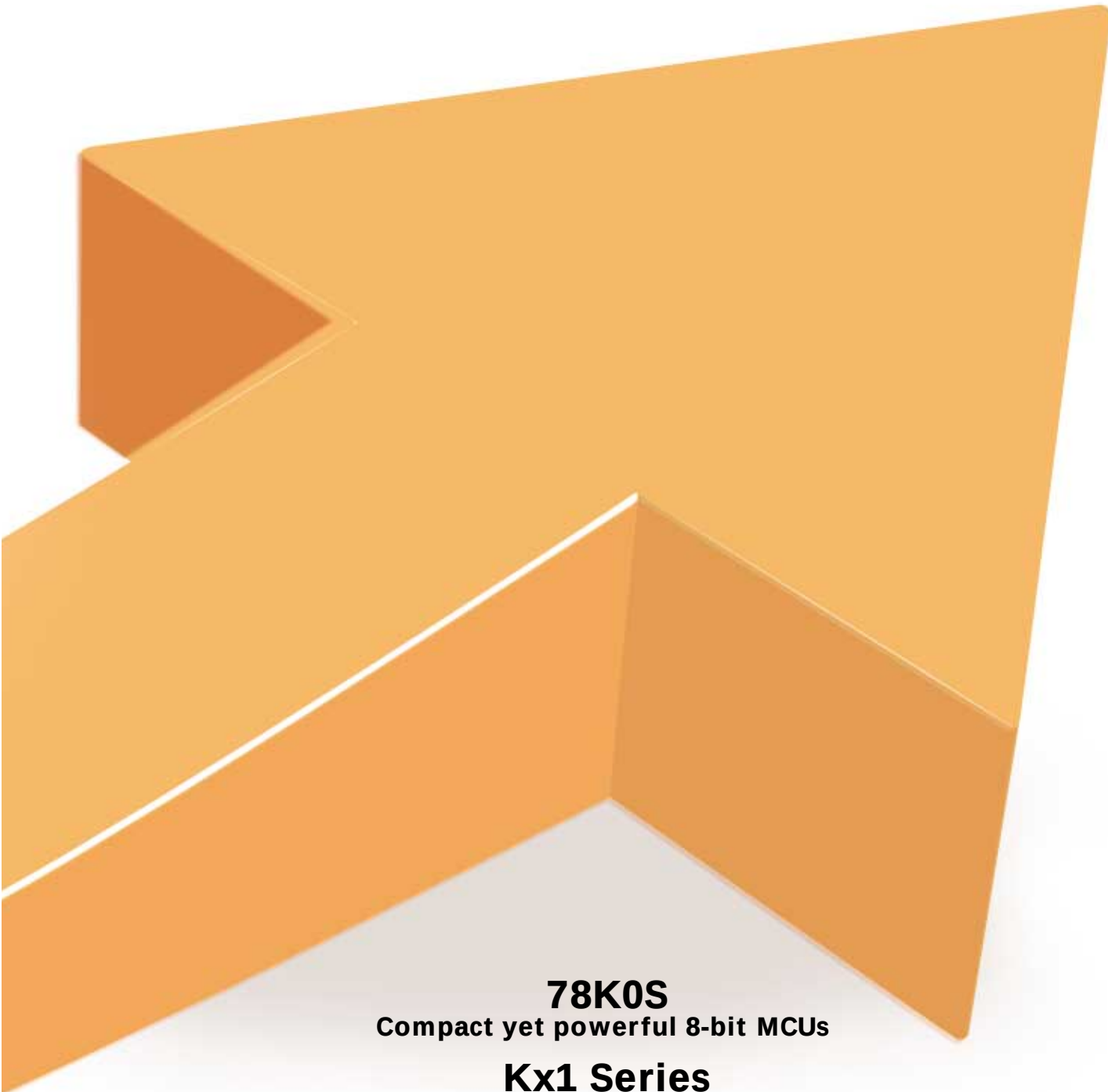


Two Great Forces in the 8-bit Realm



78K0S

Compact yet powerful 8-bit MCUs

Kx1 Series

Superior speed, memory and functionality

Empower your creativity

78K
Embedded Controller

**78K0S
and
Kx1 Series**
78K0/Kx1
78K0/Kx1+
78K0S/Kx1+

**NEC will continue to provide
the following benefits**

Future-proof cost-performance

**Low power consumption
(one of the best of W/W vendors)**

**Smooth migration lineup and future's Roadmap
(new concept Kx1 series in available)**

**By using the industry's most
advanced technology and
having market-oriented ideas**

MCU Features

	75X/75XL	78K0S	78K0
CPU	4-bit	8-bit	8-bit
ROM	Internal ROM+RAM	Internal ROM+RAM	Internal ROM+RAM
RAM	64K bytes(max)	64K bytes(max)	64K bytes(max)
Multiplier	—	Hardware option	8×8=16 by inst.
Instruction Cycle	0.96/0.67μs	0.4/0.2μs	0.4/0.238/0.166μs
Power Supply	2.7/1.8 to 5.5V	1.8 to 5.5V	1.8 to 5.5V
C-language Compiler	—	○	○

78K0S

Ideal for upgrading from 4- to 8-bits

- Easy upgrade to our 78K0 family
- Best fit for compact applications, such as car accessories, remote controls, home appliances and PC peripherals
- Wide range of LCD-control functions such as power-on-reset, voltage booster and A/D converter
- On-chip flash memory versions
- Speed up current CORE from 4Q/01(5MHz→10MHz^{※1})

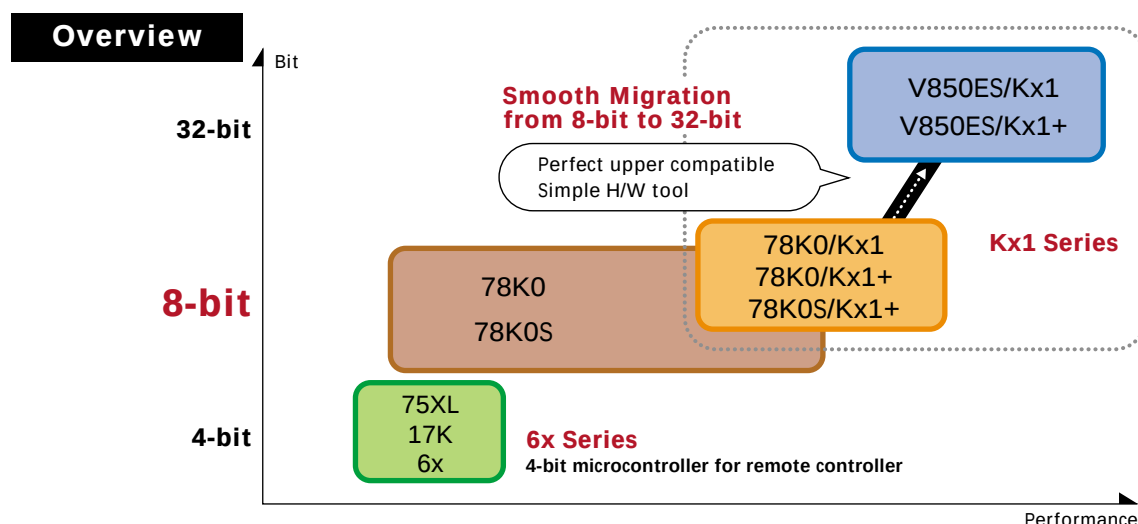
※1 D78907x/10xA/11xA/16x/17x

78K0

Enhanced performance for consumer and automotive electronics

- Enhanced version of our best-selling 78K0 family
- Ideal choice for consumer electronics, automotive use and other 8-bit applications
- Various ASSPs available: built-in functions include automotive bus, 10bit timer for inverter motor control
- On-chip flash memory versions
- Higher speed than conventional 78K0(8.38MHz→12MHz^{※2})

※2 D78002xA/003xA/007x/098x



Kx1 series

Brushed up peripherals POC/LVI, WDT, On-chip Ring-OSC

78K0/Kx1

78K0/Kx1+

78K0S/Kx1+

■ Unique and powerful reset functions

- Power-on clear and low voltage detection
- Reset output for external ICs

■ On-chip Ring oscillator

- Fast start-up
- Watchdog independent of the CPU clock
- High speed ring-oscillator (8MHz) for 78K0S/Kx1+

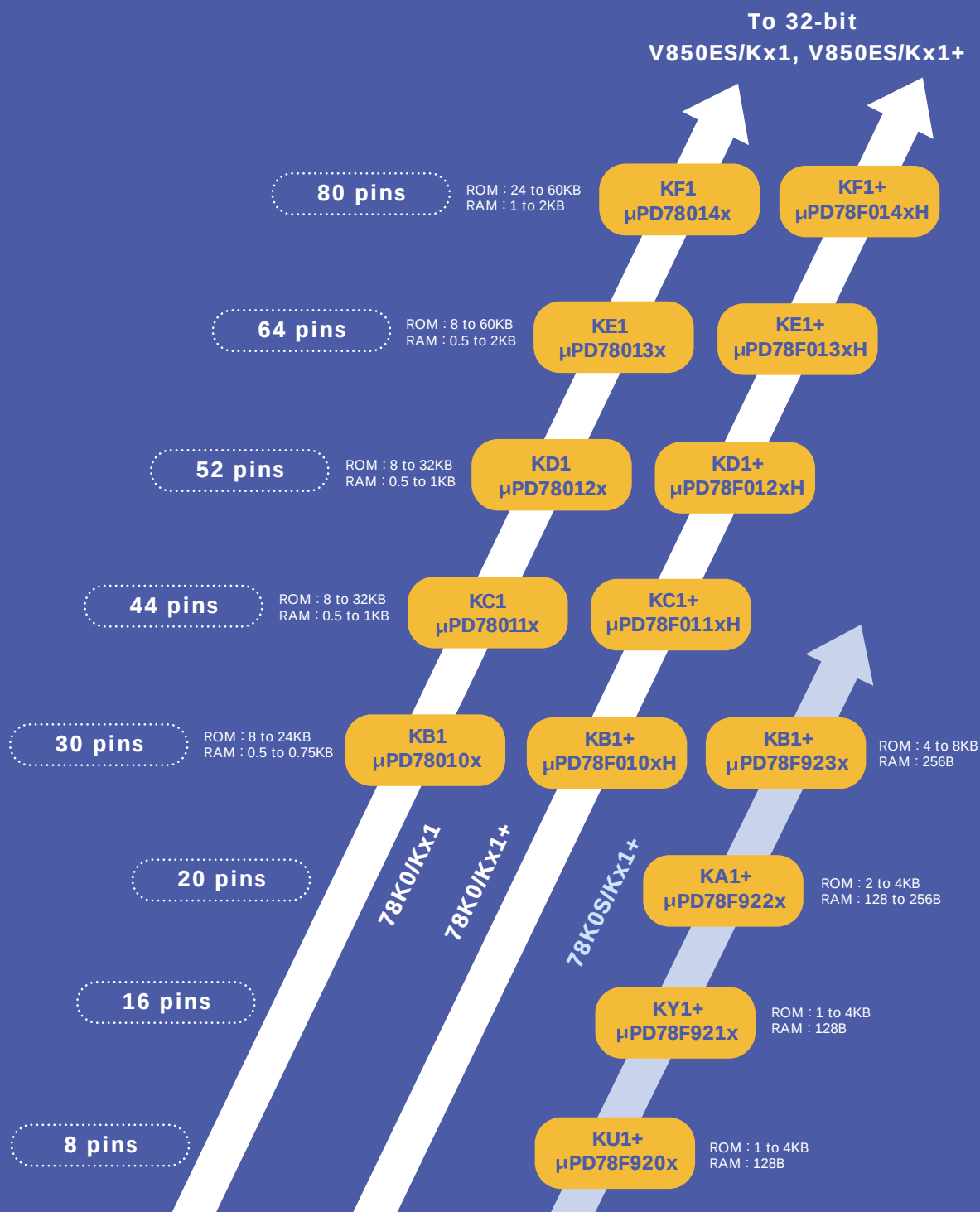
■ Higher speed, Lower EMI noise

- When 5V and 10MHz, less than 70dBm (reference values)

■ Assured future expansion

- Common peripheral functions incorporated
- Perfect upper compatible (8 → 32-bit)
- Simple H/W tools

Road map



MCU Features

	78K0/Kx1	78K0/Kx1+	78K0S/Kx1+
CPU	8-bit 78K0 core	8-bit 78K0 core	8-bit 78K0S core
ROM	Internal ROM+RAM	Internal ROM+RAM	Internal ROM+RAM
RAM	64K bytes(max)	64K bytes(max)	64K bytes(max)
Multiplier [bit]	16×16, 32÷16 (KE1, KF1, KE1+, KF1+)		8×8 (KB1+)
Instruction Cycle	0.166μs	0.125μs	0.2μs
Power Supply	2.5 to 5.5V	2.0 to 5.5V	2.0 to 5.5V
C-language Compiler	○	○	○
Number of Pins	30/44/52/64/80-pins		8/16/20/30-pins
Mask ROM version	Available	None	
Flash memory	2 power supplies	Single power supply & self-programming	
On-chip ring-OSC	240kHz (TYP.)		8MHz and 240kHz (TYP.)
On-chip debug	None (supported in Kx1+)	On-chip debug chip available	None
On-chip regulator	Provided (KE1, KF1)	None	
UART (LIN bus)	Provided (all products)		Provided (KB1+, KA1+)
Power-on reset (POC)	2 level selectable	Fixed to 1 level	

78K0/Kx1

New concept microcontroller, and smooth migration

- ◎ Same core and same instruction as our 78K0 series
- ◎ Extensive memory and package selection
- ◎ Adapting common peripheral functions in Kx1 series
- ◎ External IC functions for high-reliability system are integrated on one chip
- ◎ Total system cost reduction by security function enhancement
- ◎ Mask ROM and flash memory versions
- ◎ High speed operation (Max. 12MHz)

78K0/Kx1+

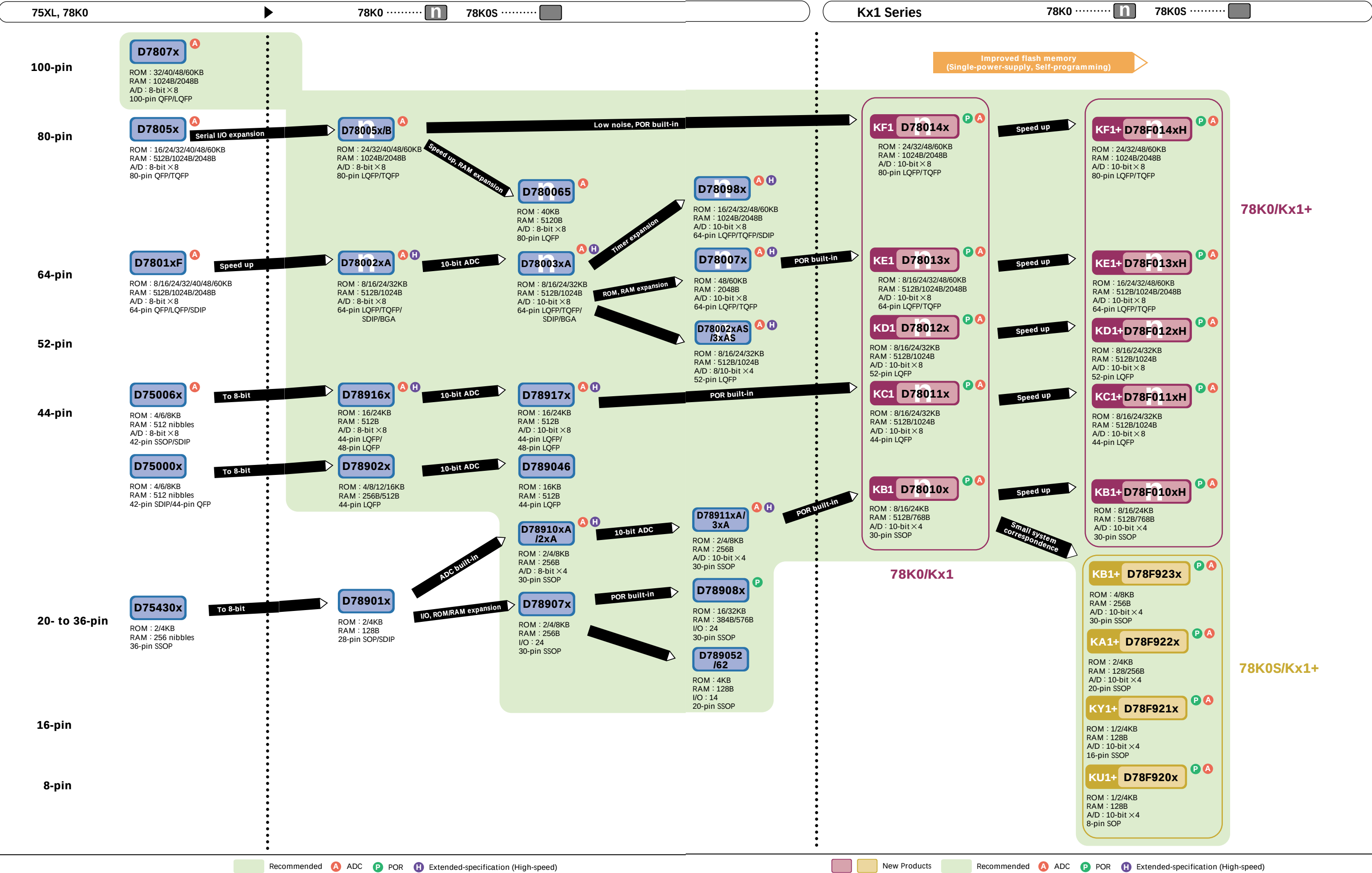
Improved flash memory creates new application fields

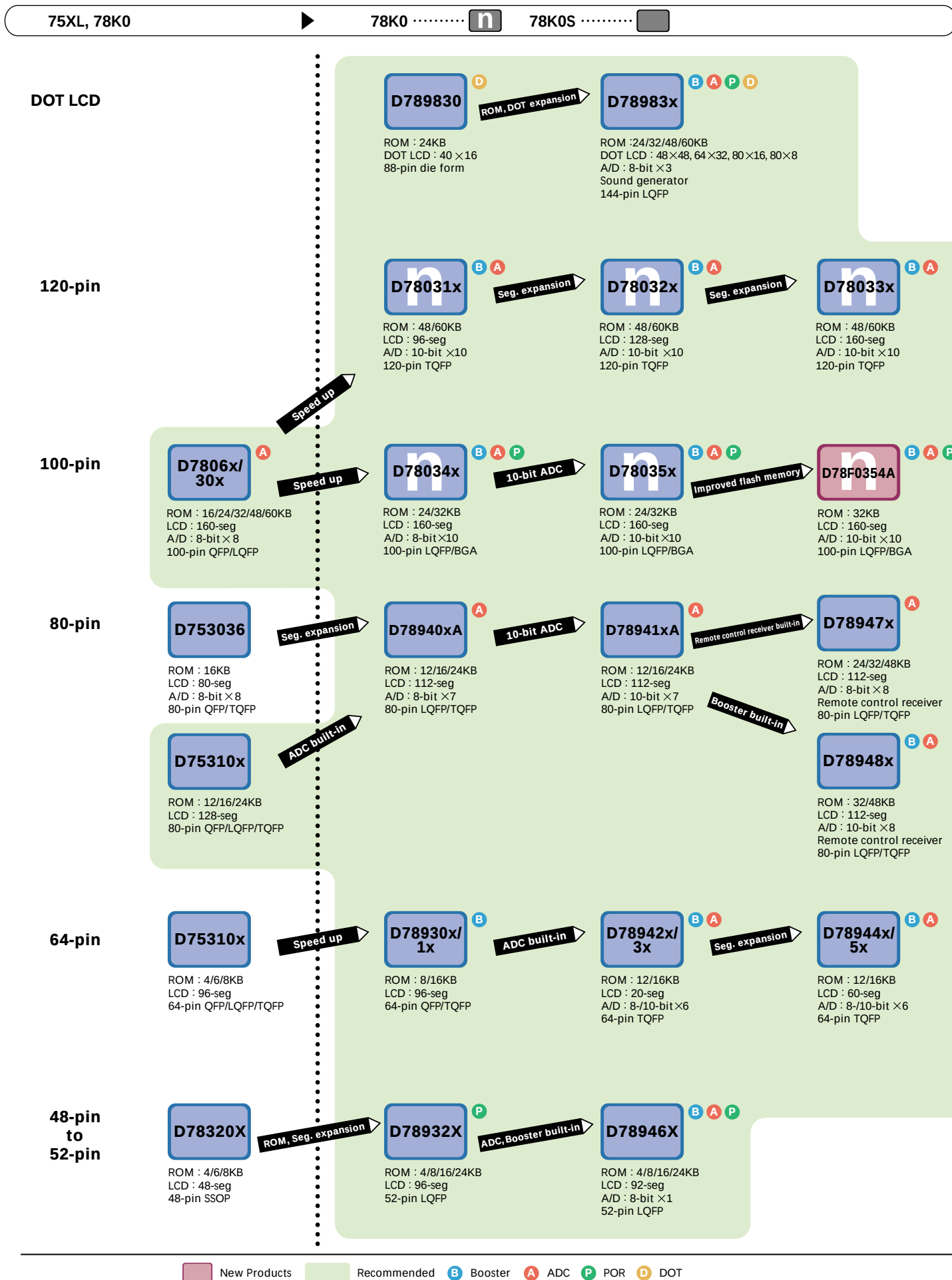
- ◎ Enhanced version of our best-selling 78K0/Kx1
- ◎ Single-power-supply flash memory
- ◎ Self-programming function for re-writing the data
- ◎ EEPROM emulation function for using as a non-volatile memory for storing data
- ◎ Higher speed operation (Max. 16MHz)

78K0S/Kx1+

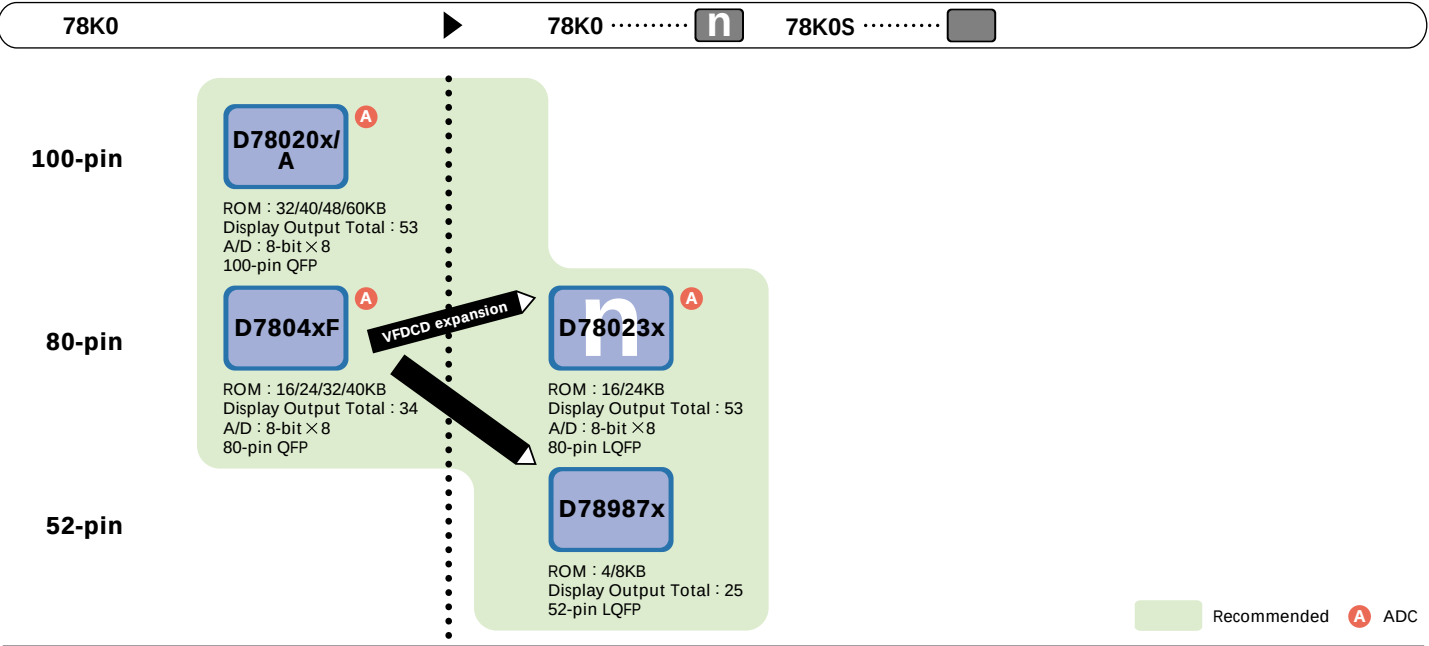
For small size and low power consumption systems

- ◎ Same core and same instruction as our 78K0S series
(Easy upgrade to our 78K0 series)
- ◎ Best fit for compact applications, such as sensor applications and switch applications
- ◎ Improved flash memory is incorporated
- ◎ On-chip high speed ring-oscillator (8MHz)
- ◎ Speed up current CORE (Max. 10MHz)

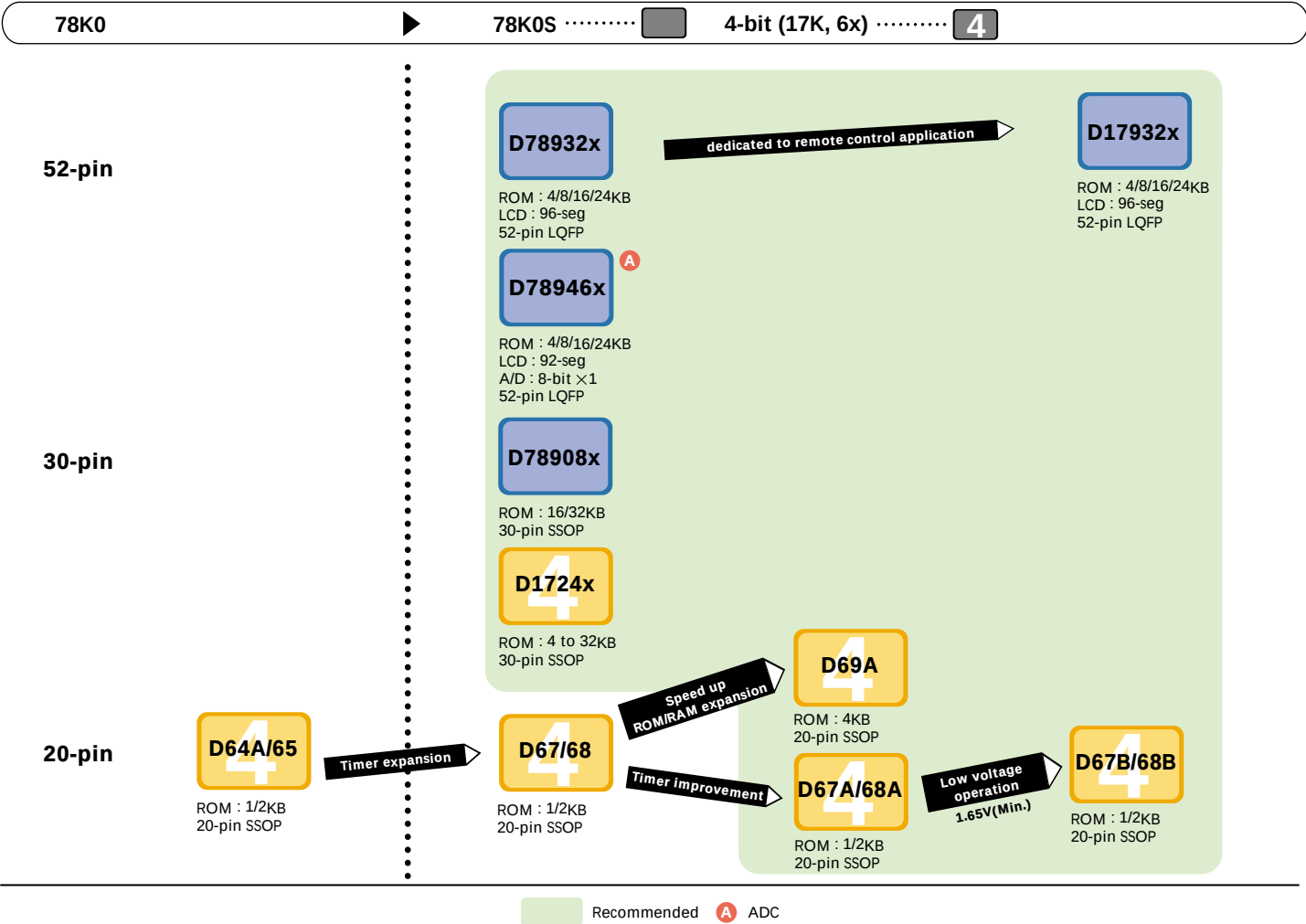


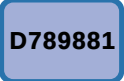
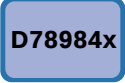
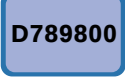
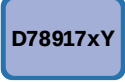
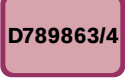


VFD control



Remote control



		78K0 	78K0S 
 Utility Meter	 D78095x Ultra-low power consumption LCD : 90-seg ROM : 48/60KB 100-pin LQFP	 D789881 Ultra-low power consumption LCD : 104-seg ROM : 16KB 64-pin LQFP	
 Inverter	 D78098x ^A ^H 10-bit timer for AC/DC inverter control ROM : 16/24/32/48/60KB 64-pin QFP/TQFP/SDIP	 D78F0714 ^A 10-bit timer for AC/DC inverter control ROM : 32KB High-speed (Max. 20MHz) 64-pin TQFP	
		 D78984x ^A 10-bit timer for AC inverter control ROM : 8/16KB 44-pin LQFP	
 USB Keyboard	 D789800 Universal Serial Bus ROM : 8KB 44-pin LQFP		
 BMU	 D78917xY ^A System management bus A/D : 10-bit × 8 ROM : 16/24KB 48-pin TQFP/44-pin LQFP		
 Sensor	 D789863/4 ^A Analog macro for sensor A/D : 10-bit × 3 ROM : 4KB 30-pin SSOP		
Development Year 			
 New Products  ADC  Extended-specification (High-speed)			



78K0 **n**

78K0S

CAN



B

D78081x

DCAN(500Kbps)
ROM : 32/48KB
64-pin LQFP/TQFP



D

D78082x

DCAN(500Kbps)
LCD : 112-seg
Stepper motor control/drive
Cross coil control/drive
ROM : 32/48/60KB
80-pin LQFP



B

C

D780703Y

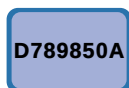
DCAN(500Kbps)
ROM : 60KB
80-pin LQFP



D

D780948A

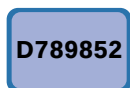
DCAN(500Kbps)
LCD : 160-seg
Sound generator
ROM : 60KB
100-pin QFP



B

D789850A

DCAN(500Kbps)
ROM : 16KB
30-pin SSOP



B

D789852

DCAN(500Kbps)
ROM : 24/32KB
44-pin LQFP

J1850



B

C

D780833Y

J1850 bus interface
ROM : 60KB
80-pin LQFP

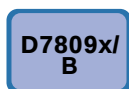


D

D780834

J1850 bus interface
LCD : 160-seg
Stepper motor control/drive
Cross coil control/drive
ROM : 48KB
100-pin LQFP

IEBus™



C

**D7809x/
B**

IEBus interface
ROM : 40/48/60KB
80-pin LQFP

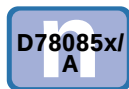


C

D780702Y

IEBus interface
ROM : 60KB
80-pin LQFP

Dash Board

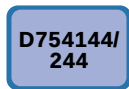


D

**D78085x/
A**

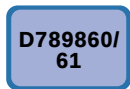
LCD : 80-seg
Stepper motor control/drive
Cross coil control/drive
ROM : 32/40KB
80-pin LQFP

Keyless Entry



**D754144/
244**

ROM : 4KB
RAM : 128 nibbles
EEPROM™ : 16B
20-pin SSOP



**D789860/
61**

ROM : 4KB
RAM : 128B
EEPROM : 32B
20-pin SSOP



D789862

ROM : 16KB
RAM : 512B
EEPROM : 256B
30-pin SSOP

CD Text



C

D780065

ROM : 40KB
RAM : 5120B
A/D : 8-bit × 8
80-pin LQFP

Development Year



New Products



Dash Board



Body Control



Car Audio

Product List

Multi-purpose MCUs

Series	Part Number	Package	ROM (Kbytes)	RAM (bytes)	EEPROM (bytes)	I/O	Timer	PWM	Serial I/O	ADC	LCD C/D	Sub Clock	Note
78K0S/ Kx1+	KU1+(78F920x)	8-pin SSOP	1/2/4	128	—	6	3	8-bit×2	—	10-bit×4	—	—	POR,LVI,High-speed Ring-osc
	KY1+(78F921x)	16-pin SSOP	1/2/4	128	—	14	3	8-bit×2	—	10-bit×4	—	—	POR,LVI,High-speed Ring-osc
	KA1+(78F922x)	20-pin SSOP	2/4	128/ 256	—	17	4	8-bit×2	1(UART×1)	10-bit×4	—	—	LIN,POR,LVI,High-speed Ring-osc
	KB1+(78F923x)	30-pin SSOP	4/8	256	—	26	4	8-bit×2	1(UART×1)	10-bit×4	—	—	LIN,POR,LVI,High-speed Ring-osc
78K0/ Kx1+	KB1+(78F010xH)	30-pin SSOP	8/16/24	512/ 768	—	22	5	8-bit×3	2(UART×2) ^{※1}	10-bit×4	—	—	LIN,POR,LVI, Ring-osc
	KC1+(78F011xH)	44-pin SSOP	8/16/24/32	512/ 1K	—	32	7	8-bit×4	2(UART×2)	10-bit×8	—	○	LIN,POR,LVI, Ring-osc
	KD1+(78F012xH)	52-pin SSOP	8/16/24/32	512/ 1K	—	39	7	8-bit×4	2(UART×2)	10-bit×8	—	○	LIN,POR,LVI, Ring-osc
	KE1+(78F013xH)	64-pin SSOP	8/16/24/32/ 48/60	512/ 1K/2K	—	51	8 ^{※2}	8-bit×4	3(UART×2) ^{※3}	10-bit×8	—	○	LIN,POR,LVI, Ring-osc
	KF1+(78F014xH)	80-pin SSOP	24/32/48/60	1K/ 2K	—	67	8 ^{※4}	8-bit×4	4(UART×2) ^{※5}	10-bit×8	—	○	LIN,POR,LVI, Ring-osc
78K0/ Kx1	KB1(78010x)	30-pin SSOP	8/16/24	512/ 768	—	22	5	8-bit×3	2(UART×2) ^{※1}	10-bit×4	—	—	LIN,POR,LVI, Ring-osc
	KC1(78011x)	44-pin LQFP	8/16/24/32	512/ 1K	—	32	7	8-bit×4	2(UART×2)	10-bit×8	—	○	LIN,POR,LVI, Ring-osc
	KD1(78012x)	52-pin LQFP	8/16/24/32	512/ 1K	—	39	7	8-bit×4	2(UART×2)	10-bit×8	—	○	LIN,POR,LVI, Ring-osc
	KE1(78013x)	64-pin LQFP/ TQFP	8/16/24/32/ 48/60	512/ 1K/2K	—	51	8 ^{※2}	8-bit×4	3(UART×2) ^{※3}	10-bit×8	—	○	LIN,POR,LVI, Ring-osc
	KF1(78014x)	80-pin LQFP/ TQFP	24/32/48/60	1K/ 2K	—	67	8 ^{※4}	8-bit×4	4(UART×2) ^{※5}	10-bit×8	—	○	LIN,POR,LVI, Ring-osc
78K0S	789052	20-pin SSOP	4	128	—	14	3	8-bit×1	—	—	—	—	Cera
	789062	20-pin SSOP	4	128	—	14	3	8-bit×1	—	—	—	—	RC
	789071/2/4	30-pin SSOP	2/4/8	256	—	24	3	8-bit×1	1(UART×1)	—	—	—	
	789086/8	30-pin SSOP	16/32	384/ 576	—	24	3	8-bit×1	1(UART×1)	—	—	—	POR
	789101/2/4A	30-pin SSOP	2/4/8	256	—	20	3	8-bit×1	1(UART×1)	8-bit×4	—	—	Cera
	789121/2/4A	30-pin SSOP	2/4/8	256	—	20	3	8-bit×1	1(UART×1)	8-bit×4	—	—	RC
	789111/2/4A	30-pin SSOP	2/4/8	256	—	20	3	8-bit×1	1(UART×1)	10-bit×4	—	—	Cera
	789131/2/4A	30-pin SSOP	2/4/8	256	—	20	3	8-bit×1	1(UART×1)	10-bit×4	—	—	RC
	789022/4/5/6	44-pin LQFP	4/8/12/16	256/ 512	—	34	3	—	1(UART×1)	—	—	—	
	789046	44-pin LQFP	16	512	—	34	4	8-bit×1	1(UART×1)	—	—	○	
	789166/7	44-pin LQFP/ 48-pin TQFP	16/24	512	—	31	6	8-bit×3	1(UART×1)	8-bit×8	—	○	
	789176/7	44-pin LQFP/ 48-pin TQFP	16/24	512	—	31	6	8-bit×3	1(UART×1)	10-bit×8	—	○	
78K0	780021/2/3/4AS	52-pin LQFP	8/16/24/32	512/ 1024	—	39	5	8-bit×2	3(UART×1)	8-bit×4	—	○	
	780031/2/3/4AS	52-pin LQFP	8/16/24/32	512/ 1024	—	39	5	8-bit×2	3(UART×1)	10-bit×4	—	○	
	780021/2/3/4A	64-pin LQFP/TQFP/ SDIP/BGA	8/16/24/32	512/ 1024	—	51	5	8-bit×2	3(UART×1)	8-bit×8	—	○	
	780031/2/3/4A	64-pin LQFP/TQFP/ SDIP/BGA	8/16/24/32	512/ 1024	—	51	5	8-bit×2	3(UART×1)	10-bit×8	—	○	
	780076/8	64-pin LQFP/TQFP	48/60	2048	—	52	6	8-bit×2	3(UART×2)	10-bit×8	—	○	
	780982/3/4/6/8	64-pin LQFP/ TQFP/SDIP	16/24/32/48/ 60	1024/ 2048	—	47	7	8-bit×2	3(UART×2)	10-bit×8	—	—	
	780053/4/5/6/8	80-pin LQFP/TQFP	24/32/48/60	1024/ 2048	—	68	5	14-bit×1	3(UART×1)	8-bit×8	—	○	
	780065	80-pin LQFP	40	5120	—	60	5	8-bit×2	4(UART×1)	8-bit×8	—	○	
	78074B/5B/6/8	100-pin QFP/LQFP	32/40/48/60	1024/ 2048	—	88	7	14-bit×1 8-bit×2	3(UART×1)	8-bit×8	—	○	

※1.UART×1(8K ROM) ※2.7ch(8K/16K ROM) ※3.2ch(8K/16K ROM) ※4.7ch(24K/32K ROM) ※5.3ch(24K/32K ROM)

LCD control

Series	Part Number	Package	ROM (Kbytes)	RAM (bytes)	EEPROM (bytes)	I/O	Timer	PWM	Serial I/O	ADC	LCD C/D	Sub Clock	Note
78K0S	789322/4/6/7	52-pin LQFP	4/8/16/24	256/ 512	—	21	4	8-bit×1	1	—	24-seg×4	○	POR
	789462/4/6/7	52-pin LQFP	4/8/16/24	256/ 512	—	13	4	8-bit×1	—	8-bit×1	23-seg×4	○	Booster POR
	789304/6	64-pin QFP/TQFP	8/16	512	—	23	5	8-bit×1	2(UART×1)	—	24-seg×4	○	Booster
	789314/6	64-pin QFP/TQFP	8/16	512	—	23	5	8-bit×1	2(UART×1)	—	24-seg×4	○	Booster RC
	789425/6	64-pin LQFP/TQFP	12/16	512	—	40	5	8-bit×2	1(UART×1)	8-bit×6 10-bit×6	5-seg×4	○	Booster
	789435/6	64-pin LQFP/TQFP	12/16	512	—	40	5	8-bit×2	1(UART×1)	8-bit×6 10-bit×6	5-seg×4	○	Booster RC
	789445/6	64-pin LQFP/TQFP	12/16	512	—	30	5	8-bit×2	1(UART×1)	8-bit×6 10-bit×6	15-seg×4	○	Booster
	789455/6	64-pin LQFP/TQFP	12/16	512	—	30	5	8-bit×2	1(UART×1)	8-bit×6 10-bit×6	15-seg×4	○	Booster RC
	789405/6/7A	80-pin LQFP/TQFP	12/16/24	512	—	43	6	—	1(UART×1)	8-bit×7	28-seg×4	○	
	789415/6/7A	80-pin LQFP/TQFP	12/16/24	512	—	43	6	—	1(UART×1)	10-bit×7	28-seg×4	○	
	789477/8/9	80-pin LQFP/TQFP	24/32/48	768/1024/ 1536	—	45	6	8-bit×1	2(UART×1)	8-bit×8	28-seg×4	○	Remote control receiver
	789488/9	80-pin LQFP/TQFP	32/48	1024/ 1536	—	45	6	8-bit×1	2(UART×1)	10-bit×8	28-seg×4	○	Booster
78K0	78062/3/4	100-pin QFP/LQFP	16/24/32	512/ 1024	—	57	5	14-bit×1	2(UART×1)	8-bit×8	40-seg×4	○	
	780306/8	100-pin QFP/LQFP	48/60	2048	—	57	5	14-bit×1	3(UART×1)	8-bit×8	40-seg×4	○	
	780343/4	100-pin LQFP/ FPBGA	24/32	1024	—	66	7	8-bit×3	3(UART×1)	8-bit×8	40-seg×4	○	
	780353/4	100-pin LQFP/ FPBGA	24/32	1024	—	66	7	8-bit×3	3(UART×1)	10-bit×10	40-seg×4	○	
	780316/8	120-pin TQFP	48/60	2560	—	70	7	8-bit×3	2(UART×1)	10-bit×10	24-seg×4	○	Booster
	780326/8	120-pin TQFP	48/60	2560	—	62	7	8-bit×3	2(UART×1)	10-bit×10	32-seg×4	○	Booster
	780336/8	120-pin TQFP	48/60	2560	—	54	7	8-bit×3	2(UART×1)	10-bit×10	40-seg×4	○	Booster
78K0S	789830	88-pin die from	24	1024	—	30	4	—	1(UART×1)	—	40×16	○	DOT LCD
	789832/3/4/5B	144-pin LQFP	24/32/48/60	2240/ 3264	—	37	8	8-bit×1	1(UART×1)	8bit×3	48×48 64×32 80×16 80×8	○	Booster POR, DOT LCD

VFD control

Series	Part Number	Package	ROM (Kbytes)	RAM (bytes)	EEPROM (bytes)	I/O	Timer	PWM	Serial I/O	ADC	LCD C/D	Sub Clock	Note
78K0S	789870/1	52-pin LQFP	4/8	512	—	33	5	—	1	—	—	○	
78K0	780232/3	80-pin LQFP	16/24	768	—	40	4	8-bit×2	2	8-bit×4	—	—	
	78042/3/4/5F	80-pin LQFP	16/24/32/40	624/ 1136	—	68	6	14-bit×1	2	8-bit×8	—	○	
	780204/5/6/8	100-pin LQFP	32/40/48/60	1168/ 2192	—	74	5	14-bit×1	2	8-bit×8	—	○	

Product List

Remote control

Series	Part Number	Package	ROM (kbytes)	RAM (bytes)	EEPROM (bytes)	I/O	Timer	PWM	Serial I/O	ADC	LCD C/D	Sub Clock	Note
6x Series (4-bit)	67B/68B	20-pin SSOP	1002×10-bit/2026×10-bit	32×4-bit	—	15	1	9-bit×1	—	—	—	—	for infrared remote controller (low voltage)
	69A/6P9	20-pin SSOP	4074×10-bit	128×4-bit	—	15	1	9-bit×1	—	—	—	—	for infrared remote controller
17K Series (4-bit)	17240/1/2/3/4/5/6	30-pin SSOP	2048×16-bit to 16384×16-bit	447×4-bit	—	15	1	9-bit×1	—	—	—	—	for preset remote controller
78K0S Series (8-bit)	789086/8	30-pin SSOP	16/32	256/320×8-bit	—	24	5	8-bit×1	1(UART×1)	—	—	—	for preset remote controller
	789322/4/6/7	52-pin LQFP	4/8/16/24	256/512×8-bit	—	21	4	8-bit×1	1	—	24-seg×4	○	for remote controller with LCD
	789462/4/6/7	52-pin LQFP	4/8/16/24	256/512×8-bit	—	18	4	8-bit×1	—	8-bit×1	23-seg×4	○	for remote controller with LCD
179K Series (8-bit)	179322/4/6/7	52-pin LQFP	4/8/16/24	256/512×8-bit	—	21	4	8-bit×1	—	—	24-seg×4	○	for remote controller with LCD

ASSPs

Series	Part Number	Package	ROM (kbytes)	RAM (bytes)	EEPROM (bytes)	I/O	Timer	PWM	Serial I/O	ADC	LCD C/D	Sub Clock	Note
78K0S	789841/2	44-pin QFP/LQFP	8/16	256	—	30	6	10-bit×6	1(UART×1)	8-bit×8	—	—	for inverter
	789800	44-pin LQFP	8	256	—	31	3	—	2(USB×1)	—	—	—	for USB keyboard
	789176/7Y	44-pin LQFP/48-pin TQFP	16/24	512	—	31	6	8-bit×3	2(UART×1, SMB×1)	10-bit×8	—	○	for BMU
	789881	64-pin LQFP	16	512	—	28	4	8-bit×2	1(UART×1)	—	26-seg×4	○	for utility meter
	789863/4	20-pin SSOP	4	256	64	5	3	—	—	10-bit×3	—	—	for Sensor
78K0	780957/8	100-pin LQFP	48/60	2048	—	69	7	—	2(UART×1)	—	30-seg×3	○	for utility meter
	780982/3/4/6/8	64-pin QFP/TQFP/SDIP	16/24/32/48/60	1024/2048	—	47	7	10-bit×6 8-bit×3	3(UART×2)	10-bit×8	—	—	for inverter
	78F0714	64-pin TQFP	32	1024	—	48	7	10-bit×6 8-bit×3	2(UART×1)	10-bit×8	—	—	for inverter

Automotive ASSPs

Series	Part Number	Package	ROM (kbytes)	RAM (bytes)	EEPROM (bytes)	I/O	Timer	PWM	Serial I/O	ADC	LCD C/D	Sub Clock	Note
78K0S	789850A	30-pin SSOP	16	768	—	18	3	8-bit×1	2(UART×1)	8-bit×4	—	○	for CAN
	789852	44-pin LQFP	24/32	1312	—	31	5	8-bit×3	3(UART×2)	10-bit×8	—	○	
78K0	780814/6	64-pin LQFP/TQFP	32/48	1504	—	46	6	8-bit×2	3(UART×1)	8-bit×12	—	○	
	780701Y/3Y	80-pin LQFP	60	3360	—	67	7	8-bit×3	4(UART×1, I ² C×1)	8-bit×16	—	—	
	780824/6/8B	80-pin LQFP	32/48/60	1504/3040	—	59	6	8-bit×2	3(UART×1)	8-bit×5	28-seg×4	—	
	780948A	100-pin QFP	60	2016	—	79	6	8-bit×2	3(UART×1)	8-bit×8	40-seg×3	—	
	780833Y	80-pin LQFP	60	3072	—	65	7	8-bit×3	4(UART×1, I ² C×1)	8-bit×16	—	—	for J1850
	780834	100-pin LQFP	48	3072	—	79	7	8-bit×4	2(UART×1)	8-bit×4	40-seg×3	—	
	78095/6/8B	80-pin LQFP	40/48/60	1056/3104	—	69	5	8-bit×2	3(UART×1)	8-bit×8	—	○	for IEBUS
	780702Y	80-pin LQFP	60	3072	—	67	7	8-bit×3	4(UART×1, I ² C×1)	8-bit×16	—	—	
	780851/2	80-pin LQFP	32/40	1536	—	56	6	8-bit×2	3(UART×1)	8-bit×5	20-seg×4	—	for dash board
78K0S	789860/1	20-pin SSOP	4	128	32	14	3	8-bit×1	—	—	—	—	for keyless entry
	789862	30-pin SSOP	16	512	256	22	4	8-bit×1	2(UART×1)	—	—	—	for keyless entry

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*For further information,
please contact:*

NEC Electronics Corporation
1753, Shimonumabe, Nakahara-ku,
Kawasaki, Kanagawa 211-8668,
Japan
Tel: 044-435-5111
<http://www.necel.com/>

[North America]

NEC Electronics America, Inc.
2880 Scott Blvd.
Santa Clara, CA 95050-2554, U.S.A.
Tel: 408-588-6000
800-366-9782
<http://www.necelam.com/>

[Europe]

NEC Electronics (Europe) GmbH
Arcadiastrasse 10
40472 Düsseldorf, Germany
Tel: 0211-65030
<http://www.ee.nec.de/>

Sucursal en España
Juan Esplandiú, 15
28007 Madrid, Spain
Tel: 091-504-2787

Succursale Française
9, rue Paul Dautier, B.P. 52
78142 Velizy-Villacoublay Cédex
France
Tel: 01-3067-5800

Filiale Italiana
Via Fabio Filzi, 25/A
20124 Milano, Italy
Tel: 02-667541

Branch The Netherlands
Boschdijk 187a
5612 HB Eindhoven
The Netherlands
Tel: 040-2445845

Tyskland Filial
P.O. Box 134
18322 Taeby, Sweden
Tel: 08-6380820

United Kingdom Branch
Cygnus House, Sunrise Parkway
Linford Wood, Milton Keynes
MK14 6NP, U.K.
Tel: 01908-691-133

[Asia & Oceania]

NEC Electronics Hong Kong Ltd.
12/F., Cityplaza 4,
12 Taikoo Wan Road, Hong Kong
Tel: 2886-9318

Seoul Branch
11F., Samik Lavied'or Bldg., 720-2,
Yeoksam-Dong, Kangnam-Ku,
Seoul, 135-080, Korea
Tel: 02-558-3737

NEC Electronics Shanghai Ltd.
Room 2509-2510, Bank of China Tower,
200 Yincheng Road Central,
Pudong New Area, Shanghai P.R. China P.C:200120
Tel: 021-5888-5400

NEC Electronics Taiwan Ltd.
7F, No. 363 Fu Shing North Road
Taipei, Taiwan, R. O. C.
Tel: 02-2719-2377

NEC Electronics Singapore Pte. Ltd.
238A Thomson Road,
#12-08 Novena Square,
Singapore 307684
Tel: 6253-8311