

2021

nuvoton winbond

Photo By Jeffrey Cheng

Smart Toy

PowerSpeech® Series

- W584A 4-bit μ C Base, 1-ch Voice + Dual Tone Melody Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (N)	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC			
W584A011	300	9	7	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A016	460	15	11	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A021	620	20	15	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A031	1020	34	25	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A041	1260	42	32	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A052	1580	53	40	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A062	1900	64	48	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A017	460	15	11	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A022	620	20	15	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A032	1020	34	25	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A042	1260	42	32	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A051	1580	53	40	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A061	1900	64	48	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A071	2220	75	56	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A081	2540	86	64	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A025	620	20	15	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A035	1020	35	26	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A045	1260	42	32	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin

• W584A 4-bit μ C Base, 1-ch Voice + Dual Tone Melody Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (N)	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC			
W584A065	1900	64	48	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A075	2220	75	56	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A085	2540	86	64	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A100	3180	108	81	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A120	3820	129	97	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A151	4460	151	113	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A171	5100	173	130	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A191	5740	195	146	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A300	9100	310	232	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A340	10220	348	261	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584AP017 (OTP)	460	15	11	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	-
W584AP045 (OTP)	1260	42	32	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	-
W584AP065 (OTP)	1900	64	48	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	-

• W584B 4-bit μ C Base, 1-ch Voice Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (N)	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC			
W584B010	300	9	7	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B015	460	15	11	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B020	620	20	15	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B030	1020	34	25	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B040	1260	42	32	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B052	1580	53	40	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B062	1900	64	48	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B016	460	15	11	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B021	620	20	15	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B031	1020	34	25	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B041	1260	42	32	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B070	2220	75	56	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B080	2540	86	64	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B100	3180	108	81	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584B120	3820	129	97	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584B150	4460	151	113	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584B170	5100	173	130	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584B190	5740	195	146	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin

• W588L 8-bit μ C Base, 2 Batteries, 2-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 5-bit MDM		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	GPIO
		(6 KHz)	(8 KHz)					PWM	DAC		
W588L020	94	23	18	1.8~3.6	1	4, 6	Ring	12-bit	-	96	8 I/O
W588L030	126	32	24	1.8~3.6	1	4, 6	Ring	12-bit	-	96	8 I/O
W588L035	170	44	33	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L040	192	50	37	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L050	224	58	43	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L060	254	66	49	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L070	330	86	65	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L080	382	100	75	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L100	448	118	88	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O

• W588C 8-bit μ C Base, 2-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	GPIO
		(6 KHz)	(8 KHz)					PWM	DAC		
W588C003	20	5	4	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C006	30	8	6	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C009	50	14	11	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C012	62	18	14	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C015	78	23	17	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C020	98	29	22	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	12 I/O
W588C025	114	35	26	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	12 I/O
W588C030	126	38	29	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	12 I/O

• W588C 8-bit μ C Base, 2-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	GPIO
		(6 KHz)	(8 KHz)					PWM	DAC		
*W588C036	170	52	39	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C041	192	59	44	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C046	205	63	48	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C051	224	69	52	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C056	240	74	56	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C061	254	79	59	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C071	330	103	77	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C081	382	119	90	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C101	448	140	105	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C121	510	160	120	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
W588C150	640	201	151	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O
W588C170	768	242	181	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O
W588C210	896	282	212	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O
W588C260	1022	322	242	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O
W588C300	1180	372	279	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O

*DAC w/o Noise Shaping
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• W588D 8-bit μ C Base, 3-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Sub-Clock 32KHz	Audio		RAM (Bytes)	GPIO	SIM SPI
		(6 KHz)	(8 KHz)						PWM	DAC			
W588D003	20	5	4	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	192	16 I/O	√
W588D006	30	8	6	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	192	16 I/O	√
W588D009	50	14	11	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	√
W588D012	62	18	14	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	√
W588D015	78	23	17	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	√
W588D020	98	29	22	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	√
W588D025	114	35	26	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	√
W588D030	126	38	29	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	√
W588D035	170	52	39	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	√
W588D040	192	59	44	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	√
W588D045	205	63	48	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	√
W588D050	224	69	52	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	√
W588D055	240	74	56	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	√
W588D060	254	79	59	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	√
W588DF060 (MTP)	254	79	59	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	√
W588D070	330	103	77	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	24 I/O	√
W588D080	382	119	90	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	24 I/O	√
W588D100	448	140	105	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	24 I/O	√
W588D120	510	160	120	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	24 I/O	√
W588D150	640	201	151	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	384	24 I/O	√
W588D170	768	242	181	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	384	24 I/O	√
W588D210	896	282	212	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	384	24 I/O	√
W588D260	1022	322	242	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	384	24 I/O	√
W588D300	1180	372	279	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	8I, 24 I/O	√
W588D350	1348	425	319	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	8I, 24 I/O	√
W588D400	1534	484	363	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	8I, 24 I/O	√

• N584L 4-bit μ C Base, 1~2 Battery, 1-ch Voice + Dual Tone Melody Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		V _{DD} (V)	Booster Output (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (N)	GPIO
		(6 KHz)	(8 KHz)						PWM	DAC		
N584L020	620	20	15	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	8 I/O
N584L030	1020	34	25	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	8 I/O
N584L040	1260	42	32	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	8 I/O
N584L080	2540	86	64	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L120	3820	129	97	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L031	1020	34	25	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L041	1260	42	32	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L061	1900	64	48	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L081	2540	86	64	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L121	3820	129	97	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O

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• N588L 1.0~3.6V, 8-bit μ C Base, 2-ch Voice Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (6 MHz)	CH	F _{sys} (MHz)	OSC	Audio		V _p (V)	RAM (Bytes)	LVD	GPIO	H/W PWM
		(6 KHz)	(8 KHz)					PWM	DAC					
N588L040	126	40	30	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588L080	254	80	60	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588L120	416	132	99	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588L160	528	167	125	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588L200	638	202	152	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588L240	768	243	182	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588L280	896	284	213	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588L330	1022	324	243	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588LP080 (OTP)	254	80	60	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588LP200 (OTP)	638	202	152	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588LP330 (OTP)	1022	324	243	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair

* N588LP (OTP) 1.0~3.6V, 8-bit μ C base, 2-ch Voice Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (6 MHz)	CH	F _{sys} (MHz)	OSC	Audio		V _p (V)	RAM (Bytes)	LVD	GPIO	H/W PWM
		(6 KHz)	(8 KHz)					PWM	DAC					
N588LP042	126	40	30	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588LP082	254	80	60	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588LP122	416	132	99	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588LP162	528	167	125	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588LP202	638	202	152	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588LP242	768	243	182	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588LP282	896	284	213	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588LP332	1022	324	243	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair

* Under Development

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• N584H High Sound Quality 1-ch Voice

Part No.	ROM (Kbits)	Duration (Sec.) @ 4-bit NM4		V _{DD} (4 MHz)	CH	F _{sys} (MHz)	OSC	Audio		Cap Sensor	RAM (N)	LVD	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC					
N584H009	300	12	9	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	4 I/O	4-pin
N584H019	620	24	18	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	4 I/O	4-pin
N584H029	940	37	28	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	4 I/O	4-pin
N584H039	1260	49	37	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	4 I/O	4-pin
N584H010	300	12	9	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584H020	620	24	18	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584H030	940	37	28	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584H040	1260	49	37	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584H060	1740	68	51	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584H070	1900	74	56	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584H120	3340	131	98	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584H160	4070	159	119	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584H170	4460	175	131	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584H210	5740	225	169	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584H260	7020	275	206	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584H300	7980	312	234	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584HP030 (OTP)	940	37	28	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584HP070 (OTP)	1900	74	56	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584HP160 (OTP)	4070	159	119	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584HP300 (OTP)	7980	312	234	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin

* N584HP (OTP), High Sound Quality 1-ch Voice

Part No.	ROM (Kbits)	Duration (Sec.) @ 4-bit NM4		V _{DD} (4 MHz)	CH	F _{sys} (MHz)	OSC	Audio		Cap Sensor	RAM (N)	LVD	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC					
N584HP012	300	12	9	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584HP022	620	24	18	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584HP032	940	37	28	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584HP042	1260	49	37	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584HP062	1740	68	51	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584HP072	1900	74	56	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584HP122	3340	131	98	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584HP162	4070	159	119	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584HP172	4460	175	131	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584HP212	5740	225	169	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584HP262	7020	275	206	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584HP302	7980	312	234	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin

* Under Development

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• N588J 8-bit μ C Base, 1-ch Voice Synthesizer w/ PWM Direct Driver

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (6MHz)	CH	F _{sys} (MHz)	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM
		(6 KHz)	(8 KHz)				PWM	DAC				
N588J010	30	10	7	2.2~5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
N588J040	126	40	30	2.2~5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
N588J060	206	65	49	2.2~5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
N588J080	254	80	60	2.2~5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
N588J120	414	131	98	2.2~5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
N588J170	510	162	121	2.2~5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
N588J200	704	223	167	2.2~5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
N588J250	830	263	197	2.2~5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
N588J340	1020	324	243	2.2~5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
N588J480	1534	486	364	2.2~5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
N588J650	2044	648	486	2.2~5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair

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 • N588JP (OTP), 8-bit μ C Base, 1-ch Voice Synthesizer w/ PWM Direct Driver

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (6MHz)	CH	F _{sys} (MHz)	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM
		(6 KHz)	(8 KHz)				PWM	DAC				
N588JP062 (OTP)	206	65	49	2.0~5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
N588JP082 (OTP)	254	80	60	2.0~5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
N588JP122 (OTP)	414	131	98	2.0~5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
N588JP172 (OTP)	510	162	121	2.0~5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
N588JP202 (OTP)	704	223	167	2.0~5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
N588JP252 (OTP)	830	263	197	2.0~5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
N588JP342 (OTP)	1020	324	243	2.0~5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair

• N588H 8-bit μ C Base, 3-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM
		(6 KHz)	(8 KHz)					PWM	DAC				
N588H061	206	65	49	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
N588H081	254	80	60	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
N588H120	414	131	98	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
N588H170	510	162	121	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
N588H200	704	223	167	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
N588H250	830	263	197	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
N588H340	1022	324	243	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
N588H480	1534	486	364	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
N588H650	2044	648	486	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair

• N588HP (OTP), 8-bit μ C Base, 3-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM
		(6 KHz)	(8 KHz)					PWM	DAC				
N588HP062 (OTP)	206	65	49	2.0~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
N588HP082 (OTP)	254	80	60	2.0~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
N588HP122 (OTP)	414	131	98	2.0~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
N588HP172 (OTP)	510	162	121	2.0~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
N588HP202 (OTP)	704	223	167	2.0~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
N588HP252 (OTP)	830	263	197	2.0~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
N588HP342 (OTP)	1022	324	243	2.0~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair

NuSpeech Series

• N589A, 8-bit μ C Base, 2-ch Voice, w/ SPIO, SPIM, ADC, IR Wake-up

Part No.	Duration (Sec)	V _{DD} (V)	LVR (V)	Speech/ MIDI CH	ADC	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR wake up	LRC
	8KHz					PWM								
N589A150	128	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589A200	189	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589A280	250	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589A400	371	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes
N589A600	614	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes
N589A900	857	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes
*N589A1K4	1342	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes

• N589B, 8-bit μ C Base, 2-ch Voice, w/ SPIO, SPIM, ADC, IR Wake-up

Part No.	Duration (Sec)	V _{DD} (V)	LVR (V)	Voice CH	ADC	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR wake up	LRC
	8 KHz					PWM								
N589B120	125	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	22 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B170	155	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	22 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B200	216	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B250	276	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B340	337	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B480	458	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes
N589B650	701	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes
N589B960	944	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes
*N589B1K5	1429	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes

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• N589C, 8-bit μ C Base, 2-ch Voice, with SPIIO, IR Wake-up

Part No.	Duration (Sec)	V _{DD} (V)	LVR (V)	Voice CH	ADC	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR wake up	LRC
	8KHz					PWM								
N589C080	94	2.0~5.5	1.9	2	NO	13-bit	512	16 I/O	NO	3 pin	6 pin	Yes	Yes	Yes
N589C120	125	2.0~5.5	1.9	2	NO	13-bit	512	16 I/O	NO	3 pin	6 pin	Yes	Yes	Yes
N589C170	155	2.0~5.5	1.9	2	NO	13-bit	512	16 I/O	NO	3 pin	6 pin	Yes	Yes	Yes
N589C200	216	2.0~5.5	1.9	2	NO	13-bit	512	22 I/O	SPIIO	6 pin	6 pin	Yes	Yes	Yes
N589C250	276	2.0~5.5	1.9	2	NO	13-bit	512	22 I/O	SPIIO	6 pin	6 pin	Yes	Yes	Yes
N589C340	337	2.0~5.5	1.9	2	NO	13-bit	512	22 I/O	SPIIO	6 pin	6 pin	Yes	Yes	Yes
N589C480	458	2.0~5.5	1.9	2	NO	13-bit	512	32 I/O	SPIIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes
N589C650	701	2.0~5.5	1.9	2	NO	13-bit	512	32 I/O	SPIIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes
N589C960	944	2.0~5.5	1.9	2	NO	13-bit	512	32 I/O	SPIIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes
*N589C1K5	1429	2.0~5.5	1.9	2	NO	13-bit	512	32 I/O	SPIIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes

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• N589D, 8-bit μ C Base, 1-ch Voice, with SPIO, IR Wake-up

Part No.	Duration (Sec)	V _{DD} (V)	LVR (V)	Speech CH	ADC	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR wake up	LRC
	8 KHz					PWM								
N589D081	94	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIO	3 pin	8 pin	Yes	Yes	Yes
N589D121	125	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIO	3 pin	8 pin	Yes	Yes	Yes
N589D171	155	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIO	3 pin	8 pin	Yes	Yes	Yes
N589D201	216	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIO	3 pin	8 pin	Yes	Yes	Yes
N589D251	276	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIO	3 pin	8 pin	Yes	Yes	Yes
N589D341	337	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIO	3 pin	8 pin	Yes	Yes	Yes
N589D481	458	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIO	3 pin	8 pin	Yes	Yes	Yes
N589D650	701	2.0~5.5	1.9	1	NO	13-bit	512	32 I/O	SPIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes
N589D960	944	2.0~5.5	1.9	1	NO	13-bit	512	32 I/O	SPIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes
*N589D1K5	1429	2.0~5.5	1.9	1	NO	13-bit	512	32 I/O	SPIO, UART, LED String	6 pin	12 pin	Yes	Yes	Yes

* Under Development

• N589E, 8-bit μ C Base, 1-ch Voice Synthesizer

Part No.	Flash (Kbytes)	Duration (Sec.)@ 4-bit NM4		V _{DD} (V)	Voice CH	Audio	RAM (Bytes)	GPIO	PWM Output	Cap Touch	LVD	IR Carrier	LVR
		(6 KHz)	(8 KHz)			PWM							
N589E040	128	40	30	2.0~5.5	1	12-bit	384	8 I/O	3 pin	4 pin	Yes	Yes	Yes
N589E060	192	60	45	2.0~5.5	1	12-bit	384	8 I/O	3 pin	4 pin	Yes	Yes	Yes
N589E080	256	80	60	2.0~5.5	1	12-bit	384	8 I/O	3 pin	4 pin	Yes	Yes	Yes

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BandDirector® Series

• W567C 8-bit μ C Base, 16-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		Channel		Fsys (MHz)	OSC	Sub-Clock 32 KHz	Audio		RAM (Bytes)	GPIO	H/W PWM	SIM SPI	PAN Stereo
		(6 KHz)	(8 KHz)	Voice	WTM				PWM	DAC					
W567C070	336	99	74	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C080	416	124	93	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C100	464	139	104	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C120	508	152	114	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C151	640	193	145	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C171	768	233	174	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C210	896	272	204	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C260	1020	311	233	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C300	1232	376	282	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C340	1376	421	316	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C380	1532	469	352	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C126	508	152	114	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
W567C266	1020	311	233	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
W567C306	1232	376	282	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
W567C346	1376	421	316	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
W567C386	1532	469	352	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
W567CP260 (OTP)	1020	311	233	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-

• N567G 8-bit μ C Base, 4-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	GPIO	H/W PWM	SIM SPI
		(6 KHz)	(8 KHz)					PWM	DAC				
N567G030	126	34	26	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	√
N567G041	158	44	33	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	√
N567G080	286	84	63	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	√
N567G121	416	124	93	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567G161	528	158	119	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567G201	638	192	144	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567G240	768	233	174	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	√
N567G280	896	272	204	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	√
N567G330	1022	311	233	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	√

• N567K 8-bit μ C Base, 6-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM	SIM SPI
		(6 KHz)	(8 KHz)					PWM	DAC					
N567K030	126	34	26	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	24 I/O	-	√
N567K041	158	44	33	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	24 I/O	-	√
N567K080	286	84	63	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	√
N567K081	254	80	60	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	√	24 I/O	-	√
N567K121	416	124	93	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	-
N567K161	528	158	119	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	-
N567K201	638	192	144	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	-
N567K240	768	233	174	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	8I, 24 I/O	3-pair	√
N567K280	896	272	204	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	8I, 24 I/O	3-pair	√
N567K330	1022	311	233	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	8I, 24 I/O	3-pair	√

• N567H 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	GPIO	H/W PWM	SIM SPI
		(6 KHz)	(8 KHz)					PWM	DAC				
N567H030	126	34	26	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	√
N567H041	158	44	33	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	√
N567H080	286	84	63	2.2~5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	√
N567H121	416	124	93	2.2~5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567H161	528	158	119	2.2~5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567H201	638	192	144	2.2~5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567H240	768	233	174	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	√
N567H280	896	272	204	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	√
N567H330	1022	311	233	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	√
N567HP330 (OTP)	1022	311	233	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	√

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• N567D 8-bit μ C Base, 14-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		Channel		Fsys (MHz)	OSC	Sub-Clock 32 KHz	Audio		RAM (Bytes)	GPIO	H/W PWM	SIM SPI
		(6 KHz)	(8 KHz)	Voice	WTM				PWM	DAC				
N567D070	224	71	53	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D100	336	106	80	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D120	416	132	99	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D140	464	147	110	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D160	508	161	121	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D200	640	203	152	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D240	768	243	183	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D280	896	284	213	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D320	1020	323	242	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D380	1232	390	293	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D420	1376	436	327	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D470	1532	485	364	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567DP320 (OTP)	1020	323	242	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√

• N567L 1.0~3.6V, 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		Channel		V _{DD} (6 MHz)	Fsys (MHz)	OSC	Audio		V _p (V)	RAM (Bytes)	LVD	GPIO	H/W PWM
		(6 KHz)	(8 KHz)	Voice	WTM				PWM	DAC					
N567L080	254	80	60	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N567L120	416	132	99	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N567L160	528	167	125	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N567L200	638	202	152	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N567L240	768	243	182	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N567L280	896	284	213	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N567L330	1022	324	243	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N567LP330 (OTP)	1022	324	243	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair

• N567LP (OTP), 1.0~3.6V, 8-bit μ C base, 8-ch Voice/Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		Channel		V _{DD} (6 MHz)	F _{sys} (MHz)	OSC	Audio		V _p (V)	RAM (Bytes)	LVD	GPIO	H/W PWM
		(6 KHz)	(8 KHz)	Voice	WTM				PWM	DAC					
N567LP122	416	132	99	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N567LP162	528	167	125	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N567LP202	638	202	152	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N567LP242	768	243	182	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N567LP282	896	284	213	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N567LP332	1022	324	243	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair

• N566G 8-bit μ C Base, 4-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC					
N566G120	416	124	93	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	✓
N566G160	528	158	119	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	✓
N566G200	638	192	144	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	✓
N566G240	768	233	174	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	✓
N566G280	896	272	204	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	✓
N566G320	1022	311	233	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	✓

• N566GP (OTP), 8-bit μ C Base, 4-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC					
N566GP120 (OTP)	416	124	93	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	√	24 I/O	2-pin	-
N566GP160 (OTP)	528	158	119	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	√	24 I/O	2-pin	-
N566GP200 (OTP)	638	192	144	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	√	24 I/O	2-pin	-
N566GP240 (OTP)	768	233	174	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	√	24 I/O	2-pin	-
N566GP280 (OTP)	896	272	204	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	√	24 I/O	2-pin	-
N566GP320 (OTP)	1022	311	233	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	√	24 I/O	2-pin	-

• N566K 8-bit μ C Base, 6-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	SIM	GPIO	H/W PWM	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC						
N566K080	254	74	55	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	√	√	24 I/O	2-pin	√
N566K120	416	124	93	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	√
N566K160	528	158	119	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	√
N566K200	638	192	144	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	√
N566K240	768	233	174	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	√
N566K280	896	272	204	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	√
N566K320	1022	311	233	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	√

• N566KP (OTP), 8-bit μ C Base, 6-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	SIM	GPIO	H/W PWM	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC						
N566KP120 (OTP)	416	124	93	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	-
N566KP160 (OTP)	528	158	119	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	-
N566KP200 (OTP)	638	192	144	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	-
N566KP240 (OTP)	768	233	174	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	-
N566KP280 (OTP)	896	272	204	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	-
N566KP320 (OTP)	1022	311	233	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	-

• N566H 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	SIM	GPIO	H/W PWM	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC						
N566H080	254	74	55	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	√	24 I/O	2-pin	√
N566H120	416	124	93	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	√
N566H160	528	158	119	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	√
N566H200	638	192	144	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	√
N566H240	768	233	174	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	√
N566H280	896	272	204	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	√
N566H320	1022	311	233	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	√
N566HP080 (OTP)	254	74	55	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	√	24 I/O	2-pin	√

• N566HP (OTP), 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	SIM	GPIO	H/W PWM	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC						
N566HP120 (OTP)	416	124	93	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	-
N566HP160 (OTP)	528	158	119	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	-
N566HP200 (OTP)	638	192	144	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	-
N566HP240 (OTP)	768	233	174	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	-
N566HP280 (OTP)	896	272	204	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	-
N566HP321 (OTP)	1022	311	233	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	-	24 I/O	2-pin	-

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ViewTalk® Series

• N537A090 8-bit μ C Base, 2-ch Voice + Dual Tone Melody Synthesizer w/ B/W 1K-Dot LCD Driver

Part No.	ROM (Kbytes)	Working RAM (Bytes)	Duration (Sec.)	LCD RAM (Bytes)	GPIO	Audio		LCD Resolution (SEGxCOM)	Bias	Duty
						PWM	DAC			
N537A090	283	1K	90	128	12 I/O	9-bit	-	64x16	1/4, 1/5	1/8, 1/16

• N531A170 8-bit μ C Base, 2-ch Voice + Dual Tone Melody Synthesizer w/ B/W 1K-Dot LCD Driver

Part No.	ROM (Kbytes)	Working RAM (Bytes)	Duration (Sec.)	Dual Page LCD RAM (Bytes)	GPIO	Audio		LCD Resolution (SEGxCOM)	Bias	Duty
						PWM	DAC			
N531A170	509	1K	170	128x2	16 I/O	12-bit	-	64x16	1/4, 1/5	1/8, 1/16

• N538T 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer w/ B/W 2K-Dot LCD Driver

Part No.	ROM (Kbytes)	Working RAM (Bytes)	Duration (Sec.)	Dual Page LCD RAM (Bytes)	GPIO	Audio		LCD Resolution (SEGxCOM)	Bias	Duty
						PWM	DAC			
N538T080	249	1K	60	256x2	24 I/O	9-bit	10-bit	64x32	1/4, 1/5	1/16, 1/32
N538T170	505	1K	120	256x2	24 I/O	9-bit	10-bit	64x32	1/4, 1/5	1/16, 1/32
N538T260	761	1K	180	256x2	24 I/O	9-bit	10-bit	64x32	1/4, 1/5	1/16, 1/32
N538T340	1017	1K	250	256x2	24 I/O	9-bit	10-bit	64x32	1/4, 1/5	1/16, 1/32

• N538A 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer w/ B/W 1K-Dot LCD Driver

Part No.	ROM (Kbytes)	Working RAM (Bytes)	Duration (Sec.)	Dual Page LCD RAM (Bytes)	GPIO	Audio		LCD Resolution (SEGxCOM)	Bias	Duty
						PWM	DAC			
N538A170	505	1K	120	128x2	24 I/O	9-bit	10-bit	64x16	1/4, 1/5	1/6
N538A260	761	1K	180	128x2	24 I/O	9-bit	10-bit	64x16	1/4, 1/5	1/6
N538A340	1017	1K	250	128x2	24 I/O	9-bit	10-bit	64x16	1/4, 1/5	1/6

• W539A 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer w/ B/W 1K-Dot LCD Driver

Part No.	ROM (Kbytes)	Working RAM (Bytes)	Duration (Sec.)	Dual Page LCD RAM (Bytes)	GPIO	Audio		LCD Resolution (SEGxCOM)	Bias	Duty
						PWM	DAC			
W539A804	505	1K	120	128x2	24 I/O	12-bit	13-bit	64x16	1/4, 1/5	1/8, 1/16
W539A806	761	1K	180	128x2	24 I/O	12-bit	13-bit	64x16	1/4, 1/5	1/8, 1/16
W539A808	1017	1K	250	128x2	24 I/O	12-bit	13-bit	64x16	1/4, 1/5	1/8, 1/16

• N539T 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer w/ 4-Gray Level, 2K-Dot LCD Driver

Part No.	ROM (Kbytes)	Working RAM (Bytes)	Duration (Sec.)	Dual Page LCD RAM (Bytes)	GPIO	Audio		LCD Resolution (SEGxCOM)	H/W PWM	SIM	Bias	Duty
						PWM	DAC					
N539T171	509	1K	120	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	6-pin	√	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32
N539T261	765	1K	180	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	6-pin	√	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32
N539T341	1021	1K	250	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	6-pin	√	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32
N539TP340 (OTP)	1021	1K	250	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	-	√	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32

* N539TP (OTP), 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer w/ 4-Gray Level, 2K-dot LCD Driver

Part No.	ROM (Kbytes)	Working RAM (Bytes)	Duration (Sec.)	Dual Page LCD RAM (Bytes)	GPIO	Audio		LCD Resolution (SEGxCOM)	H/W PWM	SIM	Bias	Duty
						PWM	DAC					
N539TP171	509	1K	120	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	6-pin	√	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32
N539TP261	765	1K	180	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	6-pin	√	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32
N539TP341	1021	1K	250	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	6-pin	√	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32

* Under Development

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NuVoice™ Series

• N569S, 32-bit Cortex-M0 with Embedded Flash, Long Duration Solution

Part No.	CPU	APROM Flash	Flash Memory	V _{DD} (V)	Duration(Sec)	SRAM	GPIO	I/O Interface	PWM Output	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
N569S502	Cortex®-M0 49 MHz	64KB	4Mbit	2.4~5.5	500	6 KB	18	SPI, UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48
N569S1K0	Cortex®-M0 49 MHz	64KB	8Mbit	2.4~5.5	1,000	6 KB	18	SPI, UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48
N569S2K0	Cortex®-M0 49 MHz	64KB	16Mbit	2.4~5.5	2,000	6 KB	18	SPI, UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48
N569S4K0	Cortex®-M0 49 MHz	64KB	32Mbit	2.4~5.5	4,000	6 KB	18	SPI, UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48
N569S8K0	Cortex®-M0 49 MHz	64KB	64Mbit	2.4~5.5	8,000	6 KB	18	SPI, UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48
N569SAK2	Cortex®-M0 49 MHz	64KB	128Mbit	2.4~5.5	16,000	6 KB	18	SPI, UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48

• N570F, N570C, 32-bit Cortex-M0 with Embedded Flash and 10-bit ADC

Part No.	CPU	APROM Flash	Flash Memory	V _{DD} (V)	Duration(Sec)	SRAM	GPIO	I/O Interface	PWM Output	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
N570F064	Cortex®-M0 49 MHz	64KB	-	1.8~5.5	-	6 KB	22	SPI x 2, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48
N570C064	Cortex®-M0 49 MHz	64KB	-	1.8~5.5	-	6 KB	22	SPI x 2, UART	8	√	DPWM DAC	√	10-bit 4-ch	Voice Recognition	LQFP48

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• N570S, N570SC, 32-bit Cortex-M0 with Embedded Flash and 10-bit ADC, Long Duration Solution

Part No.	CPU	APROM Flash	Flash Memory	V _{DD} (V)	Duration(Sec)	SRAM	GPIO	I/O Interface	PWM Output	Audio		LDO	ADC	Voice Recognition	Package
					8KHz					Mic.	Speaker				
N570S08A	Cortex®-M0 49 MHz	64 KB	8Mbit	2.4~5.5	1,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48
N570S16A	Cortex®-M0 49 MHz	64 KB	16Mbit	2.4~5.5	2,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48
N570S32A	Cortex®-M0 49 MHz	64 KB	32Mbit	2.4~5.5	4,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48
N570S64A	Cortex®-M0 49 MHz	64 KB	64Mbit	2.4~5.5	8,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48
N570S130	Cortex®-M0 49 MHz	64 KB	128Mbit	2.4~5.5	16,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48
N570SC08	Cortex®-M0 49 MHz	64 KB	8Mbit	2.4~5.5	1,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	√	LQFP48
N570SC16	Cortex®-M0 49 MHz	64 KB	16Mbit	2.4~5.5	2,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	√	LQFP48
N570SC32	Cortex®-M0 49 MHz	64 KB	32Mbit	2.4~5.5	4,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	√	LQFP48
N570SC64	Cortex®-M0 49 MHz	64 KB	64Mbit	2.4~5.5	8,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	√	LQFP48

• N570H, 32-bit Cortex-M0 with Embedded Flash, 10-bit ADC, Touch Wake-up

Part No.	CPU	APROM Flash	V _{DD} (V)	SRAM	GPIO	I/O Interface	PWM Output	Audio		ADC	Touch Wakeup	Voice Recognition
								Mic.	Speaker			
N570H064	Cortex®-M0 49 MHz	64 KB	1.8~5.5	6 KB	28	SPI x 2, UART	8	√	DPWM	10-bit 5-ch	√	-
N570HC64	Cortex®-M0 49 MHz	64 KB	1.8~5.5	6 KB	28	SPI x 2, UART	8	√	DPWM	10-bit 5-ch	√	√

• N569J, 32-bit Cortex-M0 with Embedded Flash, Touch Wake-up, Long Duration Solution

Part No.	CPU	APROM Flash	Flash Memory	V _{DD} (V)	Duration(Sec)	SRAM	GPIO	I/O Interface	PWM Output	Audio		ADC	Touch Wakeup	Package
					8KHz					Mic.	Speaker			
N569J502L	Cortex®-M0 49 MHz	64 KB	4Mbit	1.8~5.5	500	6 KB	24	SPI, UART	8	-	DPWM	-	√	LQFP48
N569J1K0L	Cortex®-M0 49 MHz	64 KB	8Mbit	1.8~5.5	1,000	6 KB	24	SPI, UART	8	-	DPWM	-	√	LQFP48
N569J2K0L	Cortex®-M0 49 MHz	64 KB	16Mbit	1.8~5.5	2,000	6 KB	24	SPI, UART	8	-	DPWM	-	√	LQFP48
N569J4K0L	Cortex®-M0 49 MHz	64 KB	32Mbit	1.8~5.5	4,000	6 KB	24	SPI, UART	8	-	DPWM	-	√	LQFP48

• N570J, 32-bit Cortex-M0 with Embedded Flash, 10-bit ADC, Touch Wake-up, Long Duration Solution

Part No.	CPU	APROM Flash	Flash Memory	V _{DD} (V)	Duration(Sec)	SRAM	GPIO	I/O Interface	PWM Output	Audio		ADC	Touch Wakeup	Package
					8KHz					Mic.	Speaker			
N570J08AL	Cortex®-M0 49 MHz	64 KB	8Mbit	2.4~5.5	1,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP48
N570J08DL	Cortex®-M0 49 MHz	64 KB	8Mbit	1.8~5.5	1,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP48
N570J16AL	Cortex®-M0 49 MHz	64 KB	16Mbit	2.4~5.5	2,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP48
N570J16DL	Cortex®-M0 49 MHz	64 KB	16Mbit	1.8~5.5	2,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP48
N570J32AL	Cortex®-M0 49 MHz	64 KB	32Mbit	2.4~5.5	4,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP48
N570J32DL	Cortex®-M0 49 MHz	64 KB	32Mbit	1.8~5.5	4,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP48
N570J01GR	Cortex®-M0 49 MHz	64 KB	1Gbit	2.4~5.5	128,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP64

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• N571P, 32-bit Cortex M0 with Embedded OTP and 10-bit ADC Solution

Part No.	CPU	APROM OTP	Flash Memory	V _{DD} (V)	Duration(Sec)	SRAM	I/O	I/O Interface	PWM Output	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
N571P032	Cortex®-M0 23 MHz	32 KB	-	2.4~5.5	-	4 KB	24	SPI	4	√	Class-AB (400mW)	√	10-bit 3-ch	-	LQFP48

• N572, 32-bit Cortex M0 with Embedded OTP/Flash and 12-bit ADC Solution

Part No.	CPU	APROM Flash	Flash Memory	V _{DD} (V)	Duration(Sec)	SRAM	I/O	I/O Interface	PWM Output	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
N572F072	Cortex®-M0 48 MHz	72 KB	-	2.4~5.5	-	8 KB	32	SPI x 2	4	√	Class-AB (400mW)	√	12-bit 8-ch	-	LQFP64
N572C072	Cortex®-M0 48 MHz	72 KB	-	2.4~5.5	-	8 KB	32	SPI x 2	4	√	Class-AB (400mW)	√	12-bit 8-ch	Voice Recognition	LQFP64
N572F065	Cortex®-M0 48 MHz	64 KB	-	2.4~5.5	-	8 KB	32	SPI x 2	4	√	Class-AB (250mW)	√	12-bit 8-ch	USB 2.0 FS Device	LQFP64
N572S16A	Cortex®-M0 48 MHz	64 KB	16Mbit	2.4~5.5	2,000	8 KB	26	SPI	4	√	Class-AB (400mW)	√	12-bit 8-ch	-	LQFP64
N572S32A	Cortex®-M0 48 MHz	64 KB	32Mbit	2.4~5.5	4,000	8 KB	26	SPI	4	√	Class-AB (400mW)	√	12-bit 8-ch	-	LQFP64
N572S64A	Cortex®-M0 48 MHz	64 KB	64Mbit	2.4~5.5	8,000	8 KB	26	SPI	4	√	Class-AB (400mW)	√	12-bit 8-ch	-	LQFP64
N572U130	Cortex®-M0 48 MHz	64 KB	128Mbit	2.4~5.5	16,000	8 KB	22	SPI	4	√	Class-AB (250mW)	√	12-bit 8-ch	USB 2.0 FS Device	LQFP64

• N573, 32-bit Cortex-M0 with Embedded Flash and 16-bit ADC Solution

Part No.	CPU	APROM Flash	Flash Memory	V _{DD} (V)	Duration(Sec)		SRAM	I/O	I/O Interface	PWM Output	Audio		LDO	ADC	Other	Package
					8KHz						Mic.	Speaker				
N573F128	Cortex®-M0 48 MHz	128 KB	-	1.8~5.5	-	-	12 KB	32	UART, I ² C, I ² S, SPI	4	✓	DPWM (1W)	✓	16-bit sigma delta, 12-bit 10-ch SAR ADC	16-ch Touch Key, PDMA, CRC	LQFP64

• N574, 32-bit Cortex-M0 with Embedded Flash, 10-bit ADC, Voice Wake-up

Part No.	CPU	APROM Flash	V _{DD} (V)	Duration (Sec.)		SRAM	GPIO	I/O Interface	PWM Output	Audio		ADC	Cap Touch	AED	Voice Recognition
				8KHz	12KHz					Mic.	Speaker				
N574F256	Cortex®-M0 40 MHz	256 KB	1.8~5.5	220	146	8 KB	40	SPI, UART, LED String	12	✓	DPWM	10-bit 5-ch	12	✓	-
N574C256	Cortex®-M0 40 MHz	256 KB	1.8~5.5	220	146	8 KB	40	SPI, UART, LED String	12	✓	DPWM	10-bit 5-ch	12	✓	✓
N574F512	Cortex®-M0 40 MHz	512 KB	1.8~5.5	462	308	8 KB	40	SPI, UART, LED String	12	✓	DPWM	10-bit 5-ch	12	✓	-
N574C512	Cortex®-M0 40 MHz	512 KB	1.8~5.5	462	308	8 KB	40	SPI, UART, LED String	12	✓	DPWM	10-bit 5-ch	12	✓	✓
N574F1K0	Cortex®-M0 40 MHz	1024 KB	1.8~5.5	948	632	8 KB	40	SPI, UART, LED String	12	✓	DPWM	10-bit 5-ch	16	✓	-
N574C1K0	Cortex®-M0 40 MHz	1024 KB	1.8~5.5	948	632	8 KB	40	SPI, UART, LED String	12	✓	DPWM	10-bit 5-ch	16	✓	✓

• N575, 32-bit Cortex-M0 with Embedded Flash and 16-bit ADC Solution

Part No.	CPU	APROM Flash	Flash Memory	V _{DD} (V)	Duration(Sec)	SRAM	I/O	I/O Interface	PWM Output	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
N575F145	Cortex®-M0 48 MHz	145 KB	-	2.4~5.5	-	12 KB	24	UART, I ² C, I ² S, SPI	2	√	DPWM (1W)	√	16-bit, sigma delta	8-ch Touch Key, Temperature Alarm, PDMA, GRC	LQFP48
N575C145	Cortex®-M0 48 MHz	145 KB	-	2.4~5.5	-	12 KB	24	UART, I ² C, I ² S, SPI	2	√	DPWM (1W)	√	16-bit, sigma delta	8-ch Touch Key, Temperature Alarm, PDMA, CRC, Voice Recognition	LQFP48
N575S64A	Cortex®-M0 48 MHz	145 KB	64 Mbit	2.4~5.5	8,000	12 KB	20	UART, I ² C, I ² S, SPI	2	√	DPWM (1W)	√	16-bit, sigma delta	8-ch Touch Key, Temperature Alarm, PDMA, CRC	LQFP64

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Peripheral Series

■ Nu-Touch

• N55T Capacitor Sensor Controller

Part No.	Input	Wake Up	V _{DD} (V)	Interface
N55T10	10	√	2.4~5.5	I ² C
N55T16	16	√	2.1~5.5	I ² C, SPI

■ ADC

• N55AD SAR ADC

Part No.	Channel	Resolution	V _{DD} (V)	Conversion Rate
N55AD808	8	8-bit	2.7~5.5	50 KHz

■ I/O Expander

• W55P241 I/O Expander w/ 24 I/O Pins and SPI Interface

Part No.	Interface	GPIO	Wake Up	H/W PWM	Internal OSC
W55P241	SPI	24 I/O	√	8-pin	8 MHz

• N55P242 I/O Expander w/ 24 I/O Pins and SPI Interface

Part No.	Interface	GPIO	Wake Up	H/W PWM	Constant Current	Internal OSC
N55P242	SPI	24 I/O	√	24-pin	24-pin	8 MHz

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■ MFID Family

• W55MID 13.56MHz MFID w/ Single-Tag/Multi-Tag and Reader

Part No.	Category	Frequency (MHz)	ID type	ID No.	Anti-collision	TX power	μC Interface
W55MID15	Single-tag	13.56	Bonding-ID	243	-	-	-
W55MID35	Multi-tag	13.56	Bonding-ID	243	4~6 tags	-	-
W55MID20	Single-tag	13.56	Programmable	> 1K	-	-	-
W55MID50	Reader	13.56	-	-	-	4-level	Serial/Parallel

• N55MID, 13.56MHz MFID w/ Single-Tag/Multi-Tag and Reader

Part No.	Category	Frequency (MHz)	ID type	ID No.	Anti-collision	TX power	μC Interface
N55MID16	Single-tag	13.56	Bonding-ID	729	-	-	-
N55MID36	Multi-tag	13.56	Bonding-ID	729	4~6 tags	-	-
N55MID51	Reader	13.56	-	-	-	4-level	Serial/Parallel

■ Serial ROM Family

• N551C Serial Mask ROM

Part No.	ROM (bits)	Access Time	V _{DD} (V)	Interface
N551C161	16M	1us	2.4~5.5	SPI
N551C321	32M	1us	2.4~5.5	SPI

■ PWM Power Amplifier

N55PA, PWM Power Amplifier

Part No.	ROM (bits)	Access Time	V _{DD} (V)	Interface	Interface	Interface	Interface
N55PA01	2.0~5.5V	Yes	Ext. R	Yes	1W (@ 5.5V)	1% (0.8W, 4.5V)	SOP8
*N55PA03	2.0~5.5V	Yes	Ext. R	Yes	3W (@ 5.5V)	1% (2.4W, 4.5V)	SOP8

* Under Development
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NSP Series

• NSPxx, Embedded Flash, 1-ch Voice for Voice Prompt Application

Part No.	Package	Duration(Sec)		V _{DD} (V)	LVR (V)	Speech CH	Audio	WDT
		8KHz	12KHz				PWM	
NSP081A	SOP8	94	63	2.0~5.5	1.9	1	13-bit	Yes
NSP171A	SOP8	155	103	2.0~5.5	1.9	1	13-bit	Yes
NSP340A	SOP8	337	225	2.0~5.5	1.9	1	13-bit	Yes
NSP341A	SOP8	337	225	2.0~5.5	1.9	1	13-bit	Yes
NSP481A	SOP8	458	305	2.0~5.5	1.9	1	13-bit	Yes
NSP080B	SOP14	94	63	2.0~5.5	1.9	1	13-bit	Yes
NSP170B	SOP14	155	103	2.0~5.5	1.9	1	13-bit	Yes
NSP340B	SOP14	337	225	2.0~5.5	1.9	1	13-bit	Yes
NSP480B	SOP14	458	305	2.0~5.5	1.9	1	13-bit	Yes
NSP650B	SOP14	701	467	2.0~5.5	1.9	1	13-bit	Yes
NSP960B	SOP14	944	629	2.0~5.5	1.9	1	13-bit	Yes

• NSPxx, Embedded OTP, 1-ch Voice for Voice Prompt Application


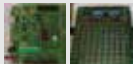









Part No.	Package	Duration(Sec)		V _{DD} (V)	LVR (V)	Speech CH	Audio	WDT
		8KHz	12KHz				PWM	
NSP075A	SOP8	81	49	2.0~5.5	2.0	1	12-bit	Yes
NSP165A	SOP8	162	97	2.0~5.5	2.0	1	12-bit	Yes
NSP335A	SOP8	324	194	2.0~5.5	2.0	1	12-bit	Yes
NSP075B	SOP14	81	49	2.0~5.5	2.0	1	12-bit	Yes
NSP165B	SOP14	162	97	2.0~5.5	2.0	1	12-bit	Yes
NSP335B	SOP14	324	194	2.0~5.5	2.0	1	12-bit	Yes

NSC Series

• NSC, 8-bit μ C Controller, 1-ch Voice, with SPI, Cap Touch

Part No.	Package	Duration (Sec)	Flash (KByte)	V _{DD} (V)	LVR (V)	Speech CH	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	BOD	IR wake up	Touch wake up	Fly-Key
		8KHz					PWM									
NSC128DF	TSSOP20	94	128	2.0~5.5	1.9	1	13-bit	384	12 I/O	SPI	3 pin	4 pin	√	√	√	√
NSC192DF	TSSOP20	155	192	2.0~5.5	1.9	1	13-bit	384	12 I/O	SPI	3 pin	4 pin	√	√	√	√
NSC384DF	TSSOP20	337	384	2.0~5.5	1.9	1	13-bit	384	12 I/O	SPI	3 pin	4 pin	√	√	√	√
NSC512DF	TSSOP20	458	512	2.0~5.5	1.9	1	13-bit	384	12 I/O	SPI	3 pin	4 pin	√	√	√	√
NSC768DF	TSSOP20	701	768	2.0~5.5	1.9	1	13-bit	512	12 I/O	SPI, UART, LED String	6 pin	10 pin	√	√	√	√
NSC1K0DF	TSSOP20	944	1024	2.0~5.5	1.9	1	13-bit	512	12 I/O	SPI, UART, LED String	6 pin	10 pin	√	√	√	√

Development Tools for PowerSpeech® Family








Ordering No.	Board Name	Content	Description	Picture
Development Kit				
ICE-W588D-FS	WHS-588D-ICE	<ul style="list-style-type: none"> • WHS-MINI-USB-ICE System V1.1 • WHS-588D-ICE System V3.3 • WHS-KEY + Cable • USB Cable 	• W588C/D In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	
ICE-W584A-FS	WHS-584A-ICE	<ul style="list-style-type: none"> • WHS-584A-ICE-IL System V1.1 • WHS-584A-ICE System V1.2 • WHS-KEY + Cable • Power Adaptor • USB Cable 	• W584A In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	
ICE-N588H	NHS-588H-ICE	<ul style="list-style-type: none"> • WHS-MINI-USB-ICE System V1.1 • NHS-588H-ICE System V1.1 2 layer boards 	• N588H/J In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	
ICE-N584H	NHS-584H-ICE	<ul style="list-style-type: none"> • N584H ICE System 	• N584H In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	
Evaluation Board				
NV-W588D	WHS-588C/D-16M	• W588C/D series EVB	• W588C/D Series Evaluation Board (EVB) with 16Mbit Flash	
NV-W588DF20B	WHS-W588DF20-H1	• W588DF060(W588DF20) EVB	• W588DF060(W588DF20) Evaluation Board (EVB) with 2Mbit Embedded Flash	
NV-N588H	NHS-588H-16M	• N588H/J Series EVB	• N588H/J Series Evaluation Board (EVB) with 16Mbit Flash	
NV-N588H-L	NHS-588H-08ML	• N588H/J Series EVB for Low Voltage	• N588H/J EVB Series Evaluation Board (EVB) with 8Mbit Low Voltage Flash	
NV-N5132	NV-513X-16M	• N5132	• N513X EVB with 16M-bit Parallel Flash	
NV-N5132-FS	NV-5132-FS	• N5132 + USB	• N5132 TOOL SET	
NV-N5160	NHS-W588X006 (NV-N5160)	• N5160 EVB	• N5160 Evaluation Board (EVB) with 32M-bit SPI Flash	

Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
NV-N5160S16	NHS-N5160S16	• N5160S16 EVB	• N5160S16 Evaluation Board (EVB)	
NV-N5160S32	NHS-N5160S32	• N5160S32 EVB	• N5160S32 Evaluation Board (EVB)	
NV-N589EVB	NHS-589EVB	• N589 EVB	• N589A/B/C/D ICE and Evaluation Board (EVB)	
NV-N589D-TB	N589D-TBoard	• N589D-TBoard	• N589D series Tiny Demo Board to cover N589D080, 120, 170, 200, 250, 340	
N589D171-EVB	N589D171-EVB	• N589D171 EVB	• N589D171 Evaluation Board to cover N589D081, N589D121 and N589D171	
N589D171-TB	N589D171TBoard	• N589D171 (COB) Tiny Board	• N589D171 (COB) tiny demo board to cover N589D081, N589D121, N589D171	
N589D171-STB	N589D171_TOP_Board	• N589D171 Top Board	• N589D171 standard top board w/ passive parts	
N589-1-WTR	N589 1-1 Writer	• N589 1-1 Writer	• N589 USB dongle, supports 1 to 1 writer and ICE debug	
N589-8-WTR-M (NW-N589-MAIN)	N589 1-8 Writer	• N589 Gang Writer Main Board	• N589 1 to 8 gang writer (mother board)	
N589-8-WTR-F	N589 GANG WRITER 20180724	• N589 1-8 Gang Writer Main Board, SOP14 Adaptor Board x 8, SOP14 Socket x 8	• N589 Gang Writer full set, Main Board x 1, Socket Adaptor SOP14 x 8	
N589A-TB	N589A Tboard	• N589A Tiny Board to cover N589A, N589B, N589C and N589D200/250/340	• N589A tiny demo board with passive parts. It covers N589A/B/C and N589D200/250/340	
N589A-STB	N589A_TOP_BOARD	• N589A Dev Platform Standard Top Board	• N589A Dev Platform Standard Top Board with passive parts. It covers N589A/B/C and N589D200/250/340	

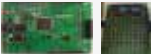



Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
N589A900-TB	N589A900-Tboard	• N589A900 Tiny Board	• N589A900 (COB) Tiny Board Cover: N589A400/600/900, N589B480/650/960, N589C480/650/960, N589D650/960	
N589A900-EVB	N589A900-EVB	• N589A900 EVB	• N589A900 (LQFP48) Evaluation Board (EVB) Cover: N589A400/600/900, N589B480/650/960, N589C480/650/960, N589D650/960	
N589D-TB2	N589D Tboard	• N589D Tiny Board with dual ICP pin hole	• N589D series tiny demo board with passive parts to cover N589D080/120/170/200/250/340	
N589D481-EVB	N589D481-EVB	• N589D481-EVB	• N589D481 Evaluation Board to cover N589D201, D251, D341 and D481	
N589D481-TB	N589D481-TB	• N589D481 Tiny Board	• N589D481 Tiny Board for N589D201/D251/D341/D481	
NSP-1-WTR	NSP 1-1 Writer	• NSP-Flash 1 to 1 Writer	• NSP-Flash 1 to 1 Writer to cover NSP080A/081A/170A/171A/340A/341A/481A, and NSP080B/170B/340B/480B/650B/960B	
NSP-8-WTR-F	NSP GANG WRITER 20180724	• NSP 1-8 Gang Writer Main Board, SOP14 Adaptor Board x 8, SOP14 Socket	• NSP Gang Writer full set, Main Board x 1, Socket Adaptor SOP14 x 8	
NSP-8-WTR-F8	NSP GANG WRITER 20180724	• NSP SOP8 Gang Writer full set with Main Board x 1 and Socket Adaptor SOP8 x 8	• NSP series 1 to 8 Gang Writer full set for SOP8 package. It is suitable for the item of NSP080A/081A, NSP170A/171A, NSP340A	
NSP-8-WTR-M	NSP GANG WRITER 20180724	• NSP 1-8 Gang Writer Main Board	• NSP Gang Writer Main Board only	
NSP-OTP-EVB	NSP-OTP-EVB	• NSP-OTP series EVB	• NSP-OTP Series Evaluation Board (EVB) Cover: NSP075A/165A/335A, NSP075B/165B/335B	
NSP-SOP8	NSP-SOP8	• NSP-Flash SOP8 Adaptor	• NSP-Flash SOP8 adaptor on NSP 1-8 Gang Writer Cover: NSP080A/081A/170A/171A/340A/341A/481A	
NSP-SOP14	Adaptor of NSP SOP14	• NSP SOP14 Adaptor Board	• SOP14 Socket Adaptor PCB	
NSP-SOP14-2	NSP-SOP14-2	• NSP-Flash SOP14 Adaptor	• NSP-Flash SOP14 adaptor on NSP 1-8 Gang Writer Cover: NSP480B/650B/960B	

Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
NSP165A-TB2	NSP165A-TB2	• NSP165A Tiny Board	• NSP165A OTP Tiny Board for NSP165A chip.	
NSP171A-TB1	NSP171A-TB1	• NSP171A (SOP8) Tiny Board	• NSP171A (SOP8) tiny demo board to cover NSP081A, NSP171A	
NSP340A-TB1	NSP340A-TB1	• NSP340A (SOP8) Tiny Board	• NSP340A (SOP8) tiny demo board to cover NSP080A, NSP170A, NSP340A	
NSP340B-TB1	NSP340B-TB1	• NSP340B (SOP14) Tiny Board	• NSP340B (SOP14) tiny demo board to cover NSP080B, NSP170B, NSP340B	
NSP340A-TB2	NSP340A TB2	• NSP340A (SOP8) Tiny Board with I8101 PA	• NSP340A Tinny Board w/PA and passive parts	
NSP340B-TB2	NSP340B-TB2	• NSP340B Tiny Demo Board with I8101 PA	• NSP340B Tiny Demo Board with I8101 PA for NSP080B/170B/340B	
NSP960B-TB1	NSP960B-TB1	• NSP960B Tiny Board	• NSP960B (SOP14) Tiny Board Cover: NSP480B/650B/960B	
NV-N584H	NHS-584H-16M	• N584H Series EVB	• N584H Series Evaluation Board (EVB) with 16Mbit Flash	
NV-W584A-H	WHS-584AH-16M	• W584A/B/C Series EVB	• W584A/B/C Series Evaluation Board (EVB) with 16Mbit Flash	
NV-N584L-3V	NHS-584L-16M-3V	• N584L Series EVB with Vp=3V	• N584L Series Evaluation Board (EVB) with 16Mbit Flash for Vp=3V	
NV-N584L-4V	NHS-584L-16M-4V	• N584L Series EVB with Vp=4V	• N584L Series Evaluation Board (EVB) with 16Mbit Flash for Vp=4V	
NV-N588L	NHS-N588L-16M	• N588L Series EVB	• N588L Series Evaluation Board (EVB) with 16Mbit Flash	







Development Tools for BandDirector® Family

Ordering No.	Board Name	Content	Description	Picture
Development Kit				
ICE-W567C	WHS-BD567C	<ul style="list-style-type: none"> • WHS-MINI-USB-ICE System V1.1 • WHS-567C-IC System V1.3 • USB Cable • Power Adaptor 	• W567C/J In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	
ICE-N566H	NHS-566H001-ICE	<ul style="list-style-type: none"> • WHS-MINI-USB-ICE System V1.1 • WHS-566H001-ICE System V1.1 	• N566H001 In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	
ICE-N567H	WHS-N567H-ICE	<ul style="list-style-type: none"> • WHS-MINI-USB-ICE System V1.1 • WHS-N567H-ICE System V3.0 	• N567G/H/K In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	
Evaluation Board				
NV-W567C	WHS-567C-16M	• W567C/J series EVB	• W567C/J Series Evaluation Board (EVB) with 16Mbit Flash	
N566H-EVB	NHS-566H001-16M	• N566H001 EVB	• N566H001 Evaluation Board (EVB) with 16M-bit Parallel Flash	
NV-N567H	WHS-N567-H1	• N567G/H/K series EVB	• N567G/H/K Series Evaluation Board (EVB) with 16Mbit Flash	
NV-N567L	NHS-N567L-16M	• N567L Series EVB	• N567L Series Evaluation Board (EVB) with 16Mbit Flash	

Development Tools for ViewTalk® Family














Ordering No.	Board Name	Content	Description	Picture
Development Kit				
ICE-N539T-FS	NHS-539-ICE	<ul style="list-style-type: none"> • WHS-MINI-USB-ICE System V1.1 • NHS-539-ICE System V1.2 • USB Cable • WHS-KEY + Cable 	• N539 In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	
Evaluation Board				
NV-N531-16M	NHS-531-16M	• N531 Series EVB	• N531 Series Evaluation Board (EVB) with 16Mbit Flash	
NV-N539T001	NHS-539001-16M	• N539T001 Series EVB	• N539T001 Series Evaluation Board (EVB) with 16Mbit Flash	
NV-N539T000	NHS-539-16M	• N539T000 Series EVB	• N539T000 Series Evaluation Board (EVB) with 16Mbit Flash	

Development Tools for OTP Family




Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
NV-W584AP20	NHS-584AP20	• W584AP065(W584AP20) OTP EVB	• W584AP065(W584AP20) One-Time Programmable (OTP) Evaluation Board (EVB)	
NV-W584AP05	NHS-584AP05	• W584AP017(W584AP05) OTP EVB	• W584AP017(W584AP05) One-Time Programmable (OTP) Evaluation Board (EVB)	
NV-N584HP300	NHS-584HP300	• N584HP300 OTP EVB	• N584HP300 EVB One-Time Programmable (OTP) Evaluation Board (EVB)	
NV-W567CP80	NHS-W567CP80	• W567CP260(W567CP80) OTP EVB	• W567CP260(W567CP80) One-Time Programmable (OTP) Evaluation Board (EVB)	
N566HP080EVB	NHS-566HP080	• N566HP080 EVB	• N566HP080 OTP EV Board w/ Components	
NV-N566HP320	NHS-N566HP320	• N566HP EVB	• N566HP320 COB with passive parts	

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Development Tools for OTP Family

Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
N566HP321EVB	N566HP321-EVB	• N566HP321 EVB	• N566HP321 COB with passive part	
NV-N567HP80	NHS-567HP80	• N567HP330(N567HP80) OTP EVB	• N567HP330(N567HP80) One-Time Programmable (OTP) Evaluation Board (EVB)	
NV-N567LP330	NHS-567LP330	• N567LP330 OTP EVB	• N567LP330 EVB One-Time Programmable (OTP) Evaluation Board (EVB)	
N588HP082-TB	N588HP082-TB	• N588HP082 Tiny Board	• N588HP082 Tiny Board to cover N588HP062/082, N588JP062/082	
N588HP172-TB	N588HP172-TB	• N588HP172 OTP Tiny Board	• N588HP172 OTP tiny demo board to cover N588JP122/172 and N588HP122/172	
N588HP342-TB	N588HP342-TB	• N588HP342 Tiny Board	• N588HP342 Tiny Board to cover N588HP202/252/342 and N588JP202/252/342	
NV-N588LP330	NHS-588LP330	• N588LP330 OTP EVB	• N588LP330 EVB One-Time Programmable (OTP) Evaluation Board (EVB)	
NV-N588HP650	NHS-N588HP650	• N588HP650 OTP EVB	• N588HP650 COB with passive parts	
NV-N588HP340	NHS-588HP340	• N588HP340 OTP EVB	• N588HP340 One-Time Programmable (OTP) Evaluation Board (EVB)	
NV-N588HP170	NHS-588HP170	• N588HP170 OTP EVB	• N588HP170 One-Time Programmable (OTP) Evaluation Board (EVB)	
NV-N588HP080	NHS-588HP080	• N588HP080 OTP EVB	• N588HP080 One-Time Programmable (OTP) Evaluation Board (EVB)	
Writer				
NW-OTP	Nuvoton OTP Writer	• Nu-Speech / Nu-Voice OTP chip Writer	• Nu-Speech / Nu-Voice OTP chip Writer	
NW-OTP-Gang	Nuvoton OTP Gang Writer	• Nu-Speech / Nu-Voice OTP chip Gang Writer	• Nu-Speech / Nu-Voice OTP chip Gang Writer - support to write 4 chips one time	
NW-OTP-SP	NW-OTP-SP	• New OTP writer with adaptor	• New OTP writer dongle for N566GP/KP-120/160/200/240/280/320, N566HP-120/160/200/240/280/321, N588HP/JP-062/082/122/172/202/252/342, and NSP075/165/335	
NW-570S64A-F	Flash Gang Writer	• Nu-Voice N569S, N57xS chip Gang Writer	• Nu-Voice N569S, N57xS chip Gang Writer - support to write 8 chips one time	




Development Tools for NuVoice™

Ordering No.	Board name	Content	Description	Picture
Evaluation Board				
NU-NUVOICE	NU-LINK	<ul style="list-style-type: none"> Nu-Link Debug Adapter USB Cable 	• Nu-Link Debug Adapter for Nu-Voice Series, supports online/offline In-Circuit Programming (ICP), development, and debug.	
NV-N569S2K0	NHS-N569S2K0	• NHS-N569S2K0 EVB	• N569S (w/ 16Mbit Flash) Evaluation Board (EVB) with I/O Interface	
NV-N569S8K0	NHS-N569S8K0	• NHS-N569S8K0 EVB	• N569S (w/ 64Mbit Flash) Evaluation Board (EVB) with I/O Interface	
NV-N570C064	NHS-570C064-EVB	• NHS-570C064 EVB	• N570C064 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application	
N570HC64-EVB	NHS-570H064-EVB	• NHS-570H064 EVB	• N570H064 and N570HC64 Evaluation Board (EVB) with push button for demo	
N570J32A-EVB	NHS-N570J32A	• N570J32A-EVB	• N570J32AL Evaluation Board to cover N570J08AL, N570J16AL and N570J32AL	
NV-N570S16A	NHS-N570S16A	• NHS-N570S16A EVB	• N570S16A (w/ 16Mbit Flash) Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application	
NV-N570S64A	NHS-N570S64A	• NHS-N570S64A EVB	• N570S64A (w/ 64Mbit Flash) Evaluation Board (EVB) with I/O Interface & Microphone	
NV-N570SC64	NHS-570SC64	• NHS-570SC64 EVB	• N570S64A (w/ 64Mbit Flash) Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application	
NV-N572F065	NHS-572F065-EVB	• NHS-572F065 EVB	• N572F065 Evaluation Board (EVB) with I/O Interface	
NV-N572F072	NHS-572F072-EVB	• NHS-572F072 EVB	• N572F072 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application	
NV-N572C072	NHS-572C072-EVB	• NHS-572C072 EVB	• N572C072 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application	
NV-N571P032	NHS-571P032-EVB	• NHS-571P032 EVB	• N571P032 One-Time Programmable (OTP) Evaluation Board (EVB) with I/O Interface & Microphone for program verification	
ICE-N571P032	NHS-571E000-EVB	• N571P032 ICE Chip EVB	• N571P032 In-Circuit Emulation (ICE) Chip with I/O interface & Microphone, Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	

Development Tools for NuVoice™

Ordering No.	Board name	Content	Description	Picture
Evaluation Board				
NV-N575C145	NHS-575C145	• NHS-575C145 EVB	• NHS-575C145 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application	
NV-N575F145	NHS-575F145	• NHS-575F145 EVB	• NHS-575F145 Evaluation Board (EVB) with I/O Interface & Microphone	
NK-N575CF145	AU9110-DemoKit	• I/O Expansion Daughter Board for N575 EVB	• NHS-575C/F145-Daughter Board expands N575 EVB with additional Push Button & Reserved SD Card Socket.	
NT-N575C145	NHS-575C145	• NHS-575C145-EVB + Daughter Board	• NHS-575C145 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application with Daughter Board	
NT-N575F145	NHS-575F145	• NHS-575F145-EVB + Daughter Board	• NHS-575F145 Evaluation Board (EVB) with I/O Interface & Microphone with Daughter Board	

Development Tools for Nu-Touch

Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
ICE-N55T10	NHS-55T10 (TOUCH SYSTEM)	• N55T10 Evaluation Kit	• N55T10 Evaluation kits, it include NHS-55T-1, NHS-55T-2, NHS- 55T10-COB, WHS-588L-8M	
NV-N55T10	NHS-55T10-COB EVB	• N55T10 EVB	• N55T10 Evaluation Board (EVB)	
N55T16-EVB	N55T16 EV Board	• N55T16 EV Board	• N55T16 Evaluation Board	

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IO Expander Family

Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
NV-N55P242	NHS-55P242	• N55P242 EVB	• N55P242 Evaluation Board (EVB)	
Demo Board				
NV-N55P242-R	N55P242_RING_TYPE_DEMO_BOARD_V1.0	• N55P242 Demo Board (Circle)	• N55P242 Circle Demo Board	
NV-N55P242-S	N55P242_SINGLE_STRIP_DEMO_BOARD_V1.0	• N55P242 Demo Board (Rectangle)	• N55P242 Rectangle Demo Board	

Development Tools for MFID Family

Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
NV-MFID50	WHS-55MID50-002	• W55MID50 EVB	• W55MID50 MFID Evaluation Board (EVB) with PCB Antenna (42mm*34.5mm)	
NV-W55MID15	WHS-55MID15	• W55MID15 MFID Tag EVB	• W55MID15 w/ ANT (20mm*20mm)	
NV-W55MID35	WHS-55MID35	• W55MID35 MFID Tag EVB	• W55MID35 w/ ANT (15mm*15mm)	
N55MID16-TB1	N55MID16 Tiny Board	• N55MID16 Tiny Board	• N55MID16 single tag COB w/ antenna 2CM x 2CM	
N55MID36-TB1	N55MID36 Tiny Board	• N55MID36 Tiny Board	• N55MID36 multi-tag CON demo board w/ antenna 1.5CM x 1.5CM	
N55MID51-EVB	N55MID51 EV Board	• N55MID51 EV Board	• N55MID51 Reader Evaluation Board w/ antenna 4CM x 3.5CM	

Development Tools for Other

Ordering No.	Board Name	Content	Description	Picture
Accessory				
NK-Keymatrix	WHS-KEY MATRIX	• External Key-Matrix Board	• External Key-Matrix Board	
NW-USB	WHS-USB-Writer	• USB Writer	• EVB USB Writer to cover PowerSpeech/ViewTalk/BandDirectorEVB, and NSP-OTP-EVB	

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