



KP466 vs KP466P

Christian Hartl (PSS SC MEMS TM)



XENSIV™ KP466 tailored for Seat Comfort Applications



Key description	Icon / Symbol	KP466	KP466P
Pressure Range		60...165 kPa	60...165 kPa
Accuracy		±1.0 kPa in mid range temp.	±1.0 kPa
Self diagnostic			
Small form factor		8 pin DFN package (4.5 x 5.1 x 1.75 mm)	8 pin DFN package (4.5 x 5.1 x 1.75 mm)
Power consumption		5 mA	5 mA
Power down mode		10 µA	10 µA
Daisy chain communication			
Qualification		AEC-Q103	AEC-Q103
Automated Inspection			

› Pressure range for seat comfort and battery pressure monitoring applications

› **KP466P** with higher accuracy at low and high temperatures + faster start up time without diagnosis

› **KP466P** with faster start up time without self diagnostic

› Smallest digital BAP [Barometric Air Pressure] by Infineon

› Optimal in class power consumption in normal mode & power down mode

› Daisy chain communication possible for high number of sensors / Supports daisy chain communication to allow a reduced number of terminals (IO's) on the microcontroller

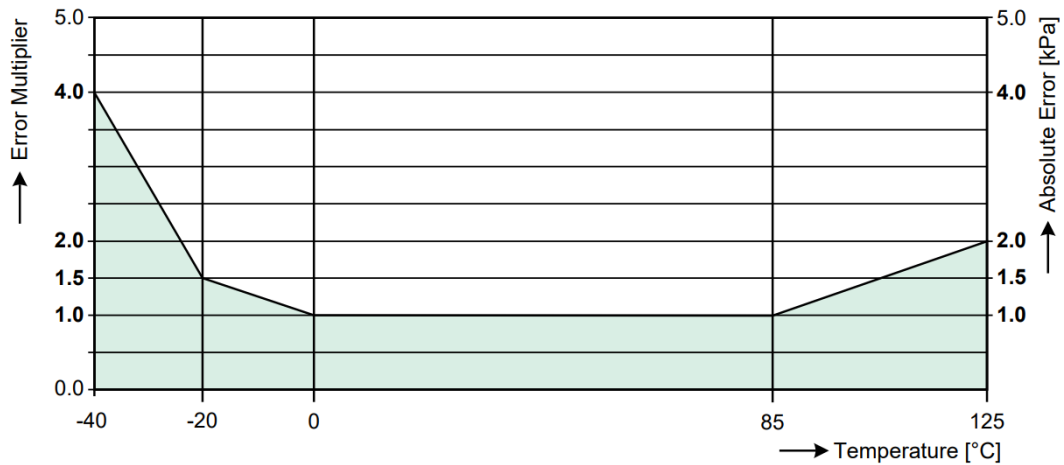
› Automotive qualified

› Improved lead tip inspection for automated inspection

Accuracy comparison

– KP466

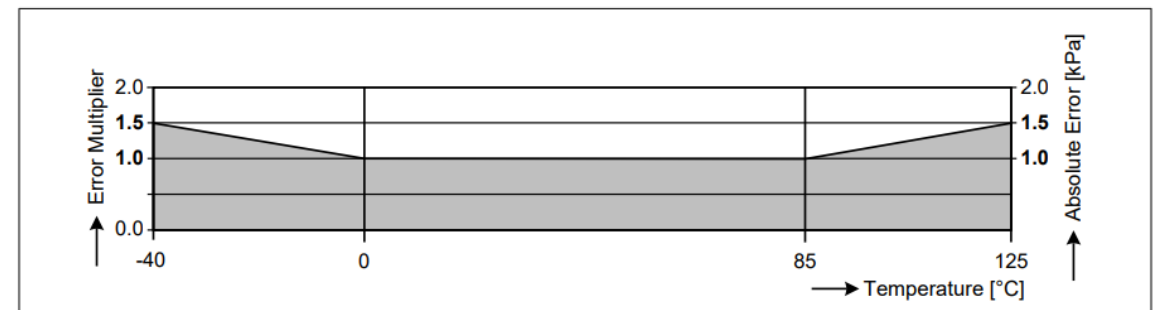
Parameter	Symbol	Values			Unit	Note or condition
		Min.	Typ.	Max.		
Ambient operating pressure range	p_{amb}	60	–	165	kPa	
Accuracy pressure central temperature range	acc_{p_Tmid}	-1.0	–	1.0	kPa	$T_a = 0^\circ\text{C}$ to 85°C ; additional drift from specifications for 24 hours after reflow soldering.
Accuracy pressure low temperature range	acc_{p_Tlow}	-1.5	–	1.5	kPa	$T_a = -20^\circ\text{C}$; additional drift from specifications for 24 hours after reflow soldering.
Accuracy pressure low 2 temperature range	acc_{p_Tlow2}	-4.0	–	4.0	kPa	$T_a = -40^\circ\text{C}$; additional drift from specifications for 24 hours after reflow soldering.
Accuracy pressure high temperature range	acc_{p_Thigh}	-2.0	–	2.0	kPa	$T_a = 125^\circ\text{C}$; additional drift from specifications for 24 hours after reflow soldering.



Accuracy for pressure acquisition

– KP466P

Parameter	Symbol	Values			Unit	Note or condition
		Min.	Typ.	Max.		
Ambient operating pressure range	p_{amb}	60	–	165	kPa	
Accuracy pressure central temperature range	acc_{p_Tmid}	-1.0	–	1.0	kPa	$T_a = 0^\circ\text{C}$ to 85°C ; additional drift from specifications for 24 hours after reflow soldering.
Accuracy pressure low temperature range	acc_{p_Tlow}	-1.25	–	1.25	kPa	$T_a = -20^\circ\text{C}$; additional drift from specifications for 24 hours after reflow soldering.
Accuracy pressure low 2 temperature range	acc_{p_Tlow2}	-1.5	–	1.5	kPa	$T_a = -40^\circ\text{C}$; additional drift from specifications for 24 hours after reflow soldering.
Accuracy pressure high temperature range	acc_{p_Thigh}	-1.5	–	1.5	kPa	$T_a = 125^\circ\text{C}$; additional drift from specifications for 24 hours after reflow soldering.



Accuracy for pressure acquisition

Start-up time comparison

– KP466

Start-up time (with self diagnosis)	$t_{\text{start-up_wd}}$	–	–	10	ms	No SPI communication possible After $t_{\text{start-up_wd}}$ within full specification Configuration Parameter $\text{power_up_diag_en} = 1$
Start-up time (without self diagnosis)	$t_{\text{start-up_wod}}$	–	–	5	ms	No SPI communication possible After $t_{\text{start-up_wod}}$ within full specification Configuration Parameter $\text{power_up_diag_en} = 0$
Power down wake-up time (with self diagnosis)	$t_{\text{PD_start-up_wd}}$	–	–	10	ms	Configuration Parameter $\text{wup_diag_en} = 1$
Power down wake-up time (without self diagnosis)	$t_{\text{PD_start-up_wod}}$	–	–	5	ms	Configuration Parameter $\text{wup_diag_en} = 0$

– KP466P

Start-up time (with self diagnosis)	$t_{\text{start-up_wd}}$	–	–	10	ms	No SPI communication possible After $t_{\text{start-up_wd}}$ within full specification Configuration Parameter $\text{power_up_diag_en} = 1$
Start-up time (without self diagnosis)	$t_{\text{start-up_wod}}$	–	–	3	ms	No SPI communication possible After $t_{\text{start-up_wod}}$ within full specification Configuration Parameter $\text{power_up_diag_en} = 0$
Power down wake-up time (with self diagnosis)	$t_{\text{PD_wake-up_wd}}$	–	–	10	ms	Configuration Parameter $\text{wup_diag_en} = 1$
Power down wake-up time (without self diagnosis)	$t_{\text{PD_wake-up_wod}}$	–	–	3	ms	Configuration Parameter $\text{wup_diag_en} = 0$

- KP466P provides faster start-up time without self diagnosis

