0.15)	P1K0.0603.3FC.B.S
Order Code		104109
Former Order coc	le	310.00653
0805 (±0.2)	1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.4 (±0.15)	P1K0.0805.3FC.B
Order Code		101246
Former Order cod	le	010.02749
161 (±0.2)	1.6 x 1.2 x 0.25 (±0.15)	P1K0.161.3FC.B
Order Code		100796
Former Order cod	le	010.01863

## Taped on reel (> 100 pcs )

#### Nominal resistance: 100 $\Omega$ at 0 $^{\circ}\text{C}$

0805 (±0.2)	1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.4 (±0.15)	POK1.0805.3FC.B.S
Order Code	Sensor side down	101330
Former Order cod	010.02873	



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Dimensions (L / L1 / L2 x W / W1 x H in mm)	F0.3 (class B)
nce: 1000 Ω at 0 °C	
1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.4 (±0.15)	P1K0.0805.3FC.B.S
Sensor side down	101976
ode	010.03644
1.5 x 0.75 x 0.4 (±0.15)	P1K0.0603.3FC.B.S
Sensor side up	104521
ode	310.01798
	Dimensions (L / L1 / L2 x W / W1 x H in mm) <b>nce:</b> 1000 $\Omega$ at 0 °C 1.9 / 0.25 / 1.4 x 1.15 / 1.1 x 0.4 (±0.15) Sensor side down ode 1.5 x 0.75 x 0.4 (±0.15) Sensor side up Tode

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

Available upon request

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

#### Nominal resistance: 1000 $\Omega$ at 0 $^{\circ}\text{C}$

0805 (±0.2)	2.0 / 0.525 / 0.8 x 1.2 / 0.95 x 0.45 (±0.15)	P1K0.0805.6FC.B.S
Order Code	Upon request	
Former Order coa	e	310.01443
161 (±0.2)	1.6 x 1.2 x 0.25 (±0.15)	P1K0.161.6FC.B
Order Code		Upon request
Former Order coa	e	010.00626

## Additional Documents

Application Note:

Document name: ATP\_E



# Order Information FC platinum sensor Secondary reference

Mater	ial																		
P =	P	atinum	۱																
	i _																		
	T	CR																	
	P	t 3850	ppm	/K															
		Resist	tance	in 9	Ω at	0 °C													
			Size	in r	nm														
				Ор	erati	ng tem	per	ature i	ange										
				1	=	-50 °C 1	to -	⊦150 °0	_			5	=	-50 °C	2 to +4	400 °C			
				3	-	-50 °C 1	to -	⊦250 °(	2			6	=	-50 °C	C to +1	600 °C			
						Conne	ecti	on											
						(1)FC	=	tin-	coated	, LN	√P lead-	free,	6.53	5n/3Ag	/0.5Ci	u)			
						(3)FC	=	Au-	Pads (k	oon	iding pa	ds), v	/ario	us type	s avail	lable			
						(5)FC	=	reir	forced	thi	n-film P	t-pac	ds						
						(6)FC	=	thic	k-film	Pt-	pads								
								Tolera	nce cla	SS									
								В	=	IE	C 6075	1 FO.	3	Κ	=	custom	ier-sp	pecific	
								С	=	IE	C 6075	1 FO.	6						
											Special								
											S =	spe	ecial	Μ	=	metall	ized	backsic	de
)	0	<1.080	05.3	B	F	С.	Β.			S									



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