2018

Contents

Consumer Speech

PowerSpeech® Series

- W584Axxx 4-bit µC Base, 1-ch Voice + Dual Tone Melody Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		VDD (V)	CH	Fsys (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

• W584Axxx 4-bit µC Base, 1-ch Voice + Dual Tone Melody Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		VDD (V)	CH	Fsys (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	-

Contact us: Toy@nuvoton.com

• W584Bxxx 4-bit µC Base, 1-ch Voice Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		VDD (V)	CH	Fsys (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

Contact us: Toy@nuvoton.com

• W588Lxxx 8-bit µC Base, 2 Batteries, 2-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 5-bit MDM		VDD (V)	CH	Fsys (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

• W588Cxxx 8-bit µC Base, 2-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (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

• W588Cxxx 8-bit µC Base, 2-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (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

Contact us: Toy@nuvoton.com

• W588Dxxx 8-bit µC Base, 3-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (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	√

• N584Lxxx 4-bit µC Base, 1~2 Battery, 1-ch Voice + Dual Tone Melody Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		VDD (V)	Booster Output (V)	CH	Fsys (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

Contact us: Toy@nuvoton.com

• N588Lxxx 1.0~3.6V, 8-bit µC base, 2-ch Voice Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (6 MHz)	CH	Fsys (MHz)	OSC	Audio		Vp (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

Contact us: Toy@nuvoton.com

• N584Hxxx High Sound Quality 1-ch Voice

Part No.	ROM (Kbits)	Duration (Sec.) @ 4-bit NM4		VDD (4 MHz)	CH	Fsys (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	V	4 I/O	4-pin
N584H019	620	24	18	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	4 I/O	4-pin
N584H029	940	37	28	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	4 I/O	4-pin
N584H039	1260	49	37	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	4 I/O	4-pin
N584H010	300	12	9	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
N584H020	620	24	18	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
N584H030	940	37	28	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
N584H040	1260	49	37	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
N584H060	1740	68	51	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
N584H070	1900	74	56	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
N584H120	3340	131	98	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin
N584H160	4070	159	119	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit		8-pin	224	V	16 I/O	8-pin
N584H170	4460	175	131	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin
N584H210	5740	225	169	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin
N584H260	7020	275	206	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin
N584H300	7980	312	234	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin
***N584HP030 (OTP)**	940	37	28	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
N584HP070 (OTP)	1900	74	56	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
N584HP160 (OTP)	4070	159	119	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin
N584HP300 (OTP)	7980	312	234	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin

*under development

Contact us: Toy@nuvoton.com

• N588Jxxx 8-bit µC Base, 1-ch Voice Synthesizer w/ PWM Direct Driver

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (6MHz)	CH	Fsys (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
N588JP080 (OTP)	254	80	60	2.2~5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
N588JP170 (OTP)	510	162	121	2.2~5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
N588JP340 (OTP)	1020	324	243	2.2~5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
N588JP480 (OTP)	1534	486	364	2.2~5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
N588JP650 (OTP)	2044	648	486	2.2~5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair

• N588Hxxx 8-bit µC Base, 3-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (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
N588HP080 (OTP)	254	80	60	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
N588HP170 (OTP)	510	162	121	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
N588HP340 (OTP)	1022	324	243	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
N588HP480 (OTP)	1534	486	364	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
N588HP650 (OTP)	2044	648	486	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair

Contact us: Toy@nuvoton.com

• N589A 8-bit µC Base, 2-ch Voice + Melody Synthesizer, w/ ADC

Part No.	Duration (Sec) (8 KHz)	VDD (V)	Voice CH	Fsys (MHz)	OSC	ADC	Audio		RAM (Bytes)	GPIO	I/O Interface	PWM I/O	LVD	IR wake up
							PWM	DAC						
N589A080	98	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	24 I/O	-	9 pin	√	√
N589A120	130	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	24 I/O	-	9 pin	√	√
N589A170	162	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	24 I/O	-	9 pin	√	√
N589A200	226	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	32 I/O	SPI	9 pin	√	√
N589A250	290	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	32 I/O	SPI	9 pin	√	√
N589A340	354	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	32 I/O	SPI	9 pin	√	√
N589A480	482	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	32 I/O	SPI	9 pin	√	√
N589A680	738	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	32 I/O	SPI	9 pin	√	√

• N5132,N5162 1-ch Voice Synthesizer w/ CPU I/F

Part No.	VDD (V)	CH	Fsys (MHz)	OSC	Audio		LVR	GPIO	CPU I/F
					PWM	DAC			
N5132 (OTP)	2.2~5.5	1	8	Ring	9-bit	-	√	6 I/O	√
N5162S16(Flash)	2.7~5.5	1	6,8	Ring	12-bit	13-bit	√	12 I/O	√

• N5160Sxx 8-bit µC Base, 1-ch Long Duration Voice Synthesizer

Part No.	Flash (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (MHz)	OSC	Audio		LVR	GPIO	SIM SPI	Package
		(6 KHz)	(8 KHz)					PWM	DAC				
N5160S16 (Flash)	2048	635	476	2.7~5.5	1	6,8	Ring	12-bit	13-bit	√	12 I/O	√	LQFP48
N5160S32 (Flash)	4096	1270	953	2.7~5.5	1	6,8	Ring	12-bit	13-bit	√	12 I/O	√	LQFP48

Contact us: Toy@nuvoton.com

BandDirector® Series

• W567Cxxx 8-bit µC 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	√	-

Contact us: Toy@nuvoton.com

• N567Gxxx 8-bit µC Base, 4-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (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	√

• N567Kxxx 8-bit µC Base, 6-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (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	√

Contact us: Toy@nuvoton.com

• N567Hxxx 8-bit µC Base, 8-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (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	√

Contact us: Toy@nuvoton.com

• N567Dxxx 8-bit µC 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	√

• N567Lxxx 1.0~3.6V, 8-bit µC base, 8-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		Channel		VDD (6 MHz)	Fsys (MHz)	OSC	Audio		Vp (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

Contact us: Toy@nuvoton.com

• N566Gxxx 8-bit µC Base, 4-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (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	√

• N566Kxxx 8-bit µC Base, 6-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC					
***N566K080**	286	84	63	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	√

• N566Hxxx 8-bit µC Base, 8-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC					
***N566H080**	286	84	63	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	√
N566HP320 (OTP)	1022	311	233	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	24 I/O	2-pin	√

*: under development Contact us: Toy@nuvoton.com

ViewTalk® Series

• N537A090 8-bit µC 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 µC 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

• N538Txxx 8-bit µC 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

Contact us: ViewTalk@nuvoton.com

• N538Axxx 8-bit µC 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

• W539Axxx 8-bit µC 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

• N539Txxx 8-bit µC 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

Contact us: ViewTalk@nuvoton.com

NuVoice™ Series

• N569Sxxx, 32-bit Cortex-M0 with embedded Flash, long duration solution

Part No.	CPU	APROM	Flash Memory	V_{DD} (V)	Duration(Sec) 8KHz	SRAM	GPIO	I/O Interface	PWM I/O	Audio Mic.	Audio Speaker	LDO	ADC	Other	Package
N569S502	Cortex®-M0 49 MHz	64KB Flash	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 Flash	8Mbit	2.4~5.5	1,000	6 KB	18	SPI,UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48
N569S1K1	Cortex®-M0 49 MHz	64KB Flash	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 Flash	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 Flash	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 Flash	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 Flash	128Mbit	2.4~5.5	16,000	6 KB	18	SPI, UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48

• N570XXXX, 32-bit Cortex M0 with embedded Flash and 10 bit ADC Solution

Part No.	CPU	APROM	Flash Memory	V_{DD} (V)	Duration(Sec) 8KHz	SRAM	GPIO	I/O Interface	PWM I/O	Audio Mic.	Audio Speaker	LDO	ADC	Other	Package
N570F064	Cortex®-M0 49 MHz	64KB Flash	-	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 Flash	-	1.8~5.5	-	6 KB	22	SPI x 2, UART	8	√	DPWM DAC	√	10-bit 4-ch	Voice Recognition	LQFP48
N570S08A	Cortex®-M0 49 MHz	64KB Flash	8Mbit	2.4~5.5	1,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48
N570S08B	Cortex®-M0 49 MHz	64KB Flash	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	64KB Flash	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	64KB Flash	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	64KB Flash	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 Flash	128Mbit	2.4~5.5	16,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48

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

- N571PXXX, 32-bit Cortex M0 with embedded OTP and 10 bit ADC Solution

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

- N572XXXX, 32-bit Cortex M0 with embedded OTP/Flash and 12 bit ADC Solution

Part No.	CPU	APROM	Flash Memory	V_{DD} (V)	Duration(Sec) 8KHz	SRAM	I/O	I/O Interface	PWM I/O	Audio Mic.	Audio Speaker	LDO	ADC	Other	Package
N572P072	Cortex®-M0 48 MHz	64 KB OTP 8 KB Flash	-	2.4~5.5	-	8 KB	32	SPI x 2	4	√	Class-AB (400mW)	√	12-bit 8-ch	-	LQFP64
N572F072	Cortex®-M0 48 MHz	72 KB Flash	-	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 Flash	-	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 Flash	-	2.4~5.5	-	8 KB	32	SPI x 2	4	√	Class-AB (250mW)	√	12-bit 8-ch	USB 2.0 FS Device	LQFP64
N572S08A	Cortex®-M0 48 MHz	64 KB Flash	8Mbit	2.4~5.5	1,000	8 KB	26	SPI	4	√	Class-AB (400mW)	√	12-bit 8-ch	-	LQFP64
N572S16A	Cortex®-M0 48 MHz	64 KB Flash	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 Flash	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 Flash	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 Flash	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

• N573XXXX, 32-bit Cortex-M0 with embedded Flash and 16 bit ADC Solution

Part No.	CPU	APROM	Flash Memory	V_{DD} (V)	Duration(Sec)	SRAM	I/O	I/O Interface	PWM I/O	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
N573F128	Cortex®-M0 48 MHz	128 KB Flash	-	1.8~5.5	-	12 KB	32	UART, I²C, I²S, SPI	4	√	DPWM (1W)	√	16-bit sigma delta, 12-bit 10-ch SAR ADC	16-ch Touch Key, PDMA, CRC	LQFP64

• N575XXXX, 32-bit Cortex-M0 with embedded Flash and 16 bit ADC Solution

Part No.	CPU	APROM	Flash Memory	V_{DD} (V)	Duration(Sec)	SRAM	I/O	I/O Interface	PWM I/O	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
N575F145	Cortex®-M0 48 MHz	145 KB Flash	-	2.4~5.5	-	12 KB	24	UART, I²C, I²S, SPI	2	√	DPWM (1W)	√	16-bit, sigma delta	8-ch Touch Key, Temperature Alarm, PDMA, CRC	LQFP48
N575C145	Cortex®-M0 48 MHz	145 KB Flash	-	2.4~5.5	-	12 KB	24	UART, I²C, I²S, 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 Flash	64 Mbit	2.4~5.5	8,000	12 KB	20	UART, I²C, I²S, SPI	2	√	DPWM (1W)	√	16-bit, sigma delta	8-ch Touch Key, Temperature Alarm, PDMA, CRC	LQFP64

Peripheral Series

Nu-Touch

- N55T10 10 Key Capacitor Sensor Controller

Part No.	Input	Wake Up	VDD (V)	Interface
N55T10	10	√	2.4~5.5	I²C

ADC

- N55AD SAR ADC

Part No.	Channel	Resolution	VDD (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

MFID and RF Family

- W55MIDxx 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	6~8 tags	-	-
W55MID20	Single-tag	13.56	Programmable	> 1K	-	-	-
W55MID50	Reader	13.56	-	-	-	4-level	Serial/Parallel

Contact us: Toy@nuvoton.com

Serial ROM Family

N551Cxxx Serial Mask ROM

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

Contact us: Toy@nuvoton.com

Consumer Series

W541xxxx Low Power 4-bit µC

Part No.	VDD (V)	ROM (bits)	RAM (bits)	GPIO	LCD	System Clock	Fast Working Frequency	Slow Working Frequency	Package
W541L20x	1.2~1.8	2Kx16	128x4	20 I/O	-	Single Crystal/RC	400K~1 MHz	32768 Hz	DIP:18/20/28 SOP:20/28
W541C20x	2.4~5.5	2Kx16	128x4	20 I/O	-	Single Crystal/RC	400K~1 MHz	32768 Hz	DIP:18/20/28 SOP:20/28
W541E20x (MTP)	2.4~5.5	2Kx16	128x4	20 I/O	-	Single Crystal/RC	400K~1 MHz	32768 Hz	DIP:18/20/28 SOP:20/28
W541L23x	1.2~3.6	1Kx16 1.5Kx16 2Kx16	64x4 96x4 128x4	12 I/O	4x16	Single/Dual Crystal/Internal RC	100K~800 KHz	32768 Hz	PLCC-44
W541L240	1.2~1.8	2Kx16	64x4	12 I/O	4x24	Single Crystal/RC	400K~1 MHz	32768 Hz	QFP64
W541C240	2.4~5.5	2Kx16	64x4	12 I/O	4x24	Single Crystal/RC	400K~1 MHz	32768 Hz	QFP64
W541L250	1.2~1.8	2Kx16	128x4	20 I/O	4x24	Single Crystal/RC	400K~1 MHz	32768 Hz	QFP64
W541L261	1.2~3.6	2Kx16	128x4	20 I/O	4x32	Single/Dual Crystal/RC	400K~4 MHz	32768 Hz	QFP80
W541C261	2.4~5.5	2Kx16	128x4	20 I/O	4x32	Single/Dual Crystal/RC	400K~4 MHz	32768 Hz	QFP80
W541E261 (MTP)	2.4~5.5	2Kx16	128x4	20 I/O	4x32	Single/Dual Crystal/RC	400K~4 MHz	32768 Hz	QFP80
W541L480	1.2~3.6	4Kx16	256x4	20 I/O	4x32	Single/Dual Crystal/RC	400K~4 MHz	32768 Hz	QFP80
W541C480	2.4~5.5	4Kx16	256x4	20 I/O	4x32	Single/Dual Crystal/RC	400K~4 MHz	32768 Hz	QFP80
W541E480 (MTP)	2.4~5.5	4Kx16	256x4	20 I/O	4x32	Single/Dual Crystal/RC	400K~4 MHz	32768 Hz	QFP80

Contact us: 4-bit@nuvoton.com

ARM® Cortex®-M Audio SoCs

AUI Enabler Series

Part No.	CPU	APROM	SRAM	I/O	Timer	SPI	PWM	ADC	RTC	Audio		Developemnt Tools	Other	Package
										Mic.	Speaker			
ISD91032	Cortex®-M0 49 MHz	64 KB Flash	6 KB	22	3	1	8	10-bit SAR ADC	√	1	Class-D (0.45W)	-	13-bit DAC, UART	LQFP48
ISD9130	Cortex®-M0 49 MHz	68 KB Flash	12 KB	24	2	1	2	Sigma-Delta >92 dB	√	1	Class-D (1W)	ISD-DMK_9160	8-ch Touch Key,Temperature Alarm,UART, I²C, I²S, PDMA, CRC	LQFP48 QFN32
ISD9160	Cortex®-M0 49 MHz	145 KB Flash	12 KB	24	2	1	2	Sigma-Delta >92 dB	√	1	Class-D (1W)	ISD-DMK_9160	8-ch Touch Key,Temperature Alarm,UART, I²C, I²S, PDMA, CRC	LQFP48 QFN32
ISD91230	Cortex®-M0 49 MHz	64 KB Flash	12 KB	32	2	2 (Quad /Dual)	4	Sigma-Delta >92 dB	√	1	Class-D (0.45W)	-	8-ch Touch Key,Temperature Alarm,2*UART, I²C, I²S, PDMA, CRC	LQFP64
ISD91260	Cortex®-M0 49 MHz	128 KB Flash	12 KB	32	2	2 (Quad /Dual)	4	Sigma-Delta >92 dB	√	1	Class-D (0.45W)	-	8-ch Touch Key,Temperature Alarm, 2*UART, I²C, I²S, PDMA, CRC	LQFP64
ISD91331	Cortex®-M0 98 MHz	68 KB Flash	16 KB	32	2	1 (Quad)	6	Sigma-Delta >90 dB	√	1	Class-D (1W)	ISD-DMK_9361	16-ch Touch Key,Temperature Alarm, UART, I²C, I²S, PDMA, CRC	LQFP64
ISD91361	Cortex®-M0 98 MHz	145 KB Flash	16 KB	32	2	1 (Quad)	6	Sigma-Delta >90 dB	√	1	Class-D (1W)	ISD-DMK_9361	16-ch Touch Key,Temperature Alarm, UART, I²C, I²S, PDMA, CRC	LQFP64
ISD94124	Cortex®-M4 180 MHz	512 KB Flash	192 KB	61	4	2 (Quad /Dual)	6	12-bit SAR ADC	√	4x DMIC	DPWM to exteral amp	ISD-DMK_94100	USB 2.0 FS VAO	LQFP64 LQFP100 (TBD)

Audio CODECs

• Mono Codec Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	SPKVDD/ Analog/Digital/ Digital I/O (V)	Package (mm)
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8810	Mono Codec with 2-wire interface	1	1	91	93	-79	-84	8~48	I²S PCM (Timeslot)	NAU8810-EVB	2-Wire	2.50~5.50 2.50~3.60 1.71~3.60 1.71~3.60	QFN20 (4x4)
NAU88C10	Mono Codec with 2-wire interface	1	1	91	93	-79	-84	8~48	I²S PCM (Timeslot)	NAU88C10-EVB	2-Wire	2.50~5.50 2.50~3.60 1.71~3.60 1.71 ~ 3.60	QFN20 (4x4)
NAU8811	Mono Codec with SPI interface	1	1	91	93	-79	-84	8~48	I²S PCM (Timeslot)	NAU8811-EVB	3-Wire	2.50 ~ 5.50 2.50 ~ 3.60 1.71 ~ 3.60 1.71 ~ 3.60	QFN20 (4x4)
NAU8812	Mono Codec with speaker driver	1	1	91	93	-79	-84	8~48	I²S PCM (Timeslot)	NAU8812-EVB	2-Wire 3-Wire 4-Wire	2.50 ~ 5.50 2.50 ~ 3.60 1.71 ~ 3.60 1.71 ~ 3.60	QFN32 (5x5) SSOP-28
NAU8814	Mono Audio Codec with Equalizer, speaker driver	1	1	91	93	-79	-84	8~48	I²S PCM (Timeslot)	NAU8814-EVB	2-Wire 3-Wire	2.50 ~ 5.50 2.50 ~ 3.60 1.71 ~ 3.60 1.71 ~ 3.60	QFN24 (4x4)

Contact us: Audio@nuvoton.com

• Stereo Codec Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	SPKVDD/ Analog/Digital/ Digital I/O (V)	Package (mm)
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8822A	Stereo Codec with Speaker Drive	2	2	90	94	-80	-84	8~48	I²S PCM (Timeslot)	NAU8822-EVB	2-Wire 3-Wire 4-Wire	2.50 to 5.50 2.50 to 3.60 1.65 to 3.60 1.65 to 3.60	QFN32 (5x5)
NAU8822L	Stereo Codec with Speaker Drive	2	2	90	94	-80	-84	8~192	I²S PCM (Timeslot)	NAU8822L-EVB	2-Wire 3-Wire 4-Wire	2.50 to 5.50 2.50 to 3.60 1.65 to 3.60 1.65 to 3.60	QFN32 (5x5)
NAU88C22	Stereo Codec with Speaker Drive	2	2	89	89	-78	-84	8~192	I²S PCM (Timeslot)	NAU88C22-EVB	2-Wire 3-Wire 4-Wire	2.50 to 5.50 2.50 to 3.60 1.65 to 3.60 1.65 to 3.60	QFN32 (5x5) QFN32 (4x4)
NAU8820	Stereo Codec	2	2	90	94	-80	-84	8~48	I²S PCM (Timeslot)	NAU8820-EVB	2-Wire 3-Wire 4-Wire	2.50 to 5.50 2.50 to 3.60 1.65 to 3.60 1.65 to 3.60	QFN32 (5x5)

• Ultra Low Power (ULP) Codec Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	SPKVDD/ MICBIAS/Analog/ Digital/Digital I/O (V)	Package (mm)
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU88L24	ULP Stereo CODEC With Advanced Headset Detection and Stereo Class D Amp	2	2	100	103	-85	-77	8~96	I²S (TDM) PCM (Timeslot)	NAU88L24-EVB	I²C	2.6 ~ 5.0 2.6 ~ 5.0 1.6 ~ 2.0 1.1 ~ 1.98 1.6 ~ 3.6	QFN48 (6x6)
NAU88L25	Ultra-Low Power Audio CODEC With Advanced Headset Features and 124dB Class G Headphone Drive	1	2	101	124	-91	-89	8~192	I²S / PCM	NAU88L25-EVB	I²C	NA 2.6 ~ 5.0 1.6 ~ 2.0 1.1 ~ 1.98 1.6 ~ 3.6	QFN32 (5x5)

• Stereo ADC Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	Analog/ Digital/Digital I/O (V)	Package (mm)
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8501	Stereo ADC with Input Mixer and Line Output	2	-	90	-	-80	-	8~48	I²S (TDM) PCM (Timeslot)	NAU8501-EVB	2-Wire 3-Wire 4-Wire	2.50 ~ 3.60 1.65 ~ 3.60 1.65 ~ 3.60	QFN28 (4x4)
NAU8502	Stereo ADC with Integrated LDO	2	-	90	-	-80	-	8~48	I²S (TDM) PCM (Timeslot)	NAU8502-EVB	2-Wire 3-Wire 4-Wire	2.70 ~ 3.60 1.71 ~ 3.60 1.71 ~ 3.60	QFN28 (4x4)

• Ultra Low Power (ULP) ADC Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	MICBIAS/ Analog/Digital/ Digital I/O (V)	Package (mm)
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU85L40	ULP Quad Audio ADC with integrated FLL and Microphone Preamplifier	4	-	101	-	-91	-	8 to 96	I²S (TDM)	NAU85L40-EVB	I²S	2.50 ~ 5.50 1.62 ~ 1.98 1.20 ~ 1.98 1.62 ~ 3.60	QFN28 (4x4)
NAU85L20	ULP Stereo Audio ADC with integrated FLL and Microphone Preamplifier	2	-	101	-	-91	-	8 to 96	I²S (TDM)	NAU85L20-EVB	I²S	1.80 ~ 5.50 1.62 ~ 1.98 1.20 ~ 1.98 1.62 ~ 3.60	QFN28 (4x4)

• Stereo DAC Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	SPKVDD/ Analog/ Digital/Digital I/O (V)	Package (mm)
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8401	Stereo DAC with Speaker Drive and Line Input	-	2	-	94	-	-84	8~48	I²S PCM (Timeslot)	NAU8401-EVB Check For availability	2-Wire 3-Wire 4-Wire	2.50 ~ 5.50 2.50 ~ 3.60 1.65 ~ 3.60 1.65 ~ 3.60	QFN32 (5x5)
NAU8402	Stereo DAC with 2Vrms Output	-	2	-	98	-	-82	8~96	I²S	NAU8402-EVB	-	NA 3.0 ~ 3.6 1.7 ~ 3.6 1.7 ~ 3.6	TSSOP 16

Audio Amplifiers

2Vrms Line Driver and Class-AB Series

Part No.	Description	SNR (dB)	Output Power		Gain (dB)	Standby Current (uA)	Operating Voltage (V)	Temp (°C)	Development Tools	Package
			Power (W)	THD+N (%)						
NAU8220	2Vrms Line Driver	108	-	0.003	-	-	3.0~3.6	-40~85	NAU8220WG-EVB	SOP14 TSSOP14
ISD8101	1.5W Class-AB Audio Amplifier with Chip Enable, Differential/Single ended inputs, Low pop and Click	100	0.825 (5.0V)	<1	20	<1	2.4~6.8	-40~85	ISD-DEMO8101	8-pin SOP 8-pin PDIP
			1.1 (5.0V)	<10						
			1.5 (6.8V)	<10						
ISD8102	2W Class-AB Audio Amplifier with Head Phone Sense Input	100	2W into 4Ω at 5V	<10	20	<1	2.0~6.8	-40~85	ISD-DEMO8102	8-pin SOP (Thermal ex-pad)
ISD8104	2W Class-AB Audio Amplifier, Differential/Single ended inputs	100	2W into 4Ω at 5V	<10	20	<1	2.0~6.8	-40~85	ISD-DEMO8104	8-pin SOP (Thermal ex-pad)P

Contact us: Audio@nuvoton.com

Class D Series

Part No.	Description	SNR (dB)	Output Power		Gain (dB)	Standby Current (uA)	Operating Voltage (V)	Temp (°C)	Development Tools	Package
			Power (W)	THD+N (%)						
NAU82011VG	3.1W Mono Class-D Audio Amplifier, variable gain with Differential / Single ended inputs	103	3.1W into 4Ω at 5V	<10	Variable	<1	2.5~5.5	-40~85	NAU82011VG-EVB	9-bump WCSP
NAU82039VG	3.2W Mono Class-D Audio Amplifier 12dB fixed gain with Differential / Single ended inputs	103	3.2W into 4Ω at 5V	<10	12	<1	2.5~5.5	-40~85	NAU82039VG-EVB	9-bump WCSP
NAU8214	2.9W Mono Filer-Free Class-D Audio Amplifier, 5 gain steps with Differential / Single ended inputs and with Speaker Protection / Max Power Limiting feature	103	2.9W into 4Ω at 5V	<10	0, 6, 12, 18, 24	<1	2.5~5.5	-40~85	NAU8214-EVB	QFN20/ SOP8
NAU8223	3.1W Stereo Filer-Free Class-D Audio Amplifier, 5 gain steps with Differential / Single ended inputs	103	3.1W into 4Ω at 5V	<10	0, 6, 12, 18, 24	<1	2.5~5.5	-40~85	NAU8223-EVB	QFN20
NAU8224	3.1W Stereo Filer-Free Class-D Audio Amplifier, 2 wire interface gain control with Differential / Single ended inputs	101	3.1W into 4Ω at 5V	<10	24 to -62	<1	2.5~5.5	-40~85	NAU8224-EVB	QFN20
***NAU83P20**	Class D power stage 2x20W into 8Ohms (1% THD)	102	10Wx4 20Wx2	<0.18	3BTL / 3SE	<1	7.0~24.0	-40~85	NAU83P20-EVB	QFN48

* Under Development

Contact us: Audio@nuvoton.com

Audio Enhancement

MaxxAudio® Series

Part No.	HW Configuration					MaxxAudio® Algorithms							
	I²S Stereo Inputs	ADC Stereo Inputs	I²S Output 2 x Stereo	DAC Single Output	Power Output	Bass	Pro. Eq.	3D	Treble	Volume	Level	Dialog	Package
NPCP215F	4	0	3	0	20W (8R)	Y	Y	Y	Y	Y	Y	Y	QFN48
NPCA110P	2	3	3	4	-	Y	Y	Y	Y	Y	Y	Y	QFN40
NPCA110T	3	0	3	3	-	Y	Y	Y	Y	Y	Y	Y	QFN32
NPCA110D	3	0	3	0	-	Y	Y	Y	Y	Y	Y	Y	QFN32
NPCA110B	1	2	1	2	-	Y	Y	-	-	Y	-	-	QFN32

Contact us: Audio@nuvoton.com

Audio Converters

Precision ADC Series

Part No.	Description	Resolution Bits	Sample Rates (max)	Architecture	Gain	# of Input Channels	Development Tools	ENOB (Gain=1, 10SPS)	Package
NAU7802	Dual Channel 24-bit ADC	24	10, 20, 40, 80 & 320 Hz	Sigma-Delta	1x, 2x, 4x, 8x, 16x, 32x, 64x, 128x	2	NAU-DEMO7802	23	SOP-16, PDIP-16

Contact us: Audio@nuvoton.com

ChipCorder® Family

Digital ChipCorder® Series

Part No.	Description	Duration	Sample Rate (KHz)	Operating Voltage (V)	Package	Development Tools	Temp (°C)
ISD15102	Multi-message record/playback, Flash memory, I²S digital audio and SPI interfaces	2 min	Up to 48	2.7~3.6	LQFP48	ISD-DMK_15100	Industrial -40~85°C
ISD15104		4 min					
ISD15108		8 min					
ISD15C00	Multi-message record/playback with I²S digital audio and SPI interfaces	Ext. Flash up to 64 min	Up to 48	2.7~3.6	LQFP48	ISD-DMK_15C00	AEC-Q100
ISD15D00	Multi-message playback-only with I²S digital audio and SPI interfaces	Ext. Flash up to 64 min	Up to 48	2.7~5.5	QFN32	ISD-DMK_15D00	AEC-Q100
ISD3900	Multi-message record/playback with I²S digital audio and SPI interfaces	Ext. Flash up to 64 min	Up to 48	2.7~3.6	LQFP48	ISD-DMK_15100	Industrial -40~85°C
ISD3800	Multi-message playback-only with I²S digital audio and SPI interfaces	Ext. Flash up to 64 min	Up to 48	2.7~5.5	LQFP48	ISD-DMK_15D00	Industrial -40~85°C
ISD2130	Multi-message playback-only with embedded Flash memory	30 sec	Up to 32	2.7~3.6	QFN20	ISD-DMK_2100	Industrial -40~85°C
ISD2115A		15 sec				ISD-DMK_2100	
ISD2360	Multi-message, 3-channel audio, playback-only with embedded Flash memory	64 sec	Up to 32	2.4~5.5	QFN32 SOP16	ISD-DMK_2360	Industrial -40~85°C

Contact us: ChipCorder@nuvoton.com

• MLS ChipCorder® Series

Part No.	Description	Duration	Sample Rate (KHz)	Operating Voltage (V)	Package	Development Tools	Temp (˚C)
ISD14B20	Multi-message record/playback with internal Flash memory	10~128 sec	4~12	2.4~5.5	DIE	ISD-COB18B20	0~50°C
ISD14B40						ISD-COB18B24	
ISD14B80						ISD-COB18B80	
ISD1916	Multi-message record/playback with internal Flash memory	10~128 sec	4~12	2.4~5.5	SOIC 28	ISD-DEMO1916	Industrial
ISD1932						ISD-DEMO1932	
ISD1964						ISD-DEMO1964	
ISD1610B	Single-message record/playback with internal Flash memory	6~40 sec	4~12	2.4~5.5	SOIC 16 DIE	I16-COB20	Commercial Industrial
ISD1616B							
ISD1620B							
ISD1730	Multi-message record/playback, internal Flash memory and SPI interface	20~480 sec	4~12	2.4~5.5	SOIC 28 DIE	ISD-COB1730	Commercial Industrial
ISD1760						ISD-COB17160	
ISD17120						ISD-COB17120	
ISD17240						ISD-COB17240	
ISD1806	Single-message record/playback with internal Flash	6~16 sec	4~8	2.7~4.5	DIE	ISD-COB1810	0~50ºC
ISD1810							

Contact us: ChipCorder@nuvoton.com

• MLS ChipCorder® Series

Part No.	Description	Duration	Sample Rate (KHz)	Operating Voltage (V)	Package	Development Tools	Temp (˚C)
ISD18A04	Single-message record/playback with internal Flash memory	4~8 sec	4~8	2.4~5.5	DIE	ISD-COB18A04	0~50ºC
ISD18B12	Single-message record/playback with internal Flash memory	6~24 sec	4~8	2.4~5.5	DIE	ISD-COB18B24	0~50ºC
ISD18B24							
ISD18C10	Single-message record/playback with internal Flash memory	16 sec	4~8	2.7~4.5	DIE	ISD-COB18C10	0~50ºC
ISD4002	Multi-message record/playback, internal Flash memory and SPI interface	2~16 min	4,5.3,6.4,8	2.7~3.3	DIP 28 SOIC 28 TSOP 28 DIE	IPROG-1	Commercial Industrial
ISD4003							
ISD4004							
ISD5102	Multi-message record/playback, internal Flash memory and I²C interface	2~16 min	4,5.3,6.4,8	2.7~3.3	SOIC 28 TSOP 28 DIE	IPROG-1	Industrial
ISD5104							
ISD5108							
ISD5116							

Contact us: ChipCorder@nuvoton.com

Development Tools for *PowerSpeech*® Family

Ordering No.	Board Name	Content	Description	Picture
Development Kit				
ICE-W588D-FS	WHS-588D-ICE	• 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-N588H-FS	NHS-588H-ICE	• WHS-MINI-USB-ICE System V1.1 • NHS-588H-ICE System V1.1 2 layer boards • WHS-KEY + Cable • USB Cable	• N588H/J In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	
ICE-W584A	WHS-584A-ICE	• 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-N584H	NHS-584H-ICE	• 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-N5160	NHS-W588X006 (NV-N5160)	• N5160 EVB	• N5160 Evaluation Board (EVB) with 32M-bit SPI Flash	

Development Tools for *PowerSpeech*® Family

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-N5162S16	NHS-N5162S16	• N5162S16 EVB	• N5162S16 Evaluation Board (EVB)	
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-N566H-FS	NHS-566H-ICE	• WHS-MINI-USB-ICE System V1.1 • WHS-566H-ICE System V1.1 • WHS-KEY + Cable • USB Cable	• N566H In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	
ICE-W567C-FS	WHS-BD567C	• 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-N567H-FS	WHS-N567H-ICE	• WHS-MINI-USB-ICE System V1.1 • WHS-N567H-ICE System V3.0 • USB Cable • Power Adaptor	• N567G/H/K In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	

Contact us: Toy@nuvoton.com

Development Tools for *BandDirector*® Family

Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
NV-N566H	NHS-566H-16M	• N566H EVB	• N566H Evaluation Board (EVB) with 16M-bit Parallel Flash	
NV-W567C	WHS-567C-16M	• W567C/J series EVB	• W567C/J Series Evaluation Board (EVB) with 16Mbit 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	NHS-539-ICE	• WHS-MINI-USB-ICE System V1.1 • NHS-539-ICE System V1.2 • USB 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)	
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)	
NV-N588LP330	NHS-588LP330	• N588LP330 OTP EVB	• N588LP330 EVB One-Time Programmable (OTP) Evaluation Board (EVB)	
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-Flash-Gang	MCP SPI 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	• 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	
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 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 & Microphonefor 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 verifcation	
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)	

Contact us: Nuvoice@nuvoton.com

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)	

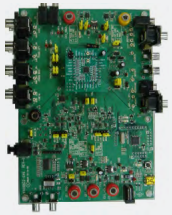
Development Tools for Other

Ordering No.	Board Name	Content	Description	Picture
Accessary				
NK-Keymatrix	WHS-KEY MATRIX	• External Key-Matrick Board	• External Key-Matrick Board	
NW-USB	WHS-USB-Writer	• USB Writer	• PowerSpeech/ViewTalk/BandDirector/Others USB writer	

Development Tools for AUI Enabler Series

Ordering No.	Part No.	Supported Devices	Content	Description	Picture
			Development Kit		
NM-ISD91032C	**ISD-DMK_91032C**	ISD91032	• ISD-DEMO91032C • ISD-NU-LINK • Speaker	• Evaluation and demo kit for ISD91032CFI	
NM-ISD9160	**ISD-DMK_9160**	ISD9160	• ISD-DEMO9160 • ISD-NU-LINK • ISD-9160-Touch • ISD-9160-KB • Speaker	• Evaluation, debugging and demo kit for ISD9160 • Keil RV/MDK available on Keil website • Supports ICP (In-Circuit Programming)	
NV-ISD9160	**ISD9160 IoT Eval board**	ISD9160	ISD9160 IoT Eval board	ISD9160 IoT Eval module kits for IoT development	
NM-ISD91300	**ISD-DMK_91300**	ISD91300	• ISD-DEMO91300 • ISD-91300-Touch • Speaker	• Evaluation, debugging and demo kit for ISD91300 • Keil RV/MDK available on Keil website • Supports ICP (In-Circuit Programming)	
			Programmer/Writer		
NW-ISD9160	**ISD-ES9160__Prog_F**	ISD9160 Series LQFP pakcage	• ISD-ES9160__Prog_F	• ISD9160 LQFP single socket programmer • Connect to PC via ISD NU-LINK for programming and evaluation	
NG-ISD9160	**ISD-9160_GANG_Prog_F**	ISD9160	• ISD-9160_GANG_Prog_F	• ISD9160 LQFP standalone gang programmer	
NW-ISD91300	**ISD-ES19300_PROG_F**	ISD91300	ISD-ES91300_PROG_F	• ISD91300 LQFP single socket programmer for programming and evaluation	
NG-ISD91300	**ISD-91300_GANG_Prog_F**	ISD91300	• ISD-91300_GANG_Prog_F	• ISD91300 LQFP standalone gang programmer	

Development Tools for Audio CODECs

Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Evaluation Board					
NE-NAU88C10	NAU88C10-EVB	NAU88C10	•NAU88C10-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU88C10 daughter card •Installation CD kit	
NE-NAU8810	NAU8810-EVB	NAU8810	•NAU8810-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU8810 daughter card •Installation CD kit	
NE-NAU8812	NAU8812-EVB	NAU8812	•NAU8812-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU8812 daughter card •Installation CD kit	
NE-NAU8814	NAU8814-EVB	NAU8814	•NAU8814-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU8814 daughter card •Installation CD kit	
NV-NAU88C10	NAU88C10-DEMO	NAU88C10	•NAU88C10-DEMO •GUI Installation CD	•Compact Audio Base Board + NAU88C10 daughter card •Installation CD kit	
NV-NAU8810	NAU8810-DEMO	NAU8810	•NAU8810-DEMO •GUI Installation CD	•Compact Audio Base Board + NAU8810 daughter card •Installation CD kit	
NV-NAU8812	NAU8812-DEMO	NAU8812	•NAU8812-DEMO •GUI Installation CD	•Compact Audio Base Board + NAU8812 daughter card •Installation CD kit	
NV-NAU8814	NAU8814-DEMO	NAU8814	•NAU8814-DEMO •GUI Installation CD	•Compact Audio Base Board + NAU8814 daughter card •Installation CD kit	
NE-NAU88L25	NAU88L25-EVB	NAU88L25	•NAU88L25-EVB •GUI Installation CD	•Evaluation Board for NAU88L25 •Installation CD kit	
NE-NAU85L40	NAU85L40-EVB	NAU85L40	•NAU85L40-EVB •GUI Installation CD	•Evaluation Board for NAU85L40 •Installation CD kit	
NE-NAU88L24	NAU88L24-EVB	NAU88L24	•NAU88L24-EVB •GUI Installation CD	•Evaluation Board for NAU88L24YG •Installation CD kit	

Development Tools for Audio CODECs

Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Evaluation Board					
NE-NAU88C22	NAU88C22-EVB	NAU88C22	•NAU88C22-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU88C22 daughter card •Installation CD kit	
NE-NAU8822L	NAU8822L-EVB	NAU8822L	•NAU8822L-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU8822L daughter card •Installation CD kit	
NE-NAU8820	NAU8820-EVB	NAU8820	•NAU8820-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU8820 daughter card •Installation CD kit	
NE-NAU8401	NAU8401-EVB	NAU8401	•NAU8401-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU8401 daughter card •Installation CD kit	
NE-NAU8501	NAU8501-EVB	NAU8501	•NAU8501-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU8501 daughter card •Installation CD kit	
NE-NAU8402	NAU8402-EVB	NAU8402	•NAU8402-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU8402 daughrer card •Installation CD kit	
NV-NAU88L25	NAU88L25-DEMO	NAU88L25	•NAU88L25-DEMO •GUI Installation CD	•Demo board for NAU88L25 •Installation CD kit	
NL-NAU88L25	NAU88L25-DEMO	NAU88L25	•NAU88L25-DEMO	•Demo board for NAU88L25YGB	
NU-NAU88L25	NAU-Audio_ Control_USB	NAU88L25 NAU88L24	•NAU-Audio_ Control_USB	•Micro USB Audio control board for connecting both NL-NAU88L25 and NL-NAU88L24I to PC	
NV-NAU88L24Y	NAU88L24Y-DEMO	NAU88L24	•NAU88L24Y-DEMO •GUI Installation CD	•Demo board for NAU88L24YG •Installation CD kit	
NL-NAU88L24I	NAU88L24I-DEMO	NAU88L24	•NAU88L24I-DEMO	•Demo board for NAU88L24IG	
NV-NAU88L24I	NAU88L24I-DEMO	NAU88L24	•NAU88L24I-DEMO •GUI Installation CD	•Demo board for NAU88L24IG •Installation CD kit	
NV-NAU88C22	NAU88C22-DEMO	NAU88C22	•NAU88C22-DEMO •GUI Installation CD	•Compact Audio Base Board + NAU88C22 daughter card •Installation CD kit	
NV-NAU8822L	NAU8822L-DEMO	NAU8822L	•NAU8822L-DEMO •GUI Installation CD	•Compact Audio Base Board + NAU8822L daughter card •Installation CD kit	
NV-NAU8820	NAU8820-DEMO	NAU8820	•NAU8820-DEMO •GUI Installation CD	•Compact Audio Base Board + NAU8820 daughter card •Installation CD kit	
NV-NAU8401	NAU8401-DEMO	NAU8401	•NAU8401-DEMO •GUI Installation CD	•Compact Audio Base Board + NAU8401 daughter card •Installation CD kit	
NV-NAU8501	NAU8501-DEMO	NAU8501	•NAU8501-DEMO •GUI Installation CD	•Compact Audio Base Board + NAU8501 daughter card •Installation CD kit	

Development Tools for Audio Amplifiers

Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Power Amplifier					
NV-NAU83P20	NAU83P20-DEMO	NAU83P20	•NAU83P20-DEMO	•Demo board for NAU83P20YG	
NE-NAU82039V	NAU82039V-EVB	NAU82039	•NAU82039V-EVB	•Evaluation Board for NAU82039VG	
NE-NAU82011V	NAU82011V-EVB	NAU82011	•NAU82011V-EVB	•Evaluation Board for NAU82011VG	
NV-NAU82011W	NAU82011W-DEMO	NAU82011	•NAU82011W-DEMO	•Demo Board for NAU82011WG	
NT-ISD8101	ISD-DEMO8101	ISD8101	•ISDI8101-DEMO	•Demo Board for I8101SYI	
NT-ISD8102	ISD-DEMO8102	ISD8102	•ISD8102-DEMO	•Demo Board for I8102SYI	
NT-ISD8104	ISD-DEMO8104	ISD8104	•ISD8104-DEMO	•Demo Board for I8104SYI	

Development Tools for Audio Amplifiers

Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Power Amplifier					
NE-NAU8223	NAU8223-EVB	NAU8223	• NAU8223-EVB	• Evaluation Board for NAU8223SG	
NV-NAU8223	NAU8223-DEMO	NAU8223	• NAU8223-DEMO	• Demo Board for NAU8223SG	
NE-NAU8224	NAU8224-EVB	NAU8224	• NAU8224-EVB • GUI Installation CD	• Evaluation Board for NAU8224SG • Installation CD kit	
NU-NAU8224	NAU-ES_MINI_USB	NAU8224	• NAU-ES_MINI_USB	• USB to I²C bus dongle for NAU8224-EVB	
NE-NAU8220	NAU8220WG-EVB	NAU8220	• NAU8220WG-EVB	• Evaluation Board for NAU8220WG	

Contact us: Audio@nuvoton.com

Development Tools for ChipCorder® Family

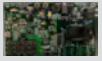
Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Development Kit					
NM-ISD15100	ISD-DMK_15100	ISD15116/08/04/02	• ISD-DEMO15100 • ISD-ES_MINI_USB • Speaker	• Evaluation and demo kit for ISD15102/4/8/16	
NM-ISD15C00	ISD-DMK_15C00	ISD15C00	• ISD-DEMO15C00 • ISD-ES_MINI_USB • Speaker	• Evaluation and demo kit for ISD15C00	
NM-ISD15D00	ISD-DMK_15D00	ISD15D00	• ISD-DEMO15D00 • ISD-ES_MINI_USB • Speaker	• Evaluation and demo kit for ISD15D00	
NM-ISD2100Q	ISD-DMK_2100	ISD2100 Series	• ISD-DEMO2100_Q • ISD-ES_MINI_USB • Speaker	• Evaluation and demo kit for ISD2100 Series	
NM-ISD2360Q	ISD-DMK_2360	ISD2360	• ISD-DEMO2360_Q • ISD-ES_MINI_USB • Speaker	• Evaluation and demo kit for ISD2360	
NM-ISD3800	ISD-DMK_3800	ISD3800	• ISD-DEMO3800 • ISD-ES_MINI_USB • Speaker	• Evaluation and demo kit for ISD3800	
NM-ISD3900	ISD-DMK_3900	ISD3900	• ISD-DEMO3900 • ISD-ES_MINI_USB • Speaker	• Evaluation and demo kit for ISD3900	
Evaluation/Demo/Development Board					
NC-ISD18B24	ISD-COB18B24	ISD18B12/24	• ISD-COB18B24	• ISD18B24/12 demo board	
NC-ISD18C10	ISD-COB18C10	ISD18C10	• ISD-COB18C10	• ISD18C10/18C06 demo board (SPK/MIC sharing)	
NC-ISD1810	ISD-COB1810	ISD1806/10	• ISD-COB1810	• ISD1810/1806 demo board	

Development Tools for ChipCorder® Family

Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Evaluation/Demo/Development Board					
NC-ISD17240	ISD-COB17240	ISD17240/210/180	• ISD-COB17240	• ISD17240/210/180 demo board	
NC-ISD17150	ISD-COB17150	ISD17150/120/90	• ISD-COB17150	• ISD17150/120/090 demo board	
NC-ISD1760	ISD-COB1760	ISD1760/50/40	• ISD-COB1760	• ISD1760/50/40 demo board	
NC-ISD1730	ISD-COB1730	ISD1730	• ISD-COB1730	• ISD1730 demo board	
NC-ISD1620B	I16-COB20	ISD1600 Series	• I16-COB20	• ISD1620/16/12/10 demo board	
NE-ISD1700	ISD-ES17XX_USB_PB	ISD1700 Series	• ISD-ES17XX_USB_PB	• Eval board for 1700 Series	
Programmer/Writer					
NW-ISD15100	ISD-ES15100_Mini_PROG_F	ISD15116/08/04/02	• ISD-ES15100_Mini_PROG	• ISD15102/4/8/16 LQFP single socket programmer • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NW-ISD2100Q	ISD-ES2100_Mini_PROG_Q	ISD2100 Series QFN package	• ISD-ES2100_Mini_PROG_Q	• ISD2100 QFN single socket programmer • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NW-ISD2100S	ISD-ES2100_Mini_PROG_S	ISD2100 Series SOP package	• ISD-ES2100_Mini_PROG_S	• ISD2100 SOP single socket programmer • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NG-ISD2100Q	ISD-2100_GANG_Prog_Q	ISD2100 Series QFN package	• ISD-2100_GANG_Prog_Q	• ISD2100 QFN standalone gang programmer	

Contact us: ChipCorder@nuvoton.com

Development Tools for ChipCorder® Family

Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Programmer/Writer					
NG-ISD2100S	ISD-2100_GANG_Prog_S	ISD2100 Series SOP package	• ISD-2100_GANG_ Prog_S	• ISD2100 SOP standalone gang programmer	
NW-ISD2360Q	ISD-ES2360_MINI_PROG_Q	ISD2360	• ISD-ES2360_ MINI_PROG_Q	• ISD2360 QFN single socket programmer, used with ISD-ES_Mini_USB • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NW-ISD2360S	ISD-ES2360_MINI_PROG_S	ISD2360	• ISD-ES2360_ MINI_PROG_S	• ISD2360 SOP single socket programmer • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NW-ISDPROG	ISD-PROG	ISD2100 Series ISD15100 Series ISD15D00 Series Winbond SPI Flash	• ISD-PROG	• Stand alone Programmer for Digital ChipCorder	
NG-ISD2360Q	ISD-2360_GANG_PROG_Q	ISD2360 QFN package	• ISD-2360_GANG_ PROG_Q	• ISD2360 QFN standalone gang programmer	
NG-ISD2360S	ISD-2360_GANG_PROG_S	ISD2360 SOP package	• ISD-2360_GANG_ PROG_S	• ISD2360 SOP standalone gang programmer	
NW-ISDIPROG1	ISD-IPROG-1	ISD4000/5000/1700	• ISD-PROG-1	• Single chip programming board support ISD4000/5000/1700 Series	
NE-ISD1700	ISD-ES17XX_USB_PB	ISD1700 Series	• ISD-ES17XX_ USB_PB	• Eval board for 1700 Series	
NE-ISD1900	ISD-ES1900_USB_PROG	ISD1900 Series	• ISD-ES1900_ USB_PROG	• USB evaluation board for ISD1900 Series	
NE-ISD1600	ISD-ES1600_USB_PROG	ISD1600 Series	• ISD-ES1600_ USB_PROG	• USB evaluation board for ISD1600 Series	

nuvoTon

Joy of innovation

Headquarter-Taiwan

Nuvoton Technology Corporation
No. 4, Creation Rd. III, Hsinchu Science Park, Hsinchu, Taiwan 300
TEL: 886-3-5770066

Worldwide Sales Offices

Taipei Sales Office
No. 192, Jingye 1st Rd., Zhongshan Dist., Taipei City, Taiwan 104
TEL: 886-2-26588066

Nuvoton Technology Corp. America
2727 North First Street, San Jose, CA 95134, U.S.A.
TEL: 1-408-544-1718

Nuvoton Electronics Technology (H.K.) Limited
Unit 9-11, 22F, Millennium City 2, 378 Kwun Tong Road, Kowloon, Hong Kong, P.R. China
TEL: 852-27513100

Nuvoton Electronics Technology (Shenzhen) Limited
8F Microprofit Building, Gaoxinnan 6 Road, High-Tech Industrial Park,
Nanshan Dist., Shenzhen, P.R. China 518057
TEL: 86-755-83515350

Nuvoton Electronics Technology (Shanghai) Limited
Unit 2701, 27F 2299 Yan An Road (West), Shanghai, P.R. China 200336
TEL: 86-21-62365999