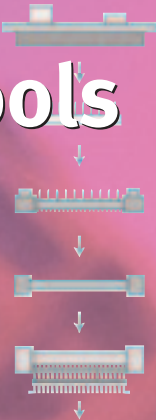
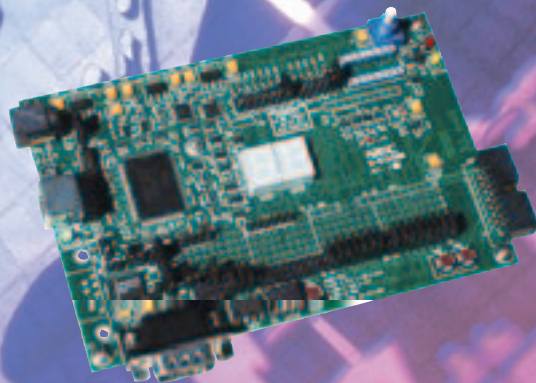


Microcontroller and Development Tools Selection Guide



In-Circuit Emulation IECUBE Accessories

Pin/ Package	Device Subseries IECUBE	Motor Control II QB-780714	78K0/Fx1 QB-78K0FX1	78K0/Kx1+ QB-78K0KX1H	78K0/Kx2 QB-78K0KX2	78K0/Lx2 QB-78K0LX2
100GC	Exchange adapter	-	-	-	-	QB-100GC-EA-03T
	ICE connector					QB-100GC-YQ-01T
	Target connector					QB-100GC-NQ-01T
	Mount adapter					QB-100GC-HQ-01T
	Space adapter					QB-100GC-YS-01T
100GF	Check pin adapter	-	-	-	-	QB-144-CA-01
	Extension probe					QB-144-EP-01S
	Exchange adapter					QB-100GF-EA-03T
	ICE connector					QB-100GF-YQ-01T
	Target connector					QB-100GF-NQ-01T
80GC	Mount adapter	-	-	-	-	QB-100GF-HQ-01T
	Space adapter					QB-100GF-YS-01T
	Check pin adapter					QB-144-CA-01
	Extension probe					QB-144-EP-01S
	Exchange adapter					QB-80GC-EA-04T*
80GK	ICE connector	-	-	-	-	QB-80GC-EA-05T
	Target connector					QB-80GC-YQ-01T
	Mount adapter					QB-80GC-NQ-01T
	Space adapter					QB-80GC-HQ-01T
	Check pin adapter					QB-80GC-YS-01T
64GA	Extension probe	-	-	-	-	QB-144-CA-01
	Exchange adapter					QB-144-EP-01S
	ICE connector					QB-80GK-EA-04T*
	Target connector					QB-80GK-EA-05T
	Mount adapter					QB-80GK-YQ-01T
64GB	Space adapter	-	-	-	-	QB-80GK-NQ-01T
	Check pin adapter					QB-80GK-HQ-01T
	Extension probe					QB-80GK-YS-01T
	Exchange adapter					QB-80GK-HQ-01T
	ICE connector					QB-80GK-NQ-01T
64GC	Mount adapter	-	-	-	-	QB-80GK-YS-01T
	Space adapter					QB-80GK-HQ-01T
	Check pin adapter					QB-144-CA-01
	Extension probe					QB-144-EP-01S
	Exchange adapter					QB-80GK-EA-04T*
64GK	ICE connector	-	-	-	-	QB-80GK-EA-05T
	Target connector					QB-80GK-YQ-01T
	Mount adapter					QB-80GK-NQ-01T
	Space adapter					QB-80GK-HQ-01T
	Check pin adapter					QB-80GK-YS-01T
52GB	Extension probe	-	-	-	-	QB-144-CA-01
	Exchange adapter					QB-144-EP-01S
	ICE connector					QB-80GC-EA-03T
	Target connector					QB-80GC-EA-04T
	Mount adapter					QB-80GC-YQ-01T
48GA	Space adapter	-	-	-	-	QB-80GC-NQ-01T
	Check pin adapter					QB-80GC-HQ-01T
	Extension probe					QB-80GC-YS-01T
	Exchange adapter					QB-80GC-HQ-01T
	ICE connector					QB-80GC-NQ-01T
44GB	Mount adapter	-	-	-	-	QB-80GC-YS-01T
	Space adapter					QB-80GC-HQ-01T
	Check pin adapter					QB-144-CA-01
	Extension probe					QB-144-EP-01S
	Exchange adapter					QB-80GC-EA-04T*
30MC	ICE connector	-	-	-	-	QB-80GC-EA-05T
	Target connector					QB-80GC-YQ-01T
	Mount adapter					QB-80GC-NQ-01T
	Space adapter					QB-80GC-HQ-01T
	Check pin adapter					QB-80GC-YS-01T



* Used for devices with A/D

On-Chip Debugging Minicube

Support Device	ICE Order Code	Device Adapter
78K0S/Kx1+	QB-78K0SKX1MINI	-
μPD78F014HD	QB-78K0MINI	QB-78K0KX1H-DA + QB-30MC-YQ-01T + QB-30MC-YS-01T
μPD78F0138HD		
μPD78F0124HD		
μPD78F0114HD		
μPD78F010xH	QB-78K0MINI	-
μPD78F087x	QB-78K0MINI	-
μPD78F0547D		
μPD78F0537D		
μPD78F0527D		
μPD78F0513D	QB-78K0MINI	-
μPD78F0503D		
μPD78F0397D		
μPD78F0385D		
μPD78F0363D	QB-78K0MINI	-
μPD78F0714		

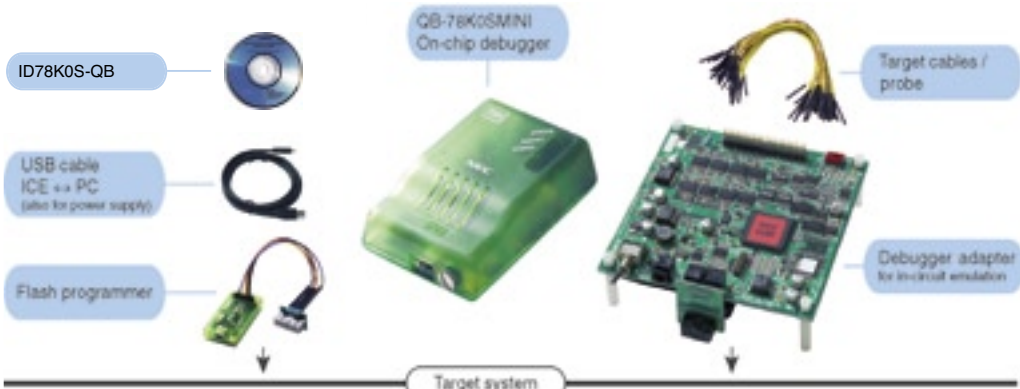
Target board must contain a device with OCD (support device). Support device is used to evaluate devices within the subseries during development.

- Mandatory
- Optional
- Included in delivery

MINICUBE 78K0



MINICUBE 78K0S



Evaluation Kit

M-Station

Micro-Board	Supported Devices			
M-78F9222	μPD78F921x	μPD78F922x	-	-
M-78F0138	μPD78013x	μPD78012x	μPD78011x	μPD78010x
M-78F0148H	μPD7801xxH	μPD78014x	-	-
M-78F0537	μPD78F053x	μPD78F052x	μPD78F051x	μPD78F050x
M-78F0714	μPD78F071x	-	-	-
M-78F0876	μPD78F087x	-	-	-

Micro-board supports devices within subseries. Example: K0/KF1+ covers all K0/Kx1+ devices for evaluation.

Complete evaluation kit requires M-Station baseboard and micro-board.

Micro-Boards



M-Station



DemoKit-KA1

- DemoKit-KA1 for 78K0S/Kx1+
- Easy-to-use device demonstration capabilities
 - pushbuttons
 - LED output
 - AD reference voltage
 - I/O lines
 - UART interface
- Power supply via USB interface
- Flash programming software
- Sample programs provided



Programming

Pin/Package	Flash Adapter
16GR	FA-78F9212GR-J/G-MX
20MC	FA-20MC-5A4-A
30MC	FA-30MC-5A4-A
44GB	FA-44GB-8ES-A
48GA	FA-78F0515GA-8EU-MX
48GA	FA-78F0879GA-9EU-MX
52GB	FA-52GB-8ET-A
64GA	FA-78F0537GA-8EV-MX
64GB	FA-64GB-8EU-A
64GK	FA-64GK-9ET-A
64GK	FA-78F0138HDGK-8A8-MX
64GC	FA-64GC-8BS-A
80GC	FA-80GC-8BT-A
80GK	FA-80GK-9EU-A
100GC	FA-100GC-8EU-A
100GF	FA-100GF-3BA-A

Flash programmer

- Universal for all MCU flash devices from NEC Electronics
- PC communication
 - via UART
 - via USB
- Order code: PG-FP4-E



Gang programmer

- Gang programmer available; please contact your sales representative.

PG-FPL

- Low-price programmer
 - for all V850 devices
 - for 78K0/Kx1+ devices
- Contents
 - Programmer
 - USB cable
- Order code: PG-FPL



PG-FPL2

- Low-price programmer
 - for 78K0S/Kx1+ devices
- Contents
 - Programmer
 - USB cable
- Order code: PG-FPL2



PG-FPL3

- Low-price programmer
 - for 78K0/Kx2 devices
- Contents
 - Programmer
 - USB cable
- Order code: PG-FPL3



Software Tools

Software Tools	78K0S	78K0
Software package	SP78K0S	SP78K0
Compiler and assembler	CA78K0S	CA78K0
System simulator	SM78K0S	SM78K0

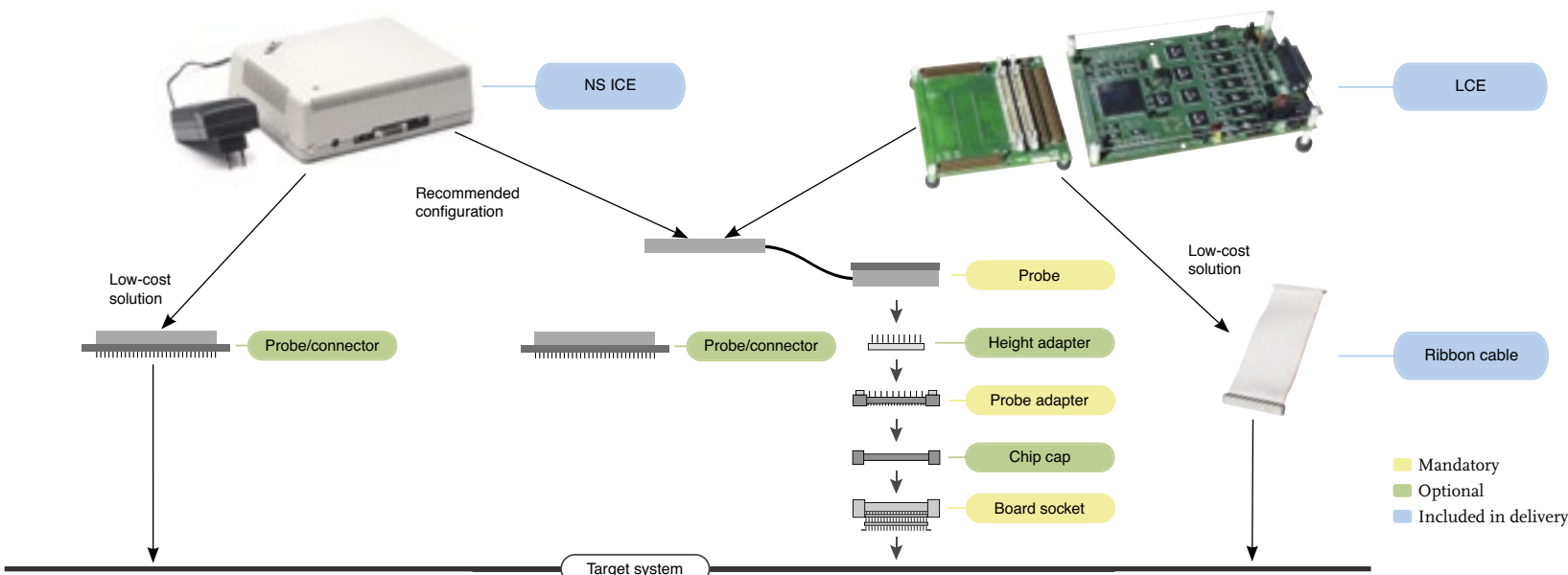
- SP78K0 and SP78K0S include:
 - Relocatable assembler
 - C compiler
 - System simulator
 - Integrated debugger
 - Device files



Core	Device				Memory			Interfaces				Timers				Additional Peripherals			Misc. Information		Development Tools																		
	Nickname	Part Number	Packages [†]	Pins [‡]	Size [KB]	Type	RAM [Bytes]	I/O Lines	CSs/UARTs	CAN	I ² C	External Bus [Data/Addr]	Channels	PWMs	Ext. Clock Speed [MHz]	Internal Oscillator(s)	Subclock [32/68 kHz]	LCD	A/D / D/A Converter	Supply Voltage [V]	Other Features [§]	M-Station	In-Circuit Emulator / Emulation Board																
78K0	μPD78002x/3x	μPD780021A(Y)	GB-8EU / GC-8BS / GK-9ET / F1-CN3	64, 73	8	Mask	512	51	2/1	–	(✓) 8/16	8/16	5	2 x 8-bit, 1 x 16-bit	12-8.38	–	✓	–	8 x 8-bit/-	1.8 – 5.5	–	M	LCE-78K0 + LCE-780034-EM																
		μPD780022A(Y)			16																																		
		μPD780023A(Y)			24		1024																																
		μPD780024A(Y)			32																																		
		μPD780021AS	8	512	39		–/-																																
		μPD780022AS	16																																				
		μPD780023AS	24	1024																																			
		μPD780024AS	32																																				
		μPD780031A(Y)	8	512	51		–	(✓) 8/16		5	2 x 8-bit, 1 x 16-bit	12-8.38		–	✓		–	8 x 10-bit/-																					
		μPD780032A(Y)	16																																				
		μPD780033A(Y)	24																																				
		μPD780034A(Y)	32																																				
		μPD78F0034A(Y)	32	Flash	1024		39	–/-																															
		μPD78F0034B(Y)	8																																				
		μPD780031AS	16																																				
		μPD780032AS	24																																				
	μPD780033AS	32	Flash	1024	39	–/-																																	
	μPD780034AS	32																																					
	μPD78F0034BS	32																																					
	μPD780053(Y)	24																																					
	μPD78005X	μPD780054(Y)	GC-8BT / GK-9EU	80	32	Mask	1024	68	3/1	–	(✓) 8/16	5	1 x 14-bit	5	–	✓	–	8 x 8-bit/ 2 x 8-bit	1.8 – 5.5	–	M	LCE-78K0 + LCE-780308-EM																	
		μPD780055(Y)			40																																		
		μPD780056(Y)			48		2048																																
		μPD780058B(Y)			60																																		
	μPD78F0058(Y)	60	Flash	2048	2.2 – 5.5	RCF																																	
	μPD78006x	μPD780065	GC-8BT	80	40	Mask	5120	60	3/1	–	8/16	5	2 x 8-bit	8.38	–	✓	–	8 x 8-bit/-	2.7 – 5.5	–	–	IE-78K0-NS + IE-780066-NS-EM4 + IE-78K0-NS-P01																	
		μPD78F0066			48																		Flash																
	μPD78007x	μPD780076(Y)	GC-8BS / GK-9ET	64	48	Mask	2048	52	2/2	–	(✓) 8/16	6	2 x 8-bit, 2 x 16-bit	12-8.38	–	✓	–	8 x 10-bit/-	1.8 – 5.5	–	M	LCE-78K0 + LCE-780078-EM																	
		μPD78F0078(Y)			60																		Flash																
	μPD78020x	μPD780204A	GF-3BA	100	32	Mask	1024	74	2/-	–	–/-	5	1 x 14-bit	5	–	✓	–	8 x 8-bit/-	2.7 – 5.5	–	–	IE-78K0-NS + IE-780208-NS-EM1																	
		μPD780205A			40																																		
		μPD780206			48																		2048																
		μPD780208			60																																		
	μPD78023x	μPD780232	GC-8BT	80	16	Mask	768	40	2/-	–	–/-	4	–	5	–	–	–	4 x 8-bit/-	4.5 – 5.5	53 FIP lines	–	IE-78K0-NS + IE-780233-NS-EM4 + IE-78K0-NS-P01																	
		μPD78F0233			24																		Flash																
	μPD78030x	μPD780306(Y)	GC-8EU / GF-3BA / F1-EA3	100, 121	48	Mask	2048	57	3/1	–	(✓) –/-	5	1 x 14-bit	5	–	✓	40 x 4	8 x 8-bit/-	2.0 – 5.5	–	–	LCE-78K0, LCE-780308-EM																	
		μPD780308(Y)			60																																		
		μPD78P0308(Y)			60																		OTP																
	μPD78031x/2x/3x	μPD780316	GC-9EB	120	48	Mask	2560	70	2/1	–	–/-	7	3 x 8-bit, 1 x 16-bit	10	–	✓	24 x 4	10 x 10-bit, 1 x 8-bit	1.8 – 5.5	RCF	M	LCE-78K0 + LCE-780338-EM																	
		μPD780318			60																																		
		μPD780326			48																																		
		μPD780328			60																																		
		μPD780336			48																																		
		μPD780338			60																																		
	μPD78F0338	70	Flash																																				
	μPD78034x/5x	μPD780343(Y)	GC-8EU / F1-DA3	100, 113	24	Mask	1024	66	2/1	–	(✓) –/-	7	3 x 8-bit, 1 x 16-bit	10	–	✓	40 x 4	8 x 8-bit/-	1.8 – 5.5	RCF	M	IE-78K0-NS + IE-780354-NS-EM1																	
		μPD780344(Y)			32																																		
		μPD780353(Y)			24													8 x 10-bit/-																					
		μPD780354(Y)			32																																		
		μPD78F0354A			32		Flash																1536																
μPD7804x	μPD78P048A	GF-3B9	80	60	OTP		68	2/-	–	–/-	4	1 x 14-bit	5	–	✓	–	8 x 8-bit/-	2.7 – 6.0	–	–	IE-78K0-NS+ IE-78048-NS-EM1																		
	μPD78062(Y)			60																																			
μPD7806x	μPD78063(Y)	GC-8EU / GF-3BA	100	16	Mask	512	57	3/1	–	(✓) –/-	5	1 x 14-bit	5	–	✓	40 x 4	8 x 8-bit/-	2.0 – 6.0	–	–	LCE-78K0, LCE-780308-EM																		
	μPD78064B			24																																			
	μPD78064(Y)			32		1024																																	
	μPD78064(Y)			32																																			
μPD7807x	μPD78074B	GF-3BA	100	32	Mask	1056	88	2/1	–	8/16	7	2 x 8-bit, 1 x 14-bit	5	✓	–	8 x 8-bit/ 2 x 8-bit	1.8 – 5.5	–	–	IE-78K0-NS + IE-78078-NS-EM1																			
	μPD78075B			40																																			
	μPD78076(Y)	GC-8EU / GF-3BA	48	2048		4/1																																	
	μPD78078(Y)		60																		OTP																		
μPD78070x	μPD780702Y	GC-8BT	80	60	Mask	3360	67	2/1	–	(✓) –/-	7	3 x 8-bit/-	6.29	–	–	–	16 x 8-bit/-	3.5 – 5.5	–	–	LCE-78K0 + LCE-780703-EM																		
	μPD78F0701Y			60																																			
	μPD780948	GF-3BA	60	2016		79											1	8/16				8	40 x 4	8 x 8-bit/-	4.0 – 5.5														
	μPD78F0948		60																							Flash													
Motor Control	μPD780982	CW / GC-8BS	64	16	Mask	1024	47	1/2	–	8/8	7	3 x 8-bit, 6 x 10-bit for inverter	12	–	–	–	8 x 10-bit/-	4.0 – 5.5	–	–	IE-78K0-NS + IE-780988-NS-EM4 + IE-78K0-NS-P01																		
	μPD780983			24																																			
	μPD780984			32		2048																																	
	μPD780986			48																																			
	μPD780988			60																		Flash																	
CAN ASSP 2	μPD780988A	GK-9ET	64	60	Mask	1504	46	2/1	1	–/-	6	2 x 8-bit, 1 x 16-bit	8.38	–	✓	–	12 x 8-bit/-	4.0 – 5.5	CM	–	IE-78K0-NS + IE-780818-NS-EM4 + IE-78K0-NS-P04																		
	μPD780814A			32																																			
	μPD780816A			48		3040																																	
	μPD780816			59.5																		Flash																	
CAN ASSP3	μPD78F0818A	GC-8BT	80	32	Mask	1504	59	3/1	1	–/-	6	2 x 8-bit	8.38	–	–	28 x 4	5 x 8-bit/-	4.0 – 5.5	SMC	–	IE-78K0-NS + IE-780828-NS-EM4 + IE-78K0-NS-P04																		
	μPD780824B			48																																			
	μPD780826B			60		3040																																	
	μPD78F0828B			59.5																		Flash																	
ASSP 2	μPD780851	GC-8BT	80	32	Mask	1536	56	2/1	–	–/-	6	2 x 8-bit	8.38	–	–	20 x 4	5 x 8-bit/-	4.0 – 5.5	SG, SMC	–	IE-78K0-NS + IE-780852-NS-EM4 + IE-78K0-NS-P04																		
	μPD780852			40																																			
	μPD78F0852			40		Flash																																	
E60	μPD780703Y	GC-8BT	80	59.5	Mask	3072																67	2/1	1	✓ –/-	7	3 x 8-bit, 2 x 16-bit	8	–	–	–	16 x 8-bit/-	3.5 – 5.5	RCF	–	LCE-78K0 + LCE-780703-EM			
	μPD78F0703Y			60			Flash																																
μPD78095x	μPD780955	GF-3B9	80	40	Mask	1024	50	-2	–	–/-	8	1 x 8-bit/-	0.0384	–	–	19 x 1	1 x 8-bit/-	2.2 – 3.5	–	–	IE-78K0-NS + IE-780955-NS-EM1																		
	μPD780957			48																																			
	μPD780958			60		2048																69	1/1	7	1	✓	–	–	–	–	–	–	–	–	–	–	–	IE-78K0-NS + IE-780958-NS-EM4 + IE-78K0-NS-P02	
78K0S	μPD78902x/904x	μPD789022	GB-8ES	44	4	Mask	256	34	1/1	–	–/-	3	1 x 8-bit/-	5	–	–	–	–/-	1.8 – 5.5	–	–	LCE-78K0S + LCE-789026-EM																	
		μPD789024			8																																		
		μPD789025			12		512																																
		μPD789026			16																																		
		μPD78F9026A			16		Flash																																
		μPD789046			16																																		
	μPD78F9046	16	Flash																																				
	μPD789052	μPD789052	MC-5A4	20	4	Mask	128	14	–	–	–	3	–	1	–	–	–	–	1.8 – 3.6	–	–	IE-78K0S-NS, IE-789860-NS-EM1																	
		μPD789062			2																																		
		μPD789071			4		256																																
μPD789072		8																																					
μPD78907x	μPD789074	MC-5A4	30	16	Mask	256	24	1/1	–	–/-	3	1 x 8-bit	10	–	–	–	–/-	1.8 – 5.5	–	M	LCE-78K0S + LCE-789046-EM																		
	μPD78F076			16																																			
	μPD789086			16		384																																	
	μPD789088			32																																			
μPD78908x	μPD78F9088M1	MC-5A4	30	32	Mask	576	24	1/1	–	–/-	5	1 x 8-bit	5	–	–	–	–/-	1.8 – 5.5	–	–	IE-78K0S-NS + IE-789088-NS-EM																		
	μPD789101A			2																																			
	μPD789102A			4		256																																	
	μPD789104A			8																																			
μPD78910x/1x	μPD789111A	MC-5A4	30	2	Mask	256	20	1/1	–	–/-	3	1 x 8-bit	10	–	–	–	4 x 8-bit/-	1.8 – 5.5	–	M	LCE-78K0S + LCE-789136-EM																		
	μPD789112A			4																																			
	μPD789114A			8		Flash																																	
	μPD78F9116B			16																																			
	μPD78912x/3x			μPD789121A		MC-5A4											30					2	Mask	256	20	1/1	–	–/-	3	1 x 8-bit	4	–	–	–	4 x 8-bit/-	1.8 – 5.5	RC	–	LCE-78K0S + LCE-789418-EM
				μPD789122A																		4																	
μPD789124A		8	Flash																																				
μPD789131A		2																																					
μPD789132A		4	256																																				
μPD789134A		8																																					
μPD78F9136B	16	Flash																																					
μPD78916x/7x	μPD789166(Y)	GB-8ES / GA-9EU	44, 48	16	Mask	512	31	1/1	–	(✓) –/-	6	3 x 8-bit	10	–	✓	–	8 x 8-bit/-	1.8 – 5.5	–	–	LCE-78K0S + LCE-789177-EM																		
	μPD789167(Y)			24																																			
	μPD789176(Y)			16		Flash																																	
	μPD789177(Y)			24																																			
μPD78930x/1x	μPD78F9177A(Y)	GK-9ET / GC-8BS	64	8	Mask	512	23	2/1	–	–/-	5	1 x 8-bit	5	–	✓	24 x 4	–/-	1.8 – 5.5	RC	–	LCE-78K0S + LCE-789316-EM																		
	μPD789304			8																																			
	μPD789306			16		Flash																																	
	μPD789314			8																																			
	μPD789316			16		Flash																																	
	μPD78F9316			16																																			
μPD78932x	μPD789322	GB-8ET	52	4	Mask	256	21	1/-	–	–/-	4	1 x 8-bit	5	–	✓	24 x 4	–/-	1.8 – 5.5	POC	–	LCE-78K0S + LCE-789468-EM																		
	μPD789324			8																																			
	μPD789326			16		512																																	
	μPD789327			24																																			
μPD78940x/1x	μPD78F9328	GC-8BT / GK-9EU	80	32	Mask	512	43	1/1	–	–/-	6	–	5	–	✓	28 x 4	7 x 8-bit/-	1.8 – 5.5	–	M	LCE-78K0S + LCE-789418-EM																		
	μPD789405A			12																																			
	μPD789406A			16		Flash																																	
	μPD789407A			12																																			
	μPD789415A			16		512																																	
	μPD789416A			16																																			
μPD789417A	24																																						
μPD78F9418A	32	Flash																																					
μPD78942x/3x	μPD789425	GB-8EU / GK-9ET	64	12	Mask	512	40	1/1	–	–/-	5	1 x 8-bit	5	–	✓	5 x 4	6 x 8-bit/-	1.8 – 5.5	–	–	LCE-78K0S + LCE-789436-EM																		
	μPD789426			16																																			
	μPD789435			12		Flash																																	
	μPD789436			16																																			
μPD78944x/5x	μPD78F9436	GB-8EU / GK-9ET	64	12	Mask	512	30	1/1	–	–/-	5	1 x 8-bit	5	–	✓	15 x 4	6 x 8-bit/-	1.8 – 5.5	–	M	LCE-78K0S + LCE-789456-EM																		
	μPD789445			16																																			
	μPD789455			12		Flash																																	
	μ																																						

ICE	78K0S		78K0S	78K0	78K0
	IE-78K0S-NS-A		LCE-78K0S	IE-78K0-NS-A	LCE-78K0
Power supply	IE-70000-MC-PS		—	IE-70000-MC-PS	—
Emulation board	Device specific (refer to device table)				
PCI interface card	IE-70000-PCI-IF-A		—	IE-70000-PCI-IF-A	—
PCMCIA interface card	IE-70000-CD-IF-A		—	IE-70000-CD-IF-A	—
USB interface adapter	—		LCE-USB-IF	—	LCE-USB-IF

Pin Count	Type	Board Socket	Probe Adapter	Probe	Chip Cap	Height Adapter
		Mandatory	Mandatory	Mandatory	Optional	Optional
20MC	SSOP	EV-NSPACK20BK	EV-YSPACK30BK	LCP30MCS-250	EV-HSPACK30BK	EV-YSSOCKET30BK
30MC	SSOP	EV-NSPACK30BK	EV-YSPACK30BK	LCP30MCS-250	EV-HSPACK30BK	EV-YSSOCKET30BK
44GB	LQFP	EV-NQPACK044SA	EV-YQPACK044SA	NP-44GB-TQ	EV-HQPACK044SA	EV-YQSOCKET044SAF
48GA	TQFP	EV-NQPACK048SA	EV-YQPACK048SA	NP-48GA-TQ	EV-HQPACK048SA	EV-YQSOCKET048SAF
52GB	LQFP	EV-NQPACK052SB	EV-YQPACK052SB	NP-52GB-TQ	EV-HQPACK052SB	EV-YQSOCKET052SBF
64GB	LQFP	EV-NQPACK064SD	EV-YQPACK064SD	NP-64GB-TQ	EV-HQPACK064SD	EV-YQSOCKET064SDF
64GK	TQFP	EV-NQPACK064SB	EV-YQPACK064SB	NP-64GK	EV-HQPACK064SB140	EV-YQSOCKET064SBF
64GC	LQFP	EV-NQPACK064SA	EV-YQPACK064SA	NP-64GC-TQ	EV-HQPACK064SA	EV-YQSOCKET064SAF
64CW	SDIP	standard SDIP	—	NP-64CW	—	—
73F1	FBGA	—	—	NP-73F1-CN3	—	—
80GK	TQFP	EV-NQPACK080SB	EV-YQPACK080SB	LCP80CK-250	EV-HQPACK080SB	EV-YQSOCKET080SBF
80GC	QFP	EV-NQPACK080SB	EV-YQPACK080SB	NP-80GC-TQ	EV-HQPACK080SB	EV-YQSOCKET080SBF
80GF	QFP	EV-NQPACK080RA	EV-YQPACK080RA	NP-80GF-TQ	EV-HQPACK080RA	EV-YQSOCKET080RAF
100GC	LQFP	EV-NQPACK100SD	EV-YQPACK100SD	NP-100GC	EV-HQPACK100SD	EV-YQSOCKET100SDF
100GF	QFP	EV-NQPACK100RB	EV-YQPACK100RB	NP-100GF-TQ	EV-HQPACK100RB	EV-YQSOCKET100RBF
113F1	FBGA	—	—	NP-113F1-DA3	—	—
120GJ	TQFP	EV-NQPACK120SE	EV-YQPACK120SE	SWEX-120SE-1	EV-HQPACK120SE	EV-YQSOCKET120SEF
144GJ	TQFP	EV-NQPACK144SD	EV-YQPACK144SD	SWEX-144SD-1	EV-HQPACK144SD	EV-YQSOCKET144SDF



Series	Support Device	Micro-Board
78K0S	μPD78988x	KORE81
	μPD78983x	EV9835
	μPD78948x	M-78F9489
	μPD78947x	M-78F9489
	μPD78945x	M-78F9456
	μPD78944x	M-78F9456
	μPD78941x	KORE9418
	μPD78940x	KORE9418
	μPD78911x	M-78F9116B
	μPD78907x	M-78F9076
78K0	μPD78035x	M-78F0354
	μPD78034x	M-78F0354
	μPD78033x	EV0338
	μPD78032x	EV0338
	μPD78031x	EV0338
	μPD78007x	M-78F0078
	μPD78005x	M-78F0058
	μPD78003x	M-78F0034B
	μPD78002x	M-78F0034B
	μPD78002x	M-78F0034B

Micro-Board



M-Station



Complete evaluation kit requires M-Station baseboard and micro-board.

Pin / Package	Flash Adapter
20MC	FA-20MC-5A4-A
30MC	FA-30MC-5A4-A
44GB	FA-44GB-8ES-A
48GA	FA-48GA
52GB	FA-52GB-8ET-A
64CW	FA-64CW
64GB	FA-64GB-8EU-A
64GK	FA-64GK-9ET-A
64GC	FA-64GC-8BS-A
73F1	FA-73F1-CN3-A
80GC	FA-80GC-8BT-A
80GK	FA-80GK-9EU-A
100GC	FA-100GC-8EU-A
100GF	FA-100GF-3BA-A
113F1	FA-113F1-DA3-A
120GC	FA-120GC-9EB
144GJ	FA-144GJ-UEN-A

- Flash programmer**
- Universal for all MCU flash devices from NEC Electronics
 - PC communication
 - via UART
 - via USB
 - Order code: PG-FP4-E



- Gang programmer**
- Gang programmer available; please contact your sales representative.

- PG-1500 programmer**
- For OTP devices
 - PC communication
 - serial
 - parallel
 - Order code: PG-1500



Device	Program Adapter
μPD78P0208	PA-78P0208GF
μPD78P0308	PA-78P0308GC-8EU
μPD78P048	PA-78P048GF
μPD78P078	PA-78P078GF

Software Tools	78K0S	78K0
Software package	SP78K0S	SP78K0
Compiler and assembler	CA78K0S	CA78K0
System simulator	SM78K0S	SM78K0

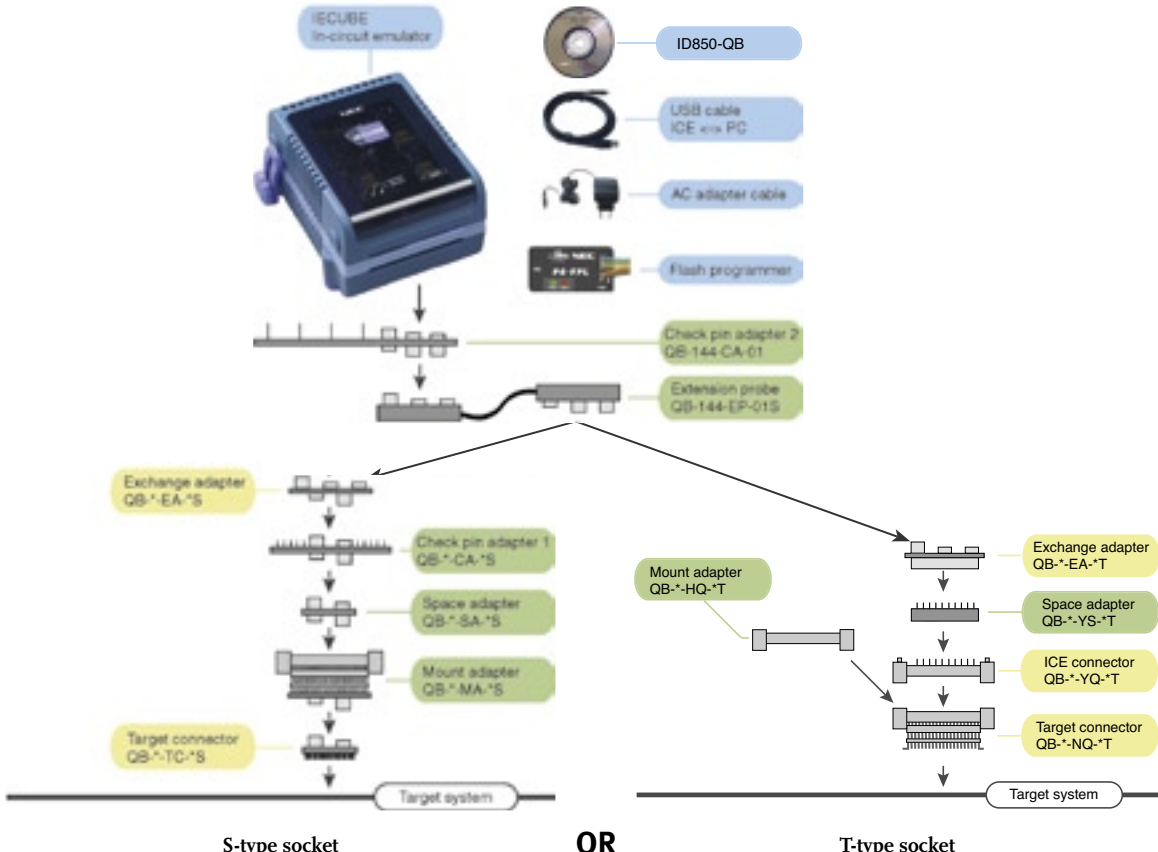
- SP78K0 and SP78K0S Include:**
- Relocatable assembler
 - C compiler
 - System simulator
 - Integrated debugger
 - Device files



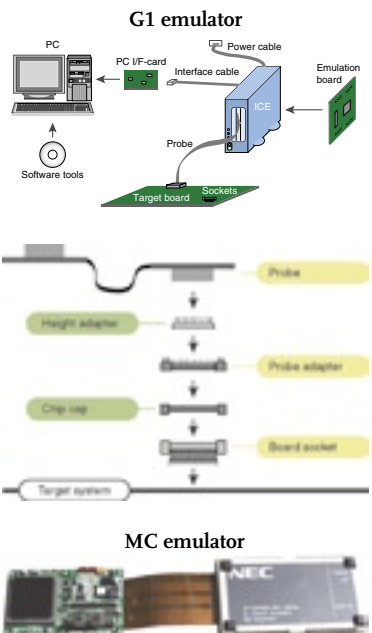
Core	Nickname	Device					Memory		Interfaces				Timers			Additional Peripherals			Misc. Information		Development Tools																																																																																																																																																																																																																																																						
		Part Number	Packages*	Pins*	Size [KB]	Type	RAM [KB]	I/O Lines	CSs/UARTs	CAN	I ² C	External Bus	Channels	PWMs	Clock Speed [MHz]	Internal Oscillator(s)	Subclock [32/768 kHz]	LCD	A/D / D/A Converter	Supply Voltage [V]	Other Features*	Low-Cost Tools	In-Circuit Emulator / Emulation Board																																																																																																																																																																																																																																																				
V850ES	V850ES/SA2	μPD703200(Y)	GC-YEU	100	128	Mask	8	82	4/2	–	(✓)	8/16	8	2 x 16-bit	20	–	✓	–	12 x 10-bit/ 2 x 8-bit	2.2 – 2.7	RCF, SVF, 4-ch DMA	S	IE-V850ES-G1+ IE-703204-G1-EM1																																																																																																																																																																																																																																																				
		μPD703201(Y)			256		16							2 x 16-bit, 4 x 8-bit	17																																																																																																																																																																																																																																																												
		μPD70F3201(Y)				Flash																																																																																																																																																																																																																																																																					
	V850ES/SA3	μPD703204(Y)	F1-EA6	121	256	Mask	16	102	5/2	–	(✓)	8/16	8	2 x 16-bit, 4 x 8-bit	17	–	✓	–	16 x 10-bit/ 2 x 8-bit	2.2 – 2.7	RCF, SVF, 4-ch DMA	–																																																																																																																																																																																																																																																					
		μPD70F3204(Y)				Flash																																																																																																																																																																																																																																																																					
	V850ES/PM1	μPD703228	GC-8EU	100	128	Mask	10	68	2/2	–	–	–	10	6 x 16-bit	20	–	✓	–	6 x 16-bit ΔΣ /–	2.7 – 3.6	RCF	–		IE-V850ES-G1 + IE-703228-G1-EM1																																																																																																																																																																																																																																																			
	V850ES/KE1	μPD703207(Y)	GB-8EU-A / GK-9ET-A	64	128	Mask	4	51	2/2	–	(✓)	–	10	2 x 16-bit, 4 x 8-bit	20	–	✓	–	8 x 10-bit/–	2.7 – 5.5	CM, RCF, SVF, RTP	N/O																																																																																																																																																																																																																																																					
		μPD70F3207H(Y)			Flash																																																																																																																																																																																																																																																																						
	V850ES/KE1+	μPD703302(Y)	GB-8EU-A / GK-9ET-A	64	128	Mask	4	51	2/2	–	(✓)	–	10	2 x 16-bit, 4 x 8-bit	20	240 kHz	✓	–	8 x 10-bit/–	2.7 – 5.5	CM, LIN, LVI, POC, SVF, RCF, RTP	N/O																																																																																																																																																																																																																																																					
		μPD70F3302			Flash																																																																																																																																																																																																																																																																						
	V850ES/KF1	μPD703208(Y)	GC-8BT-A / GK-9EU-A	80	64	Mask	4	67	3/2	–	(✓)	8/16	10	2 x 16-bit, 4 x 8-bit	20	–	✓	–	8 x 10-bit/–	2.7 – 5.5	RTP, RCF, SVF	N/O	QB-V850ESKX1H-ZZZ																																																																																																																																																																																																																																																				
		μPD703209(Y)			96																																																																																																																																																																																																																																																																						
		μPD703210(Y)				Flash	6																																																																																																																																																																																																																																																																				
		μPD70F3210H(Y)			128																																																																																																																																																																																																																																																																						
		μPD703211(Y)				Mask	12						11																																																																																																																																																																																																																																																														
		μPD70F3211H(Y)			256																																																																																																																																																																																																																																																																						
	V850ES/KF1+	μPD70F3306	GC-8BT-A / GK-9EU-A	80	128	Flash	6	67	3/2	–	(✓)	8/16	11	2 x 16-bit, 4 x 8-bit	20	240 kHz	✓	–	8 x 10-bit/–	2.7 – 5.5	CM, LIN, LVI, POC, RCF, SVF, RTP	N/O																																																																																																																																																																																																																																																					
		μPD703308(Y)			256	Mask	12																																																																																																																																																																																																																																																																				
		μPD70F3308				Flash																																																																																																																																																																																																																																																																					
	V850ES/KG1	μPD703212(Y)	GC-8EA-A / GF-JBT-A	100	64	Mask	4	84	4/2	–	(✓)	8/16	12	4 x 16-bit, 4 x 8-bit	20	–	✓	–	8 x 10-bit/ 2 x 8-bit	2.7 – 5.5	RCF, SVF, RTP	N/O/S																																																																																																																																																																																																																																																					
		μPD703213(Y)			96																																																																																																																																																																																																																																																																						
		μPD703214(Y)				Flash	6																																																																																																																																																																																																																																																																				
		μPD70F3214H(Y)			128																																																																																																																																																																																																																																																																						
		μPD703215H(Y)				Mask	16						13	5 x 16-bit, 4 x 8-bit																																																																																																																																																																																																																																																													
		μPD70F3215H(Y)			256																																																																																																																																																																																																																																																																						
	V850ES/KG1+	μPD70F3311	GC-8EA-A / GF-JBT-A	100	128	Flash	6	84	4/3	–	(✓)	8/16	13	5 x 16-bit, 4 x 8-bit	20	240 kHz	✓	–	8 x 10-bit/ 2 x 8-bit	2.7 – 5.5	RTP, CM, LIN, LVI, POC, RCF, SVF, 4-ch DMA	N/O																																																																																																																																																																																																																																																					
		μPD703313(Y)			256	Mask	16																																																																																																																																																																																																																																																																				
		μPD70F3313				Flash																																																																																																																																																																																																																																																																					
	V850ES/KJ1	μPD703216(Y)	GJ-UEN-A	144	96	Mask	4	128	5/3	–	(✓)	8/16/ 22	14	6 x 16-bit, 4 x 8-bit	20	–	✓	–	16 x 10-bit/ 2 x 8-bit	2.7 – 5.5	RTP, RCF, SVF	N/O																																																																																																																																																																																																																																																					
		μPD703217(Y)																																																																																																																																																																																																																																																																									
		μPD70F3217(Y)			128	Flash	6																																																																																																																																																																																																																																																																				
		μPD70F3217H(Y)																																																																																																																																																																																																																																																																									
		μPD703218(Y)			256	Mask	16						15	7 x 16-bit, 4 x 8-bit																																																																																																																																																																																																																																																													
		μPD70F3218H(Y)				Flash																																																																																																																																																																																																																																																																					
	V850ES/KJ1+	μPD70F3316(Y)	GJ-UEN-A	144	128	Flash	6	128	5/3	–	(✓)	8/16	15	7 x 16-bit, 4 x 8-bit	20	240 kHz	✓	–	16 x 10-bit/ 2 x 8-bit	2.7 – 5.5	RTP, CM, LIN, LVI, POC, RCF, SVF, 4-ch DMA	N/O																																																																																																																																																																																																																																																					
		μPD70F3318(Y)			256		16																																																																																																																																																																																																																																																																				
	V850ES/IK1	μPD703327	GC-8BS	64	64	Mask	4	39	1/2	–	–	–	8	9 x 16-bit	32	240 kHz	–	–	8 x 10-bit/–	4.5 – 5.5	CM, POC, LVI, SVF, 3-ph motor control function	–	QB-V850EIA4-ZZZ																																																																																																																																																																																																																																																				
		μPD703329			128																																																																																																																																																																																																																																																																						
		μPD70F3329				Flash	6																																																																																																																																																																																																																																																																				
	V850ES/FE2	μPD703230	GB-8EU	64	64	Mask	4	51	2/2	1	–	–	8	10 x 16-bit	20	200 kHz	✓	–	10 x 10-bit/–	3.5 – 5.5	CM, LIN, LVI, POC, RCF, SVF	N/O	QB-V850ESFX2-ZZZ																																																																																																																																																																																																																																																				
		μPD703231			128																																																																																																																																																																																																																																																																						
		μPD70F3231				Flash	6																																																																																																																																																																																																																																																																				
	V850ES/FF2	μPD703232	GK-9EU	80	128	Mask	6	67	2/2	1	–	–	8	10 x 16-bit	20	200 kHz	✓	–	12 x 10-bit/–	3.5 – 5.5	CM, LIN, LVI, POC, RCF, SVF	N/O																																																																																																																																																																																																																																																					
		μPD703233			256																																																																																																																																																																																																																																																																						
μPD70F3233					Flash	12																																																																																																																																																																																																																																																																					
V850ES/FG2	μPD703234	GC-8EA	100	128	Mask	6	84	2/3	–	(✓)	8/16	9	13 x 16-bit	20	200 kHz	✓	–	16 x 10-bit/–	3.5 – 5.5	CM, LIN, LVI, POC, RCF, SVF, 4-ch DMA	N/O																																																																																																																																																																																																																																																						
	μPD703235			256																																																																																																																																																																																																																																																																							
	μPD70F3229(Y)			384	Flash	12																																																																																																																																																																																																																																																																					
	μPD70F3235			256																																																																																																																																																																																																																																																																							
	μPD70F3236			384	16																																																																																																																																																																																																																																																																						
	μPD70F3237			384	16																																																																																																																																																																																																																																																																						
V850ES/FJ2	μPD70F3237	GJ-UEN	144	256	Flash	12	128	3/3	2	–	8/16	10	17 x 16-bit	20	200 kHz	✓	–	24 x 10-bit/ –	3.5 – 5.5	CM, LIN, LVI, POC, RCF, SVF, 4-ch DMA	N/O																																																																																																																																																																																																																																																						
	μPD70F3239			512		20																																																																																																																																																																																																																																																																					
V850ES/SG2	μPD703260(Y)	GC-8EA / GF-JBT	100	256	Mask	24	84	5/3	1	(✓)	8/16	10	9 x 16-bit	20	200 kHz	✓	–	12 x 10-bit/ 2 x 8-bit	2.85 – 3.6	CM, LIN, LVI, RCF, SVF, 4-ch DMA	N/O/S	QB-V850ESSX2-ZZZ																																																																																																																																																																																																																																																					
	μPD703261(Y)			384																																																																																																																																																																																																																																																																							
	μPD70F3261(Y)				Flash	32																																																																																																																																																																																																																																																																					
	μPD703262(Y)			512																																																																																																																																																																																																																																																																							
	μPD703263(Y)				Mask	40																	48																																																																																																																																																																																																																																																				

Pin/ Package	IECUBE Socket type	QB-V850EIA4		QB-V850ESFX2		QB-V850ESKXH	QB-V850ESSX2	
		S-type	T-type	S-type	T-type	S-type	S-type	T-type
144GJ	Exchange adapter	-	-	QB-144GJ-EA-03S	QB-144GJ-EA-03T	QB-144GJ-EA-02S	QB-144GJ-EA-01S	QB-144GJ-EA-01T
	ICE connector			-	QB-144GJ-YQ-01T	-	-	QB-144GJ-YQ-01T
	Target connector			QB-144GJ-TC-01S	QB-144GJ-NQ-01T	QB-144GJ-TC-01S	QB-144GJ-TC-01S	QB-144GJ-NQ-01T
	Mount adapter			QB-144GJ-MA-01S	QB-144GJ-HQ-01T	QB-144GJ-MA-01S	QB-144GJ-MA-01S	QB-144GJ-HQ-01T
	Space adapter			QB-144-SA-01S	QB-144GJ-YQ-01T	QB-144-SA-01S	QB-144-SA-01S	QB-144GJ-YQ-01T
	Check pin adapter 1			QB-144-CA-01S	-	QB-144-CA-01S	QB-144-CA-01S	-
	Check pin adapter 2			QB-144-CA-01	QB-144-CA-01	QB-144-CA-01	QB-144-CA-01	QB-144-CA-01
100GC	Extension probe			QB-144-EP-01S	QB-144-EP-01S	QB-144-EP-01S	QB-144-EP-01S	QB-144-EP-01S
	Exchange adapter	QB-100GC-EA-02S	QB-100GC-EA-02T	QB-100GC-EA-01S	QB-100GC-EA-01T	QB-100GC-EA-01S	QB-100GC-EA-01S	QB-100GC-EA-01T
	ICE connector	-	QB-100GC-YQ-01T	-	QB-100GC-YQ-01T	-	-	QB-100GC-YQ-01T
	Target connector	QB-100GC-TC-01S	QB-100GC-NQ-01T	QB-100GC-TC-01S	QB-100GC-NQ-01T	QB-100GC-TC-01S	QB-100GC-TC-01S	QB-100GC-NQ-01T
	Mount adapter	QB-100GC-MA-01S	QB-100GC-HQ-01T	QB-100GC-MA-01S	QB-100GC-HQ-01T	QB-100GC-MA-01S	QB-100GC-MA-01S	QB-100GC-HQ-01T
	Space adapter	QB-100-SA-01S	QB-100GC-YQ-01T	QB-100-SA-01S	QB-100GC-YQ-01T	QB-100-SA-01S	QB-100-SA-01S	QB-100GC-YQ-01T
	Check pin adapter 1	QB-100-CA-01S	-	QB-100-CA-01S	-	QB-100-CA-01S	QB-100-CA-01S	-
100GF	Check pin adapter 2	QB-144-CA-01	QB-144-CA-01	QB-144-CA-01	QB-144-CA-01	QB-144-CA-01	QB-144-CA-01	QB-144-CA-01
	Extension probe	QB-144-EP-01S*	QB-144-EP-01S*	QB-144-EP-01S	QB-144-EP-01S	QB-144-EP-01S	QB-144-EP-01S	QB-144-EP-01S
	Exchange adapter	QB-100GF-EA-02S	QB-100GF-EA-02T	-	-	QB-100GF-EA-01S	QB-100GF-EA-01S	QB-100GF-EA-01T
	ICE connector	-	QB-100GF-YQ-01T	-	-	-	-	QB-100GF-YQ-01T
	Target connector	QB-100GF-TC-01S	QB-100GF-NQ-01T	-	-	QB-100GF-TC-01S	QB-100GF-TC-01S	QB-100GF-NQ-01T
	Mount adapter	QB-100GF-MA-02S	QB-100GF-HQ-02T	-	-	QB-100GF-MA-01S	QB-100GF-MA-01S	QB-100GF-NQ-01T
	Space adapter	QB-100-SA-01S	QB-100GF-YQ-01T	-	-	QB-100-SA-01S	QB-100-SA-01S	QB-100GF-YQ-01T
80GC	Check pin adapter 1	QB-100-CA-01S	-	-	-	QB-100-CA-01S	QB-100-CA-01S	-
	Check pin adapter 2	QB-144-CA-01	QB-144-CA-01	-	-	QB-144-CA-01	QB-144-CA-01	QB-144-CA-01
	Extension probe	QB-144-EP-01S*	QB-144-EP-01S*	-	-	QB-144-EP-01S	QB-144-EP-01S	QB-144-EP-01S
	Exchange adapter	QB-80GC-EA-01S	QB-80GC-EA-03T	-	-	QB-80GC-EA-02S	-	-
	ICE connector	-	QB-80GC-YQ-01T	-	-	-	-	-
	Target connector	QB-80GC-TC-01S	QB-80GC-NQ-01T	-	-	QB-80GC-TC-01S	-	-
	Mount adapter	QB-80GC-MA-01S	QB-80GC-HQ-01T	-	-	QB-80GC-MA-01S	-	-
80GK	Space adapter	QB-80-SA-01S	QB-80GC-YQ-01T	-	-	QB-80-SA-01S	-	-
	Check pin adapter 1	QB-80-CA-01S	-	-	-	QB-80-CA-01S	-	-
	Check pin adapter 2	QB-144-CA-01	QB-144-CA-01	-	-	QB-144-CA-01	-	-
	Extension probe	QB-144-EP-01S	QB-144-EP-01S	-	-	QB-144-EP-01S	-	-
	Exchange adapter	QB-64GB-EA-01S	QB-64GB-EA-02T	QB-64GB-EA-01S	QB-64GB-EA-02T	QB-64-CA-01S	-	-
	ICE connector	-	QB-64GB-YQ-01T	-	-	-	-	-
	Target connector	QB-64GB-TC-01S	QB-64GB-NQ-01T	-	-	QB-64GB-TC-01S	-	-
64GB	Mount adapter	QB-64GB-MA-01S	QB-64GB-HQ-01T	-	-	QB-64GB-MA-01S	-	-
	Space adapter	QB-64-SA-01S	QB-64GB-YQ-01T	-	-	QB-64-SA-01S	-	-
	Check pin adapter 1	QB-64-CA-01S	-	-	-	QB-64-CA-01S	-	-
	Check pin adapter 2	QB-144-CA-01	QB-144-CA-01	-	-	QB-144-CA-01	-	-
	Extension probe	QB-144-EP-01S	QB-144-EP-01S	-	-	QB-144-EP-01S	-	-
	Exchange adapter	QB-64GC-EA-01S	QB-64GC-EA-02T	-	-	-	-	-
	ICE connector	-	QB-64GC-YQ-01T	-	-	-	-	-
64GC	Target connector	QB-64GC-TC-01S	QB-64GC-NQ-01T	-	-	-	-	-
	Mount adapter	QB-64GC-MA-01S	QB-64GC-HQ-01T	-	-	-	-	-
	Space adapter	QB-64-SA-01S	QB-64GC-YQ-01T	-	-	-	-	-
	Check pin adapter 1	QB-64-CA-01S	-	-	-	-	-	-
	Check pin adapter 2	QB-144-CA-01	QB-144-CA-01	-	-	-	-	-
	Extension probe	QB-144-EP-01S*	QB-144-EP-01S*	-	-	-	-	-
	Exchange adapter	-	-	-	-	QB-64-EA-01S	-	-
64GK	ICE connector	-	-	-	-	-	-	-
	Target connector	-	-	-	-	QB-64GK-TC-01S	-	-
	Mount adapter	-	-	-	-	QB-64GK-MA-01S	-	-
	Space adapter	-	-	-	-	QB-64-SA-01S	-	-
	Check pin adapter 1	-	-	-	-	QB-64-CA-01S	-	-
	Check pin adapter 2	-	-	-	-	QB-144-CA-01	-	-
	Extension probe	-	-	-	-	QB-144-EP-01S	-	-

■ Mandatory * Up to 32 MHz
■ Optional
■ Included in delivery



Pin Count	Type	Emulator	Board Socket Mandatory	Probe Adapter Mandatory	Chip Cap Optional	Height Adapter Optional	Probe Mandatory
64GB	TQFP	G1	Adapter Set EV-703239GB64				Attached to emulation board
80GK	TQFP	G1	Sets: V850E/KF1: EV-703210GK, V850E/FF2: EV-703239GK80				Attached to emulation board
80GC	LQFP	G1	V850E/KF1: EV-703210GC				Attached to emulation board
100GC	LQFP	MC	EV-NQPACK100SD	EV-YQPACK100SD	EV-HQPACK100SD	EV-YQSOCKET100SDF	SWEX-100SD-1
100GF	QFP	MC	EV-NQPACK100RB	EV-YQPACK100RB	EV-HQPACK100RB	EV-YQSOCKET100RB-F	Attached to emulation board
	QFP	G1	Sets: V850E/SG2: EV-703288G100				SWEX-100SD-1+NEXB-2R100SD/RB
121F1	FPBGA	MC	CSICE121A1312N02 for V850/SA1		CSPACK121A1312N02		Attached to emulation board
	MC	MC	CSICE121A1312N03 for V850E/SA3		CSSOCKET121A132SN01S1		SWEX-100SD-1
128GJ	LQFP	MC	EV-NQPACK128SD220	EV-YQPACK128SD220	EV-HQPACK128SD220	EV-YQSOCKET128SD220F	SWEX128SD
144GJ	TQFP	MC	EV-NQPACK144SD	EV-YQPACK144SD	EV-HQPACK144SD	EV-YQSOCKET144SDF	SWEX-144SD-1
157F1	FPBGA	G1	Sets: V850E/KJ1: EV-703217GJ, V850E/FJ2: EV-703239GJ144, V850E/SG2: EV-703288GJ144		CSPACK157A1614N01		Attached to emulation board
161F1	FPBGA	MC	CSOCKET161A1413N01	CSICE161A1413N02	LSPACK161A1413N01	CSSOCKET161A141SN01S1	-
176GM	LQFP	MC	-	-	-	-	-

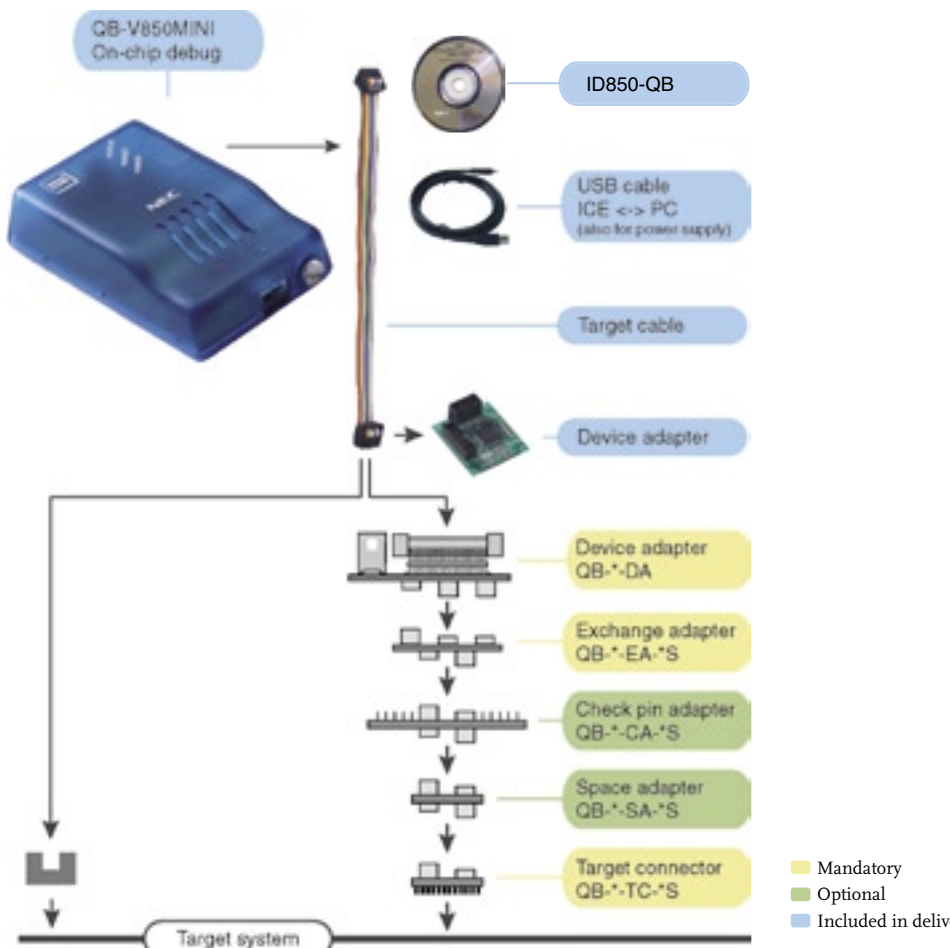


Purpose	N-Wire based debugging system
Supported devices	ALL V850 devices with N-Wire interface
External power supply	Not required
Device interface	N-Wire
Debugger software	ID850-QB
PC interface	PCMCIA
Order code	IE-V850E1-CD-NW



Support Device	Package	Device Adapter*
V850E/IA4	100GC	-
	100GF	-
V850E/FF2	144GJ	-
V850E/FG2	100GC	-
V850E/FF2	80GK	-
V850E/KJ1(H)	144GJ	-
V850E/KG1	100GC	QB-V850ESKX1-DA
	100GF	-
V850E/KG1H	100GC	QB-V850ESKX1H-DA
	100GF	-
V850E/KF1	80GC	QB-V850ESKX1-DA
	80GK	-
V850E/KF1H	80GC	QB-V850ESKX1H-DA
	80GK	-
V850E/KE1	64GB	QB-V850ESKX1-DA
V850E/KE1H	64GC	QB-V850ESKX1H-DA
V850E/SJ2	144GJ	-
V850E/SG2	100GC	-
	100GF	-

* Requires adapter and connector; refer to IECUBE socket table for part number.



Core	Starter Kit
V850	CEB-V850/SA1
	CEB-V850/SB1
V850E	CEB-V850E/MA1
	CEB-V850E/MS1
	CEB-V850E/MA3
	CEB-V850E/IA1
V850ES	TK-850/SA2
	TK-850/KG1
	TK-850/SG2



Pin/Package	Flash Adapter
64GK	FA-64GK-9ET-A
64GB	FA-64GB-8EU-A
64GC	FA-64GC-8BU-A
80GK	FA-80GK-9EU-A
80GC	FA-80GC-8BT-A
100GC	FA-100GC-8EU-A
100GF	FA-100GF-3BA-A
121F1	FA-121F1-EA6-A
144GJ	FA-144GJ-UEN-A
161F1	FA-161F1-EN4-A

- Flash programmer**
- Universal for all MCU flash devices from NEC Electronics
 - PC communication
 - via UART
 - via USB
 - Order code: PG-FP4-E
- Gang programmer**
- Gang programming available; please contact your sales representative.



- PG-FPL**
- Low-price programmer for development purposes only
 - Suitable for all single-voltage flash devices
 - Order code: PG-FPL



Software Tools	78K05
Software package	SP850
Compiler and assembler	CA850
System simulator	SM850

- SP850 includes:**
- Assembler
 - C compiler
 - System simulator
 - Integrated debugger
 - Device files



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