EEPROM Cross Reference List

General Guidelines:

1. The "93" designator in the EEPROM part numbers specifies a 3-wire serial interface.
2. The "06" designator in the EEPROM part numbers specifies a 256-bit device.
3. The "46" designator in the EEPROM part numbers specifies a 1K device.
4. The "56" designator in the EEPROM part numbers specifies a 2K device.
5. The "66" designator in the EEPROM part numbers specifies a 4K device.
6. The middle letters following the "93" are vendor specific and have different meaning depending on the vendor. See vendor section for explanation.
7. PLX has no knowledge regarding the availability, pricing and/or obsolescence of these EEPROM devices. Customers must check with the specific vendors for availability.
8. In the vendor section, items of the form C/CS or Blank/R/W mean that there is an option for different part types. Explanations follow as to what the characters mean.
9. All EEPROMs must support Sequential Read functionality. Data will be output sequentially as long as CS is held active after a READ instruction has been issued.
10. In the following list, the **Recommended Devices** shows device types either used by PLX during validation of the PLX device, validation of the appropriate RDK, or subsequent applications verification. The **Alternative Devices** are those that, upon data sheet review, appear to offer the same necessary functions to support the corresponding PLX device.
11. In some cases, as noted, the PLX Applications Department has been able to verify operation of certain **Alternative Devices** with the corresponding PLX device type. This is not a guarantee that these **Alternative Devices** operate exactly as the **Recommended Devices**, but indicates that the devices operated correctly during the applications testing. In many cases, there are clear differences between the devices including but not limited to pinouts, pull-up/pull-down requirements, organization, etc. Drop in replacement is not recommended without detailed review of the Alternative Device data sheets.
12. **CAVEAT: There could theoretically be other differences between these devices that could possibly affect the operation with PLX devices. It is the customer's responsibility to verify correct operation and PLX has not nor does not intend to test all varieties of EEPROMs for use with PLX parts.**
13. **Note regarding Fairchild EEPROMs:** In a letter from Fairchild Semiconductor dated Feb. 27, 2001, Fairchild states that a problem may exist in writing multiple times to all FM93CS46, FM93CS56, FM93CS66 EEPROMs, and to National Semiconductor NM93CS66 EEPROMs beginning with date code B9942. These EEPROMs are recommended only for write-once applications. A new device revision is announced to fix this problem. Contact your Fairchild Sales Representative for further information.

PLX Device	Vendor	Recommended Devices	
IOP 480 PCI 9030 PCI 9054 PCI 9056 PCI 9656	Fairchild Semiconductor	2K 4K	FM93CS56L FM93CS66L
	Note: Device must have sequential read function Note: "LZ" (Low standby ICC) can be substituted for "L"		
	Catalyst Semiconductor	2K 4K	CAT93C56 CAT93C66
	Note: For CAT93Cx6, ORG pin must be unconnected or tied to VCC for 16-bit organization		
	Holtek Semiconductor	2K 4K	HT93LC56 HT93LC66
	Note: For HT93LCx6, ORG pin must be tied to VCC for 16-bit organization		
	Microchip Technology	2K 2K 4K 4K	93AA56 93LC56B 93AA66 93LC66B
	Note: Cannot use x8 devices (Cannot use 93LCx6A) Note: For 93AAx6, ORG pin must be unconnected or tied to VCC for 16-bit organization		
	Rohm Microelectronics	2K 4K	BR93LC56 BR93LC66
	Note: No restrictions		
	Seiko Instruments	2K 4K	S-93C56A S-93C66A
	Note: No restrictions		
	Vendor	**Alternative Devices**	
	Atmel Corporation	2K 4K	None None
	Note: Atmel does not have sequential read function		
	Integrated Silicon Solution	2K 4K	IS93C56-3 IS93C66-3
	Note: No restrictions		
	Microchip Technology	2K 4K	93C56B 93C66B
	Note: Cannot use x8 devices (Cannot use 93Cx6A)		
	ST Microelectronics	2K 2K 4K 4K	M93C56 M93S56 M93C66 M93S66
	Note: For 93Cx6, ORG pin must be unconnected or tied to VCC for 16-bit organization		

PLX Device	Vendor	Recommended Devices	
PCI 9080	Fairchild Semiconductor	1K	FM93CS46
		2K	FM93CS56
		4K	FM93CS66
	Note: Must have sequential read function		
	Catalyst Semiconductor	2K	CAT93C56
		4K	CAT93C66
	Note: For CAT93Cx6, ORG pin must be unconnected or tied to VCC for 16-bit organization		
	Holtek Semiconductor	1K	HT93LC46
		2K	HT93LC56
		4K	HT93LC66
	Note: For HT93LCx6, ORG pin must be tied to VCC for 16-bit organization		
	Integrated Silicon Solution	1K	IS93C46-3
	Note: No restrictions		
	Microchip Technology	1K	93AA46
		1K	93C46B
		2K	93AA56
		2K	93LC56B
		4K	93AA66
		4K	93LC66B
	Note: Cannot use x8 devices (Cannot use 93Cx6A or 93LCx6A)		
	Note: For 93AAx6, ORG pin must be unconnected or tied to VCC for 16-bit organization		
	Rohm Microelectronics	1K	BR93LC46
		2K	BR93LC56
		4K	BR93LC66
	Note: Cannot use "LL" devices (Do not support 5V operation)		
	Seiko Instruments	1K	S-93C46A
		2K	S-93C56A
		4K	S-93C66A
	Note: Cannot use "U" devices (Do not support 5V operation)		
	ST Microelectronics	1K	M93C46
		1K	M93S46
	Note: Cannot use "R" devices (Do not support 5V operation)		
	Note: For 93C46, ORG pin must be unconnected or tied to VCC for 16-bit organization		

	Vendor	Alternative Devices	
PCI 9080	Atmel Corporation	1K	None
		2K	None
	Note: Atmel does not have sequential read function		
	Catalyst Semiconductor	1K	None
	Note: CAT93C46 does not have the sequential read function		
	Integrated Silicon Solution	2K	IS93C56-3
		4K	IS93C66-3
	Note: No restrictions		
	Microchip Technology	1K	93LC46B
		2K	93C56B
		4K	93C66B
	Note: Cannot use x8 devices (Cannot use 93LCx6A or 93Cx6A)		
	ST Microelectronics	2K	M93C56
		2K	M93S56
		4K	M93C66
		4K	M93S66
	Note: Cannot use "R" devices (Do not support 5V operation)		
	Note: For 93Cx6, ORG pin must be unconnected or tied to VCC for 16-bit organization		

PLX Device	Vendor	Recommended Devices	
PCI 9050 PCI 9052	Fairchild Semiconductor	1K	FM93CS46
	Note: Must have sequential read function		
	Holtek Semiconductor	1K	HT93LC46
	Note: For HT93LC46, ORG pin must be tied to VCC for 16-bit organization		
	Integrated Silicon Solution	1K	IS93C46-3
	Note: No restrictions		
	Microchip Technology	1K 1K 1K	93AA46 93C46B 93LC46B
	Note: Cannot use x8 devices (Cannot use 93Cx6A or 93LCx6A) Note: For 93AA46, ORG pin must be unconnected or tied to VCC for 16-bit organization		
	Rohm Microelectronics	1K	BR93LC46
	Note: No restrictions		
	Seiko Instruments	1K	S-93C46A
	Note: Cannot use "U" devices (Do not support 5V operation)		
	ST Microelectronics	1K 1K	M93C46 M93S46
	Note: Cannot use "R" devices (Do not support 5V operation) Note: For M93C46, ORG pin must be unconnected or tied to VCC for 16-bit organization		
	Vendor	**Alternative Devices**	
	Atmel Corporation	1K	None
	Note: Atmel does not have sequential read function		
	Catalyst Semiconductor	1K	None
	Note: CAT93C46 does not have the sequential read function		
	Microchip Technology	1K	93LC46B
	Note: Cannot use x8 devices (Cannot use 93LC46A)		

PLX Device	Vendor	Recommended Device	
PCI 9060 PCI 9060ES PCI 9060SD	Fairchild Semiconductor	256	FM93CS06
	Note: Must have sequential read function Note: Due to limited availability of 256-bit devices, 1K devices from recommended vendors for the 9050/9052 can also be substituted.		
	Vendor	**Alternative Devices**	
	Atmel Corporation	256	None
	Catalyst Semiconductor	256	None
	Holtek Semiconductor	256	None
	Integrated Silicon Solution	256	None
	Microchip Technology	256	None
	Rohm Microelectronics	256	None
	Seiko Instruments	256	None
	Note: None of these companies offer 256-bit devices		
	ST Microelectronics	256	M93C06
	Note: Cannot use "R" devices (Do not support 5V operation) Note: For M93C06, ORG pin must be unconnected or tied to VCC for 16-bit organization		

Vendors:

Atmel Corporation Offers AT93Cxx, AT93C46A and AT93C46C devices
http://www.atmel.com/

Part Number Descriptions

AT93	C	XX	Blank/A/C	Blank/R/W	-10	P/S/T	C/I	Blank/-x.x

AT93	Atmel Non-Volatile Memory, 3-wire Serial Bus Interface
C	C = CMOS
XX	46 = 1K, 56 = 2K, 57 = 2K with shorter address, 66 = 4K
Blank/A/C	Blank = x8 or x16 organization, A = x16 org., C = x16 org. with Schmitt trigger inputs
Blank/R/W	Blank = normal pin out, R = rotated die pin out, W = EIAJ package instead of JEDEC
-10	-10 = 10ms t_{WP} (Write Cycle Time)
P/S/T	P = 8-pin DIP, S = 8-pin SOIC, T = 8-pin TSSOP
C/I	C = 0C to 70C, I = -40C to 85C
Blank/-x.x	Blank = 4.5V to 5.5V, -x.x = x.xV to 5.5V (x.x = 2.7V, 2.5V or 1.8V)

Note: R/W only applicable to AT93Cxx devices, not to AT93C46A or AT93C46C
Note: All Atmel devices DO NOT have the Sequential Read function
Note: Cannot use AT93C57 devices because addressing is different

Catalyst Semiconductor Offers CAT93Cxx devices
http://www.catsemi.com/

Part Number Descriptions

CAT93	C	XX	P/S/J/K/U	Blank/I/A	Blank/-1.8	Blank/TE13

CAT93	Catalyst Non-Volatile Memory, 3-wire Serial Bus Interface
C	C = CMOS
XX	46 = 1K, 56 = 2K, 57 = 2K with shorter address, 66 = 4K
P/S/J/K/U	P = 8-pin DIP, S = 8-pin SOIC (JEDEC), J = 8-pin SOIC (JEDEC - rotated pin out), K = 8-pin SOIC (EIAJ), U = 8-pin TSSOP
Blank/I/A	Blank = 0C to 70C, I = -40C to +85C, A = -40C to +105C
Blank/-1.8	Blank = 2.5V to 6.0V, -1.8 = 1.8V to 6.0V
Blank/TE13	Blank = standard shipment, TE13 = Tape and Reel (2000/Reel)

Note: All Catalyst parts above can be organized as x8 or x16
Note: All Catalyst devices have the Sequential Read function EXCEPT CAT93C46
Note: Cannot use CAT93C57 devices because addressing is different

Vendors:

Fairchild Semiconductor Offers FM93Cxx, FM93CxxA and FM93CSxx devices
(business formerly owned by National Semiconductor)
http://www.fairchildsemi.com/

Part Number Descriptions

FM93	C/CS	XX	Blank/A	Blank/T	Blank/L/LZ	Blank/E/V	N/M8/MT8

FM93	Fairchild Non-Volatile Memory, 3-wire Serial Bus Interface
C/CS	C = CMOS, CS=CMOS + Data Protect and Sequential Read
XX	46 = 1K, 56 = 2K, 66 = 4K
Blank/A	Blank = x16 organization, A = x8 or x16 organization
Blank/T	Blank = normal pin out, T = rotated die pin out
Blank/L/LZ	Blank = 4.5V to 5.5V, L = 2.7V to 4.5V, LZ = 2.7V to 4.5V and < 1uA Standby I_{CC}
Blank/E/V	Blank = 0C to 70C, E = -40C to +85C, V = -40C to +125C
N/M8/MT8	N = 8-pin DIP, M8 = 8-pin SOIC (JEDEC), MT8 = 8-pin TSSOP

Note: CSxxA combination is not a valid part number.
Note: Only Fairchild "CS" devices have the Sequential Read function

Holtek Semiconductor Offers HT93LCx6 devices
http://www.holtek.com.tw/

Part Number Descriptions

HT93	LC	XX	Blank/A/B/C/D	Blank//	Blank/S

HT93	ISSI Non-Volatile Memory, 3-wire Serial Bus Interface
LC	C = Low power CMOS
XX	46 = 1K, 56 = 2K, 66 = 4K
Blank/A/B/C/D	Blank or A = normal pinout, B, C or D = various rotated pinouts
Blank//	Blank = DIP, / = placeholder if non-DIP package
Blank/S	Blank = 8-pin DIP, S = 8-pin SOP

Note: All Holtek parts above are x16 or x8. ORG must be tied to V_{CC} to support x16.
Note: All Holtek devices have the Sequential Read function.
Note: All Holtek devices are 2.4V to 5.5V supply and 0C to 70C operation

Vendors:

Integrated Silicon Solution Offers IS93Cxx devices
http://www.issi.com/

Part Number Descriptions

IS93	C	XX	-3	P/G/GR	Blank/I

IS93	ISSI Non-Volatile Memory, 3-wire Serial Bus Interface
C	C = CMOS
XX	46 = 1K, 56 = 2K, 66 = 4K
-3	-3 = 3V capable
P/G/GR	P = 8-pin DIP, G = 8-pin SOIC (JEDEC), GR = 8-pin SOIC (JEDEC - rotated pin out)
Blank/I	Blank = 0C to 70C, I = -40C to +85C

Note: All ISSI parts above are x16 organization and support 2.7V to 6.0V operation.
Note: All ISSI devices have the Sequential Read function (called Auto Increment by ISSI)

Microchip Technology Offers 93AAxx, 93LCxx and 93Cxx devices
http://www.microchip.com/

Part Number Descriptions

93	AA/LC/C	XX	Blank/A/B	Blank/X	Blank/T	-Blank/-I/-E	/	P/SN/SM/ST

93	Microchip Non-Volatile Memory, 3-wire Serial Bus Interface
AA/LC/C	AA = 1.8V to 5.5V. LC = 2.5V to 6.0V, C = 4.5V to 5.5V
XX	46 = 1K, 56 = 2K, 66 = 4K
Blank/A/B	Blank = x8 or x16 organization, A = x8 organization, B = x16 organization
Blank/X	Blank = normal pin out, X = rotated die pin out
Blank/T	Blank = standard shipment, T = Tape and Reel
-Blank/-I/-E	Blank = 0C to 70C, I = -40C to 85C, E = -40C to 125C
P/SN/SM/ST	P = 8-pin DIP, SN = 8-pin SOIC (JEDEC), SM = 8-pin SOIC (EIAJ), ST = 8-pin TSSOP

Note: All 93AA devices are x8 or x16, LC and C devices must be specified with A or B
Note: All Microchip devices have the Sequential Read function

Vendors:

Rohm Electronics Offers BR93LL46 and BR93LCxx devices
http://www.rohm.com/

Part Number Descriptions

BR93	LL/LC	XX	Blank/F/RF/FV

BR93	Rohm Non-Volatile Memory, 3-wire Serial Bus Interface
LL/LC	LL = 1.8V to 4.0V. LC = 2.7V to 5.5V
XX	46 = 1K, 56 = 2K, 66 = 4K
Blank/F/RF/FV	Blank = 8-pin DIP, F = 8-pin SOIC (JEDEC), RF = 8-pin SOIC (JEDEC with rotated pin out), FV = 8-pin TSSOP

Note: BR93 devices are x16 organization, LL devices are 0C to 70C, LC devices are -40C to 85C
Note: All Rohm devices have the Sequential Read function (called Auto Increment by Rohm)

Seiko Instruments Offers S-93Cxx, S-29xxxA, S-29LxxxA, S-29UxxxA and S-29ZxxxA devices
http://www.sii.co.jp/

Part Number Descriptions

S-93	C	XX	A	DP/FJ/DFJ/FT/MFN

S-93	Seiko Non-Volatile Memory, 3-wire Serial Bus Interface
C	C = x16 organization
XX	46 = 1K, 56 = 2K, 66 = 4K
DP/FJ/DFJ/FT/MFN	DP = 8-pin DIP, FJ = 8-pin SOIC (JEDEC), DFJ = 8-pin SOIC (JEDEC - rotated pin out) FT = 8-pin TSSOP, MFN = 8-pin MSOP

Note: All Seiko devices have the Sequential Read function

Vendors:

ST Microelectronics Offers M93Cxx and M93Sxx devices
(Formerly SGS Thomson)
http://www.st.com/

Part Number Descriptions

M93	C/S	XX	-	Blank/T	Blank/W/R	BN/MN/DW	1/5/6/3	Blank/T

M93	ST Micro Non-Volatile Memory, 3-wire Serial Bus Interface
C/S	C = x8 or x16 organization, S = x16 organization
XX	46 = 1K, 56 = 2K, 66 = 4K
Blank/T	Blank = normal pin out, T = rotated die pin out (only on "C" devices)
Blank/W/R	Blank = 4.5V to 5.5V, W = 2.5V to 5.5V, R = 1.8V to 3.6V
BN/MN/DW	BN = 8-pin DIP, MN = 8-pin SOIC (JEDEC), DW = 8-pin TSSOP
1/5/6/3	1 = 0C to 70C, 5 = -20C to 85C, 6 = -40C to 85C, 3 = -40C to 125C
Blank/T	Blank = standard shipment, T = Tape and Reel

Note: All ST Micro devices have the Sequential Read function