



NTK INTERNATIONAL LTD.

NTK 4-Bit Microcontroller Summary table

Last update 2-Jun-2000

PART NUMBER		NT66L11 (L12)	NT6612 (P12)	NT6613 (P13)	NT6614 (P14)	NT6616	NT6511/A/B	NT6513	NT6620A (P20A)	NT6622A (P22A)	NT6631A	NT6636
ROM 16-bits		2K	2K	4K	4K	24K	16K	24K (prog /voice)	1K	4K	1K	24K
RAM 4-bits		256	256	512	512	512	512	256	64	160	48	128
OUTPUT PORT		0	share 4 LCD segment	share 30 LCD segment	share 30 LCD segment	0	0	0	0	0	0	0
I/O PORT		16	16	8	8	8	8	8 (share 4 LCD)	12	22	14	16
INTERRUPT		T0/T1/PBC/EX	T0/T1/PB/EX	TB/T0/PB/EX	TB/T0/PB/EX	T0/PB	T0/PB	T0/PB	T0/PBC	T0/PBC	T0/PBC	T0/PBC
LCD		PBC share to seg 34x3 (34x4)	26X4 or26X3	34X4	34X4 or 30x8	33X16 or 41X8	40X8	40X8	-	-	-	-
OSCILLATOR		32K X'tal 131K RC	32K X'tal 262K RC	32K X'tal/262K RC & 455K Cer/2M RC	32K X'tal/262K RC & 455K Cer/2M RC	32K x'tal and 2MHz RC	2MHz RC	4M RC	32K - 4M X'tal/RC/CLK/RC	32K - 4M X'tal/RC/CLK/RC	400K-4M Ceramic	400K-4M Ceramic
OP-VOLTAGE		1.2 - 1.7	2.2 - 5.4 (2.5-3.4)	2.4 - 6V (2.5-6)	2.4 - 6V (2.5-6)	2.4-5.5V	2.4 - 5.5V	2.4 - 5.5V	2.2-6V (2.4-6V)	2.2-6V (2.4-6 /3.6-6)	1.8V-3.6V	1.8-3.6V
Current	operate	4uA/32KHz	5uA/32KHz (20uA/32KHz)	10uA/32KHz	10uA/32KHz	0.25mA/2MHz	0.1mA/2MHz	0.8mA/4MHz	1mA/4MHz	1mA/4MHz	1mA/455KHz	0.3mA/455KHz
	halt	1uA	1.5uA (15uA)	4uA	4uA	-	-	-	0.2mA (140uA)	0.5mA	40uA	40uA
	stop	0.5uA	1uA	1uA	1uA	0.7uA	0.7uA	1uA	1uA	1uA	1uA	1uA
Sound Output		Alarm	Alarm	PSG	PSG	PSG	PSG	PSG & Voice	-	-	-	-
Sound Transducer		Buzzer	Buzzer	Buzzer	Buzzer	Buz./Spk.	Buz./Spk.	Buz./Spk.	-	-	-	-
Other Features		EL, R-F	-	-	-	-	-	-	Watch Dog, LPD	Watch Dog, LPD	LPD, Remote Carrier	LPD, Remote Carrier
MOQ		10K	27K (22K)	24K (15K)	24K (15K)	15K	22K	22K	35K (30K)	35K (23K)	36K	15K
Refund Q'ty		100K (60K)	81K	72K	72K	50K	66K	50K	105K	70K	108K	45K
Chip Lead Time (DAY)		75 (40*)	90 (40*, 35**)	75 (40*, 35**)	75 (40*, 35**)	90 (40*)	75 (40*)	90 (40*)	90 (45*, 35**)	90 (45*, 35**)	75 (45*)	90 (40*)
Masking Charge		USD1500 for custom masking, no masking charge for OTP										

* : With WAFER STAGE READY; Please call NTK for more information.

** : Pre-programmed OTP Lead Time.

*** : All Packaged versions need three more weeks than chip form lead time.

**** : All blank OTP MOQ is 200pcs (chip & package).