



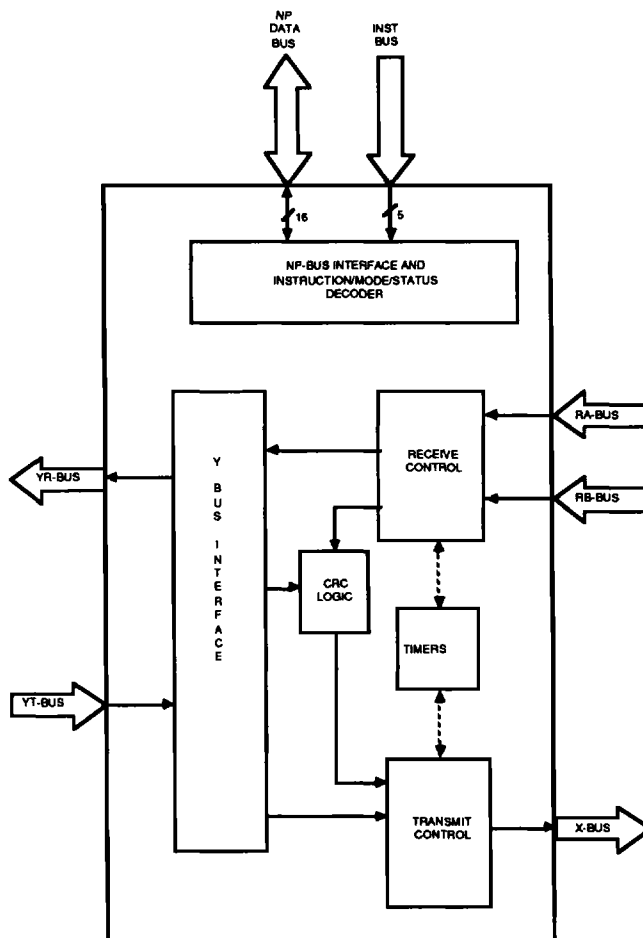
Am79C83

Fiber Optic Ring Media Access Controller (FORMAC)

DISTINCTIVE CHARACTERISTICS

- Implements Media Access Control (MAC) layer protocol for the ANSI X3T9.5 standard (Fiber Distributed Data Interface, FDDI)
- Error detection capability
 - Cyclic redundancy checking and generation
 - Token claiming and beacon modes
- Diagnostics Features
 - Four loopback modes
 - Status bit collection
- Supports data rates up to 100 Mbps
- Supports group, individual, and broadcast addressing
- Allows external address detection circuits
 - Useful in bridge applications
- Supports prioritized transmission of asynchronous messages
- Promiscuous mode for network monitoring

BLOCK DIAGRAM



09731-001A

GENERAL DESCRIPTION

The Am79C83A Fiber Optic Ring Media Access Controller (FORMAC) is a CMOS device which implements the timed token passing protocol specified by the FDDI standard. It performs frame formation functions such as generating preamble, CRC, and status information. It

facilitates error recovery with token claiming and beaconing capability. Information needed by station-management software for ring diagnostics and statistical network characterization is also provided by the FORMAC.

CONNECTION DIAGRAM
PGA Bottom View (Pins facing up)

	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	
1	VCC	R/W	INST2	INST1	DS	NP15	NP13	NP11	NP8	NP4	NP2	NP1	NMINTR	READY	RAP	1
2	NC	RESET	INST3	CS	NP14	NP12	NP10	NC	NP6	NP5	NP3	NP0	HOLD1	HOLD2	RACU	2
3	NC	YR7	BCLK	INST0	GND	BMODE	GND	NP9	VCC	NP7	GND	MINTR	LPBEN	RA6	RACL	3
4	YR5	YR4	YR6										GND	RA7	NC	4
5	YR2	YR0	YRP										RA2	RA4	RA5	5
6	YT7	YR3	GND										RA3	RA1	RA0	6
7	VCC	YTP	YR1										VCC	RBP	RBCU	7
8	YT6	GND	GND										RBCL	RB7	NC	8
9	YT4	YT5	YT1										GND	RB6	RB6	9
10	YT2	YT0	RDYTBVT										RB4	RB3	RB2	10
11	XMTABTI	YT3	XMEDAVA										GND	RB1	RB0	11
12	XMTABTO	XMEDAVS	GND										XP	XCU	XCL	12
13	RECEIVE	XFRBYTE	FULL	MEDREQA	GND	LNGADR	XSAMAT	GND	S1	LSTINC	X2	TOKISD	X7	X5	X6	13
14	DAVALID	RCVABTI	MISFRM	MEDREQS	INICLBN	XSAMAT	COUT	GND	AOUT	FRINC	ERRINC	GND	X0	VCC	X4	14
15	FSHRCVF	RCVABTO	SI	TEST	CLM/REC	FSVLD	SDRCVD	VCC	EOUT	S0	S2	S3	S0	X1	X3	15
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	

Bottom View

NC = No Connection

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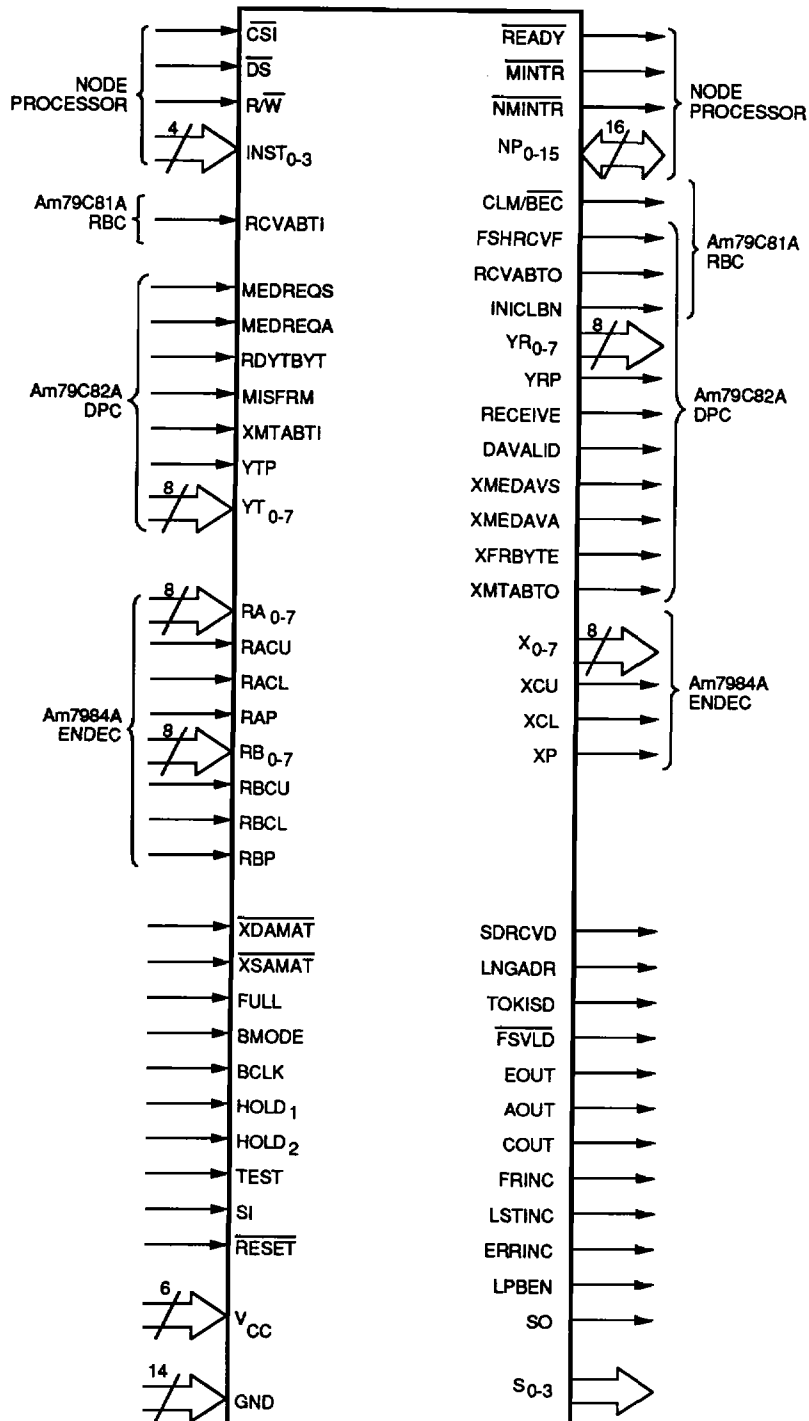
PIN DESIGNATIONS
(Sorted by Pin Number)

Pin No.	Pin Name	Pin No.	Pin Name	Pin No.	Pin Name	Pin No.	Pin Name
A-1	V _{CC}	C-7	YR ₁	H-13	GND	N-10	RB ₄
A-2	NC	C-8	GND	H-14	GND	N-11	GND
A-3	NC	C-9	YT ₁	H-15	V _{CC}	N-12	XP
A-4	YR ₅	C-10	RDYTB _{YT}	J-1	NP ₈	N-13	X ₇
A-5	YR ₂	C-11	XMEDAVA	J-2	NP ₆	N-14	X ₀
A-6	YT ₇	C-12	GND	J-3	V _{CC}	N-15	S ₀
A-7	V _{CC}	C-13	FULL	J-13	S ₁	P-1	<u>READY</u>
A-8	YT ₆	C-14	MISFRM	J-14	AOUT	P-2	HOLD ₂
A-9	YT ₄	C-15	SI	J-15	EOUT	P-3	RA ₆
A-10	YT ₂	D-1	INST ₁	K-1	NP ₄	P-4	RA ₇
A-11	XMTABTI	D-2	<u>CS</u> _I	K-2	NP ₅	P-5	RA ₄
A-12	XMTABTO	D-3	INST ₀	K-3	NP ₇	P-6	RA ₁
A-13	RECEIVE	D-4	GUIDE PIN	K-13	LSTINC	P-7	RBP
A-14	DAVALID	D-13	MEDREQA	K-14	FRINC	P-8	RB ₇
A-15	FSHRCVF	D-14	MEDREQS	K-15	S ₀	P-9	RB ₅
B-1	R _W	D-15	TEST	L-1	NP ₂	P-10	RB ₃
B-2	<u>RESET</u>	E-1	<u>DS</u>	L-2	NP ₃	P-11	RB ₁
B-3	YR ₇	E-2	NP ₁₄	L-3	GND	P-12	XCU
B-4	YR ₄	E-3	GND	L-13	X ₂	P-13	X ₅
B-5	YR ₀	E-13	GND	L-14	ERRINC	P-14	V _{CC}
B-6	YR ₃	E-14	INICLBN	L-15	S ₂	P-15	X ₁
B-7	YTP	E-15	CLM/ <u>BEC</u>	M-1	NP ₁	R-1	RAP
B-8	GND	F-1	NP ₁₅	M-2	NP ₀	R-2	RACU
B-9	YT ₅	F-2	NP ₁₂	M-3	<u>MINTR</u>	R-3	RACL
B-10	YT ₀	F-3	BMODE	M-13	TOKISD	R-4	NC
B-11	YT ₃	F-13	LNGADR	M-14	GND	R-5	RA ₅
B-12	XMEDAVS	F-14	<u>XDAMAT</u>	M-15	S ₃	R-6	RA ₀
B-13	XFRBYTE	F-15	<u>FSVLD</u>	N-1	<u>NMINTR</u>	R-7	RBCU
B-14	RCVABTI	G-1	NP ₁₃	N-2	HOLD ₁	R-8	NC
B-15	RCVABTO	G-2	NP ₁₀	N-3	LPBEN	R-9	RB ₆
C-1	INST ₂	G-3	GND	N-4	GND	R-10	RB ₂
C-2	INST ₃	G-13	<u>XSAMAT</u>	N-5	RA ₂	R-11	RB ₀
C-3	BCLK	G-14	COUT	N-6	RA ₃	R-12	XCL
C-4	YR ₆	G-15	SDRCVD	N-7	V _{CC}	R-13	X ₆
C-5	YRP	H-1	NP ₁₁	N-8	RBCL	R-14	X ₄
C-6	GND	H-2	NC	N-9	GND	R-15	X ₃
		H-3	NP ₉				

PIN DESIGNATIONS
(Sorted by Pin Name)

Pin No.	Pin Name	Pin No.	Pin Name	Pin No.	Pin Name	Pin No.	Pin Name
J-14	AOUT	F-13	LNGADR	P-11	RB ₁	P-13	X ₅
C-3	BCLK	N-3	LPBEN	R-10	RB ₂	R-13	X ₆
F-3	BMODE	K-13	LSTINC	P-10	RB ₃	N-13	X ₇
E-15	CLM/BEC	D-13	MEDREQA	N-10	RB ₄	R-12	XCL
G-14	COUT	D-14	MEDREQS	P-9	RB ₅	P-12	XCU
D-2	CSI	M-3	MINTR	R-9	RB ₆	F-14	XDAMAT
A-14	DAVALID	C-14	MISFRM	P-8	RB ₇	B-13	XFRBYTE
E-1	DS	N-1	NMINTR	N-8	RBCL	C-11	XMEDAVA
J-15	EOUT	M-2	NP ₀	R-7	RBCU	B-12	XMEDAVS
L-14	ERRINC	M-1	NP ₁	P-7	RBP	A-11	XMTABTI
K-14	FRINC	L-1	NP ₂	B-14	RCVABTI	A-12	XMTABTO
A-15	FSHRCVF	L-2	NP ₃	B-15	RCVABTO	N-12	XP
F-15	FSVLD	K-1	NP ₄	C-10	RDYTBYT	G-13	XSAMAT
C-13	FULL	K-2	NP ₅	P-1	READY	B-5	YR ₀
H-14	GND	J-2	NP ₆	A-13	RECEIVE	C-7	YR ₁
E-13	GND	K-3	NP ₇	B-2	RESET	A-5	YR ₂
B-8	GND	J-1	NP ₈	K-15	S ₀	B-6	YR ₃
G-3	GND	H-3	NP ₉	J-13	S ₁	B-4	YR ₄
N-9	GND	G-2	NP ₁₀	L-15	S ₂	A-4	YR ₅
E-3	GND	H-1	NP ₁₁	M-15	S ₃	C-4	YR ₆
C-6	GND	F-2	NP ₁₂	G-15	SDRCVD	B-3	YR ₇
M-14	GND	G-1	NP ₁₃	C-15	SI	C-5	YRP
N-11	GND	E-2	NP ₁₄	N-15	SO	B-10	YT ₀
C-8	GND	F-1	NP ₁₅	D-15	TEST	C-9	YT ₁
N-4	GND	B-1	R/W	M-13	TOKISD	A-10	YT ₂
C-12	GND	R-6	RA ₀	A-1	VCC	B-11	YT ₃
H-13	GND	P-6	RA ₁	N-7	Vcc	A-9	YT ₄
L-3	GND	N-5	RA ₂	J-3	Vcc	B-9	YT ₅
D-4	GUIDE PIN	N-6	RA ₃	A-7	Vcc	A8	YT ₆
N-2	HOLD ₁	P-5	RA ₄	P-14	Vcc	A-6	YT ₇
P-2	HOLD ₂	R-5	RA ₅	H-15	Vcc	B-7	YTP
E-14	INICLBN	P-3	RA ₆	N-14	X ₀	R-4	NC
D-3	INST ₀	P-4	RA ₇	P-15	X ₁	A-3	NC
D-1	INST ₁	R-3	RACL	L-13	X ₂	A-2	NC
C-1	INST ₂	R-2	RACU	R-15	X ₃	R-8	NC
C-2	INST ₃	R-1	RAP	R-14	X ₄	H-2	NC
		R-11	RB ₀				

LOGIC SYMBOL



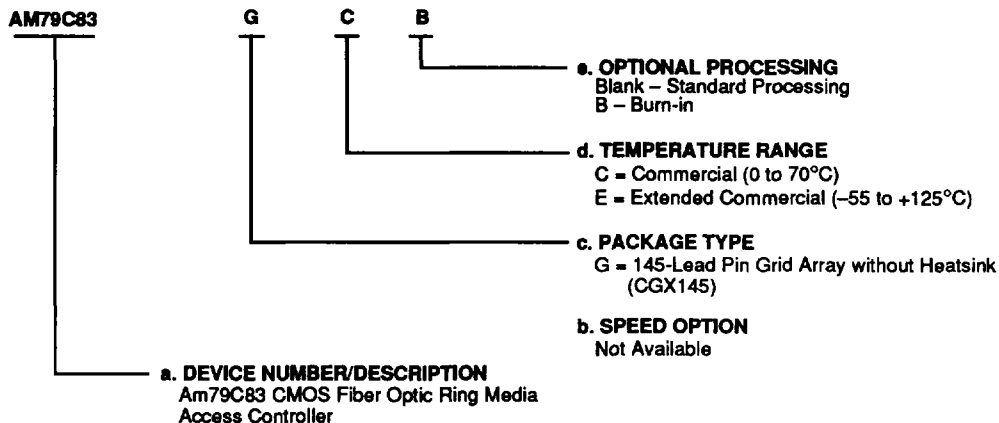
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ORDERING INFORMATION

Standard Products

AMD standard products are available in several packages and operating ranges. The ordering number (Valid Combination) is formed by a combination of:

- a. Device Number
- b. Speed Option (If applicable)
- c. Package Type
- d. Temperature Range
- e. Optional Processing



Valid Combinations	
AM79C83	GC, GCB, GE, GEB

Valid Combinations

Valid Combinations list configurations planned to be supported in volume for this device. Consult the local AMD sales office to confirm availability of specific valid combinations, to check on newly released combinations, and to obtain additional data on AMD's standard military grade products.