



**Receiver, continued**

IC	Freq. band [MHz]	neg. Resistance [Ω]	x-tal freq. fs' [MHz]	Holder	Adjustment tolerance [ppm]	Freq. stability -40/+85°C [ppm]	Overall-Tolerance incl. aging 10 years [ppm]	Tolerance +-15%		typ. ESR [Ω]	Rs (crystal) [Ω]	Suggested Std-neg. Resistance [Ω]	Minimum Negative Resistance [Ω]	CL [pF]
								C1 [fF]	C0 [pF]					
TDA5212	915	550+/-20% <sup>*2</sup>	14,1296875	AT-51	+/-20	+/-40	+/-70	9,1	2,5	13,7	<50	500	450	12
			14,4640625	NX6035SA	+/-10	+/-20	+/-35	6,4	1,6	17	<50	500	450	12
			14,1296875	NX5032SA	+/-10	+/-20	+/-35	5,7	1,4	-	<80	650	500	12
TDA5220	434,2	600+/-20% <sup>*2</sup>	13,234375	AT-51	+/-20	+/-40	+/-70	8,8	2,4	14	<50	500	450	12
			13,234375	NX6035SA	+/-10	+/-20	+/-35	5,7	1,5	13	<50	500	450	12
	433,92	600+/-20% <sup>*2</sup>	13,234375	NX5032SA	+/-10	+/-20	+/-35	3,95	1,35	-	<80	650	500	12
			13,225625	NX5032SA	+/-10	+/-20	+/-35	4,85	1,3	-	<80	650	500	12
TDA5220	868	600+/-20% <sup>*2</sup>	13,225625	NX5032SA	+/-10	+/-20	+/-35	4,2	1,2	-	<81	650	500	12
			13,4015625	AT-51	+/-20	+/-40	+/-70	8,7	2,5	19,9	<50	500	450	12
			13,4015625	NX6035SA	+/-10	+/-20	+/-35	5,8	1,5	12	<50	500	450	12
TDA5221	315	700+/-20% <sup>*2</sup>	10,178125	AT-51	+/-20	+/-40	+/-70	12,3	3	14,1	<80	700	600	12
			10,178125	NX6035SA	+/-10	+/-20	+/-35	3,9	1,2	35	<80	700	600	12
			13,234375	AT-51	+/-20	+/-40	+/-70	8,8	2,4	14	<50	500	450	12
TDA7200 <sup>*3</sup>	434,2	600+/-20% <sup>*2</sup>	13,234375	NX5032SA	+/-10	+/-20	+/-35	3,95	1,35	-	<80	650	500	12
			13,225625	NX5032SA	+/-10	+/-20	+/-35	4,85	1,3	-	<80	650	500	12
	433,92	600+/-20% <sup>*2</sup>	13,225625	NX5032SA	+/-10	+/-20	+/-35	4,2	1,2	-	<81	650	500	12
			13,225625	NX5032SA	+/-10	+/-20	+/-35	4,2	1,2	-	<80	650	500	12
TDA7210	434,2	600+/-20% <sup>*2</sup>	13,234375	AT-51	+/-20	+/-40	+/-70	8,8	2,4	14	<50	500	450	12
			13,234375	NX5032SA	+/-10	+/-20	+/-35	3,95	1,35	-	<80	650	500	12
	433,92	600+/-20% <sup>*2</sup>	13,225625	NX5032SA	+/-10	+/-20	+/-35	4,85	1,3	-	<80	650	500	12
			13,225625	NX5032SA	+/-10	+/-20	+/-35	4,2	1,2	-	<80	650	500	12
TDA7210	868,4	600+/-20% <sup>*2</sup>	13,4015625	AT-51	+/-20	+/-40	+/-70	8,7	2,5	19,9	<50	500	450	12
			13,4015625	NX5032SA	+/-10	+/-20	+/-35	3,76	1,38	-	<60	500	400	12
TDA7210V	434,2	600+/-20% <sup>*2</sup>	13,234375	AT-51	+/-20	+/-40	+/-70	8,8	2,4	14	<50	500	450	12
			13,234375	NX5032SA	+/-10	+/-20	+/-35	3,95	1,35	-	<80	650	500	12
	433,92	600+/-20% <sup>*2</sup>	13,225625	NX5032SA	+/-10	+/-20	+/-35	4,85	1,3	-	<80	650	500	12
			13,225625	NX5032SA	+/-10	+/-20	+/-35	4,2	1,2	-	<80	650	500	12
TDA7210V	868,4	600+/-20% <sup>*2</sup>	13,4015625	AT-51	+/-20	+/-40	+/-70	8,7	2,5	19,9	<50	500	450	12
			13,4015625	NX5032SA	+/-10	+/-20	+/-35	3,76	1,38	-	<60	500	400	12
TDA5230	433,92	very high depends on the cap. load	13,225625	NX5032SA	+/-10	+/-20	+/-35	4,85	1,3	-	<80	650	500	12
			13,4	NX5032SA	+/-10	+/-20	+/-35	3,72	1,33	-	<80	650	500	12
			13,6570312	NX5032SA	+/-10	+/-20	+/-35	4,3	1,25	-	<80	650	500	12
TDA5231	315	very high depends on the cap. load	15,2671875	NX5032SA	+/-10	+/-20	+/-35	5	1,3	-	<80	300	270	12
TDA5240 TDA5235 TDA5225	315 434 868 915 band	very high depends on the capacitive load	21,948717	NX5032SA	+/-10	+/-20	+/-35	7,09	1,72	-	<60	300	270	12

**Transceiver**

IC	Freq. band [MHz]	neg. Resistance [Ω]	x-tal freq. fs' [MHz]	Holder	Adjustment tolerance [ppm]	Freq. stability -40/+85°C [ppm]	Overall-Tolerance incl. aging 10 years [ppm]	Tolerance +-15%		typ. ESR [Ω]	Rs (crystal) [Ω]	Suggested Std-neg. Resistance [Ω]	Minimum Negative Resistance [Ω]	CL [pF]
								C1 [fF]	C0 [pF]					
TDA5250	868,3	550 <sup>*1</sup>	18,089583	AT-51	+/-10	+/-40	+/-60	11,4	3,1	11,2	<50	500	450	20
			18,089583	NX6035SA	+/-10	+/-20	+/-35	7,2	1,7	18	<30	300	270	12
			18,089583	NX5032SA	+/-10	+/-20	+/-35	5,5	1,4	-	<30	300	270	20
			18,089583	NX5032SA	+/-10	+/-20	+/-35	6,5	1,55	-	<30	300	270	20
TDA5251	315	650 <sup>*1</sup>	13,125	NX6035SA	+/-10	+/-20	+/-35	5,7	1,5	13	<50	500	450	20
			13,125	NX5032SA	+/-10	+/-20	+/-35	4,32	1,3	-	<80	650	500	20
TDA5252	915	500 <sup>*1</sup>	19,0625	AT-51	+/-10	+/-40	+/-60	11,6	3,2	11	<60	500	450	20
			19,0625	NX5032SA	+/-10	+/-20	+/-35	6,97	1,64	-	<60	300	270	20
TDA5255	434,15	550 <sup>*1</sup>	18,089583	AT-51	+/-10	+/-40	+/-60	11,4	3,1	11,2	<50	500	450	20
			18,089583	NX6035SA	+/-10	+/-20	+/-35	7,2	1,7	18	<30	300	270	20
			18,089583	NX5032SA	+/-10	+/-20	+/-35	5,5	1,4	-	<30	300	270	20
			18,089583	NX5032SA	+/-10	+/-20	+/-35	6,5	1,55	-	<30	300	270	20
TDA7255V	434,15	550 <sup>*1</sup>	18,089583	AT-51	+/-10	+/-40	+/-60	11,4	3,1	11,2	<50	500	450	20
			18,089583	NX6035SA	+/-10	+/-20	+/-35	7,2	1,7	18	<30	300	270	20
			18,089583	NX5032SA	+/-10	+/-20	+/-35	5,5	1,4	-	<30	300	270	20
			18,089583	NX5032SA	+/-10	+/-20	+/-35	6,5	1,55	-	<30	300	270	20

**Important Notice**

Please note, that  
 1.) the start-up time reached with the crystals given above might be different to the start-up time indicated in the data sheets.  
 2.) the crystals with the NX6035 package are no longer available for automotive products.

\*1: Measured  
 \*2: Specified  
 \*3: IC temperature range from -20°C to +70°C only

Transmitter														
IC	Freq. band [MHz]	neg. Resistance [Ω]	x-tal freq. fs' [MHz]	Holder	Adjustment tolerance [ppm]	Freq. stability -40/+125°C [ppm]	Overall-Tolerance incl. aging 10 years [ppm]	Tolerance +-15%		typ. ESR [Ω]	Rs (crystal) [Ω]	Suggested Std-neg. Resistance [Ω]	Minimum Negative Resistance [Ω]	CL [pF]
								C1 [fF]	C0 [pF]					
TDA5100	434,2	500 <sup>-1</sup>	13,56875	AT-51	+/-20	+/-70	+/-100	12,1	2,9	10,5	<50	500	450	12
			13,56875	NX6035SD	+/-15	+/-60	+/-80	5,8	1,5	12,7	<50	500	450	12
			13,56875	NX5032SD	+/-15	+/-60	+/-80	4,87	1,35	-	<80	500	400	12
	433,92	500 <sup>-1</sup>	13,56	NX5032SD	+/-15	+/-60	+/-80	3,4	1,3	-	<80	500	400	12
TDA5100	868,4	500 <sup>-1</sup>	13,56875	AT-51	+/-20	+/-70	+/-100	12,1	2,9	10,5	<50	500	450	12
			13,56875	NX6035SD	+/-15	+/-60	+/-80	5,8	1,5	12,7	<50	500	450	12
			13,56875	NX5032SD	+/-15	+/-60	+/-80	4,87	1,35	-	<80	500	400	12
TDA5101	315	915 <sup>-1</sup>	9,84375	AT-51	+/-20	+/-70	+/-100	12,8	3,1	10,3	<80	700	630	12
			9,84375	NX6035SD	+/-15	+/-60	+/-75	3,9	1,2	35	<80	700	600	12
			9,84375	NX8045GB	+/-30	+/-60	+/-100	4,06	1,25	25	<80	1000	900	12
TDA5102	915	500 <sup>-1</sup>	14,296875	AT-51	+/-20	+/-70	+/-100	9,7	2,5	13,7	<50	500	450	12
			14,296875	NX6035SD	+/-15	+/-60	+/-80	6,4	1,6	17	<50	500	450	12
			14,296875	NX5032SD	+/-15	+/-60	+/-80	5,6	1,4	18	<80	650	500	12
TDK5100(F)	434,2	500 <sup>-1</sup>	13,56875	AT-51	+/-20	+/-70	+/-100	12,1	2,9	10,5	<50	500	450	12
			13,56875	NX6035SD	+/-15	+/-60	+/-80	5,8	1,5	12,7	<50	500	450	12
			13,56875	NX5032SD	+/-15	+/-60	+/-80	4,87	1,35	-	<80	500	400	12
	433,92	500 <sup>-1</sup>	13,56	NX5032SD	+/-15	+/-60	+/-80	3,4	1,3	-	<80	500	400	12
TDK5100	868,4	500 <sup>-1</sup>	13,56875	AT-51	+/-20	+/-70	+/-100	12,1	2,9	10,5	<50	500	450	12
			13,56875	NX6035SD	+/-15	+/-60	+/-80	5,8	1,5	12,7	<50	500	450	12
			13,56875	NX5032SD	+/-15	+/-60	+/-80	4,87	1,35	-	<80	500	400	12
TDK5101(F)	315	725 <sup>-1</sup>	9,84375	AT-51	+/-20	+/-70	+/-100	12,8	3,1	10,3	<80	700	630	12
			9,84375	NX6035SD	+/-15	+/-60	+/-75	3,9	1,2	35	<80	700	600	12
TDK5110(F)	434,2	500 <sup>-1</sup>	13,56875	AT-51	+/-20	+/-70	+/-100	12,1	2,9	10,5	<50	500	450	12
			13,56875	NX6035SD	+/-15	+/-60	+/-80	5,8	1,5	12,7	<50	500	450	12
			13,56875	NX5032SD	+/-15	+/-60	+/-80	4,87	1,35	-	<80	500	400	12
	433,92	500 <sup>-1</sup>	13,56	NX5032SD	+/-15	+/-60	+/-80	3,4	1,3	-	<80	500	400	12
TDK5110	868,4	500 <sup>-1</sup>	13,56875	AT-51	+/-20	+/-70	+/-100	12,1	2,9	10,5	<50	500	450	12
			13,56875	NX6035SD	+/-15	+/-60	+/-80	5,8	1,5	12,7	<50	500	450	12
			13,56875	NX5032SD	+/-15	+/-60	+/-80	4,87	1,35	-	<80	500	400	12
TDK5111(F)	315	725 <sup>-1</sup>	9,84375	AT-51	+/-20	+/-70	+/-100	12,8	3,1	10,3	<80	700	630	12
			9,84375	NX6035SD	+/-15	+/-60	+/-75	3,9	1,2	35	<80	700	600	12
TDK5116F	434,2	500 <sup>-1</sup>	13,56875	AT-51	+/-20	+/-70	+/-100	12,1	2,9	10,5	<50	500	450	12
			13,56875	NX6035SD	+/-15	+/-60	+/-80	5,8	1,5	12,7	<50	500	450	12
			13,56875	NX5032SD	+/-15	+/-60	+/-80	4,87	1,35	-	<80	500	400	12

Receiver														
IC	Freq. band [MHz]	neg. Resistance [Ω]	x-tal freq. fs' [MHz]	Holder	Adjustment tolerance [ppm]	Freq. stability -40/+125°C [ppm]	Overall-Tolerance incl. aging 10 years [ppm]	Tolerance +-15%		typ. ESR [Ω]	Rs (crystal) [Ω]	Suggested Std-neg. Resistance [Ω]	Minimum Negative Resistance [Ω]	CL [pF]
								C1 [fF]	C0 [pF]					
TDA5200	868	450+/-20% <sup>-2</sup>	13,4015625	AT-51	+/-20	+/-70	+/-100	9,3	2,6	15,6	<50	500	450	12
			13,4015625	NX6035SD	+/-15	+/-60	+/-80	5,7	1,5	13	<50	500	450	12
TDA5201	315	600+/-20%	10,178125	AT-51	+/-20	+/-70	+/-100	12,7	2,9	12,8	<80	700	600	12
			10,178125	NX6035SD	+/-15	+/-60	+/-75	3,9	1,2	35	<80	700	600	12
TDA5210	434,2	600+/-20% <sup>-2</sup>	13,234375	AT-51	+/-20	+/-70	+/-100	9,3	2,6	15,6	<50	500	450	12
			13,234375	NX6035SD	+/-15	+/-60	+/-80	5,7	1,5	13	<50	500	450	12
			13,234375	NX5032SD	+/-15	+/-60	+/-80	3,95	1,35	-	<80	650	500	12
	433,92	600+/-20% <sup>-2</sup>	13,225625	NX5032SD	+/-15	+/-60	+/-80	4,85	1,3	-	<80	650	500	12
13,225625			NX5032SD	+/-15	+/-60	+/-80	4,2	1,2	-	<81	650	500	12	
TDA5210	868	600+/-20% <sup>-2</sup>	13,4015625	AT-51	+/-20	+/-70	+/-100	8,9	2,5	15,1	<50	500	450	12
			13,4015625	NX6035SD	+/-15	+/-60	+/-80	5,8	1,5	12	<50	500	450	12
			13,4015625	NX5032SD	+/-15	+/-60	+/-80	3,76	1,38	-	<80	650	500	12
TDA5211	315	700+/-20% <sup>-2</sup>	10,178125	AT-51	+/-20	+/-70	+/-100	12,7	2,9	12,8	<80	700	600	12
			10,178125	NX6035SD	+/-15	+/-60	+/-75	3,9	1,2	35	<80	700	600	12
TDA5212	915	550+/-20% <sup>-2</sup>	14,1296875	AT-51	+/-20	+/-70	+/-100	9,1	2,5	13,7	<50	500	450	12
			14,4640625	NX6035SD	+/-15	+/-60	+/-80	6,4	1,6	17	<50	500	450	12
			14,1296875	NX5032SD	+/-15	+/-60	+/-80	5,7	1,4	-	<80	650	500	12
TDA5220	434,2	600+/-20% <sup>-2</sup>	13,234375	AT-51	+/-20	+/-70	+/-100	9,3	2,6	15,6	<50	500	450	12
			13,234375	NX6035SD	+/-15	+/-60	+/-80	5,7	1,5	13	<50	500	450	12
			13,234375	NX5032SD	+/-15	+/-60	+/-80	3,95	1,35	-	<80	650	500	12
	433,92	600+/-20% <sup>-2</sup>	13,225625	NX5032SD	+/-15	+/-60	+/-80	4,85	1,3	-	<80	650	500	12
			13,225625	NX5032SD	+/-15	+/-60	+/-80	4,2	1,2	-	<80	650	500	12
TDA5220	868	600+/-20% <sup>-2</sup>	13,4015625	AT-51	+/-20	+/-70	+/-100	8,9	2,5	15,1	<50	500	450	12
			13,4015625	NX6035SD	+/-15	+/-60	+/-80	5,8	1,5	12	<50	500	450	12
			13,4015625	NX5032SD	+/-15	+/-60	+/-80	3,76	1,38	-	<80	650	500	12
TDA5221	315	700+/-20% <sup>-2</sup>	10,178125	AT-51	+/-20	+/-70	+/-100	12,7	2,9	12,8	<80	700	600	12
			10,178125	NX6035SD	+/-15	+/-60	+/-75	3,9	1,2	35	<80	700	600	12



**NDK Crystal Recommendation for  
Tire Pressure Monitoring (TPMS)  
for Infineons Wireless Control Products**

**Receiver, continued**

IC	Freq. band [MHz]	neg. Resistance [Ω]	x-tal freq. fs' [MHz]	Holder	Adjustment tolerance [ppm]	Freq. stability -40/+85°C [ppm]	Overall-Tolerance incl. aging 10 years [ppm]	Tolerance +-15%		typ. ESR [Ω]	Rs (crystal) [Ω]	Suggested Std-neg. Resistance [Ω]	Minimum Negative Resistance [Ω]	CL [pF]
								C1 [fF]	C0 [pF]					
TDA5230	433,92	very high depends on the cap. load	13,225625	NX5032SD	+/-10	+/-20	+/-35	4,85	1,3	-	<80	650	500	12
	868,3		13,4	NX5032SD	+/-10	+/-20	+/-35	3,72	1,33	-	<80	650	500	12
	447,725		13,6570312	NX5032SD	+/-10	+/-20	+/-35	4,3	1,25	-	<80	650	500	12
TDA5231	315	very high depends on the cap. load	15,2671875	NX5032SD	+/-10	+/-20	+/-35	5	1,3	-	<80	300	270	12
TDA5240 TDA5235 TDA5225	315 434 868 915 band	very high depends on the cap. load	21,948717	NX5032SD	+/-10	+/-20	+/-35	7,09	1,72	-	<60	300	270	12

**Transceiver**

IC	Freq. band [MHz]	neg. Resistance [Ω]	x-tal freq. fs' [MHz]	Holder	Adjustment tolerance [ppm]	Freq. stability -40/+105°C [ppm]	Overall-Tolerance incl. aging 10 years [ppm]	Tolerance +-15%		typ. ESR [Ω]	Rs (crystal) [Ω]	Suggested Std-neg. Resistance [Ω]	Minimum Negative Resistance [Ω]	CL [pF]
								C1 [fF]	C0 [pF]					
TDA5250	868,3	550 <sup>*1</sup>	18,089583	AT-51	+/-10	+/-40	+/-60	11,4	3,1	11,2	<50	500	450	20
			18,089583	NX6035SD	+/-15	+/-60	+/-80	7,2	1,7	18	<30	300	270	12
			18,089583	NX5032SD	+/-15	+/-60	+/-80	5,5	1,4	-	<30	300	270	20
			18,089583	NX5032SD	+/-10	+/-60	+/-80	6,5	1,55	-	<30	300	270	20
TDA5251	315	650 <sup>*1</sup>	13,125	NX6035SD	+/-15	+/-60	+/-80	5,7	1,5	13	<50	500	450	20
			13,125	NX5032SD	+/-15	+/-60	+/-80	4,32	1,3	13	<50	650	500	20
TDA5252	915	500 <sup>*1</sup>	19,0625	AT-51	+/-10	+/-40	+/-60	11,6	3,2	11	<60	500	450	20
			19,0625	NX5032SD	+/-10	+/-60	+/-80	6,97	1,64	-	<60	300	270	20
TDA5255	434,15	550 <sup>*1</sup>	18,089583	AT-51	+/-10	+/-40	+/-60	11,4	3,1	11,2	<50	500	450	20
			18,089583	NX6035SD	+/-15	+/-60	+/-80	7,2	1,7	18	<30	300	270	20
			18,089583	NX5032SD	+/-15	+/-60	+/-80	5,5	1,4	18	<30	300	270	20
			18,089583	NX5032SD	+/-10	+/-60	+/-80	6,5	1,55	-	<30	300	270	20

**Important Notice**

Please note, that

- 1.) the start-up time reached with the crystals given above might be different to the start-up time indicated in the data sheets.
- 2.) the crystals with the NX6035 package are no longer available for automotive products.

\*1: Measured

\*2: Specified