

SONY**CXB1114Q/Q-Y***T-68-11-51***4-bit Demultiplexer****Description**

The CXB1114Q is an ultra High speed monolithic ECL Demultiplexer which functions as a 4-bit Serial to Parallel Converter.

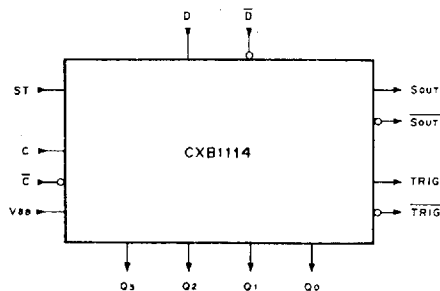
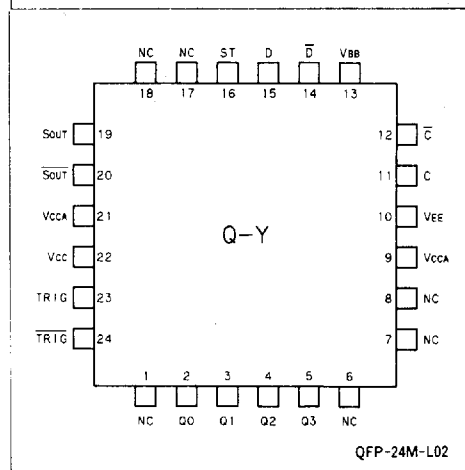
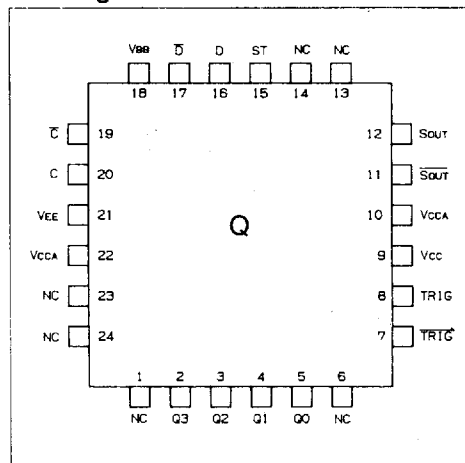
The IC converts serial data into 4-bit demultiplexed parallel data. Load Start (ST) input, which starts the demultiplexing, has to be maintained High for at least 3 clock periods. Trigger (TRIG) pulse is provided for an external circuit to fetch the output data.

Features

- Typical clock rate up to 2.1GHz
- Differential Clock and Data inputs
- Built-in reference voltage for single ended input operation
- Internal pull down resistors on input pins to maintain logic LOW level with the pins left open
- ECL 100K compatible I/O levels

Pin Names

D, $\bar{D}$	Serial Data inputs
ST	Load Start input
C, $\bar{C}$	Clock inputs (positive edge trigger)
Qn	Demultiplexed parallel data outputs
TRIG, $\overline{\text{TRIG}}$	Trigger pulse outputs
Sout, $\overline{\text{Sout}}$	Serial data outputs
V _{BB}	Reference voltage output
V _{CC}	Circuit ground
V _{CCA}	Circuit ground for outputs
V _{EE}	Negative power supply

Logic Symbol**Pin Assignment****Truth Table**

ST	C	Function
L	┐	Serial data input, parallel data out
H	┐	Initialize (3 clock period min.)

Note: H; HIGH voltage level

L; LOW voltage level

┐; Positive transition edge

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CXB114Q/QY

DC Characteristics

T-68-11-51

 $V_{EE} = -4.5 \pm 0.3V$, $V_{CC} = V_{CCA} = GND$, $V_{TT} = -2.0V$, $T_C = 0^\circ C$ to $+85^\circ C$

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Power supply current	I_{EE}		-297	-218	-152	mA

Note: Other DC characteristics; See pages 3-3 and 3-4.

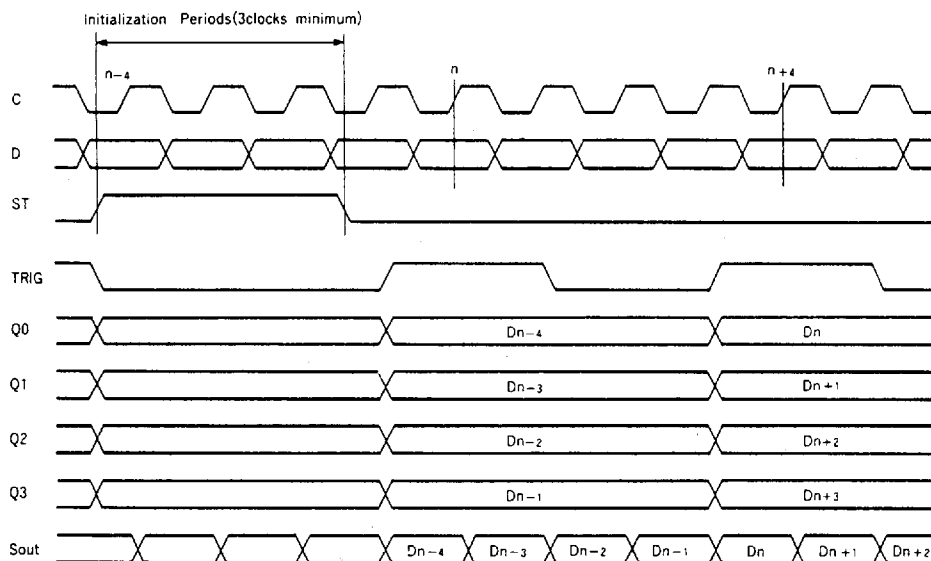
AC Characteristics

 $V_{EE} = -4.5 \pm 0.3V$, $V_{CC} = V_{CCA} = GND$, $V_{TT} = -2.0V$, $T_C = 0^\circ C$ to $+85^\circ C$, $R_T = 50\Omega$ to V_{TT}

Item	Symbol	Input	Output	Test Condition	Min.	Typ.	Max.	Unit
Propagation delay time	T _{PLH}	C	Q _n		1280	1430	1600	ps
	T _{PHL}				1270	1420	1590	
	T _{PLH}		S _{OUT}		790	940	1110	
	T _{PHL}				820	970	1180	
	T _{PLH}		TRIG		1090	1260	1430	
	T _{PHL}				1150	1320	1490	
	Set up time		T _S		D, C	Q _n	-20	
Hold time	T _H	C, D	520					
Release time	T _R	R, C	320					
Min. Pulse width	T _{PW}	R	TRIG	330				
Max. Clock frequency	f _{MAX}	C	Q _n	20% to 80%	1.6	2.1		GHz
Rise time	T _{TLH}		Q _n , S _{OUT}			400	500	ps
Fall time	T _{THL}		TRIG			350	430	

Note: AC test circuit; See pages 4-4 and 4-5.

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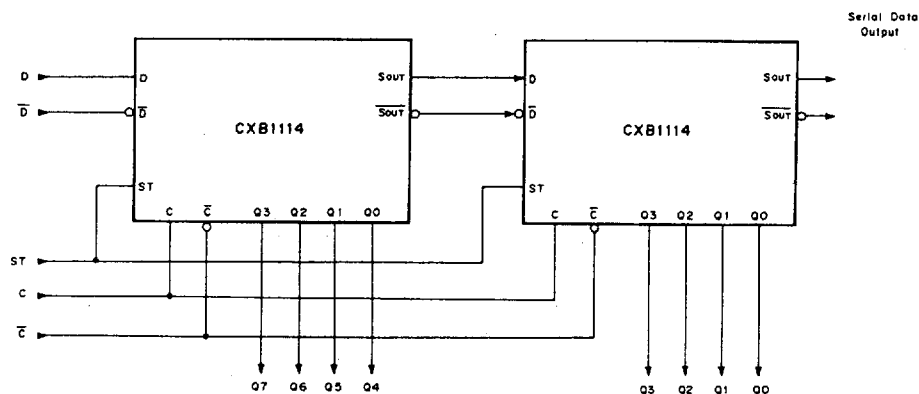


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CXB1114Q/QY

Typical Application 1 to 8 Demultiplexer/Serial to Parallel Converter

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Package Data

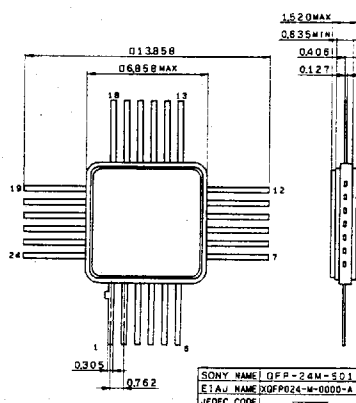
T-90-20

Package Outline

Unit: mm

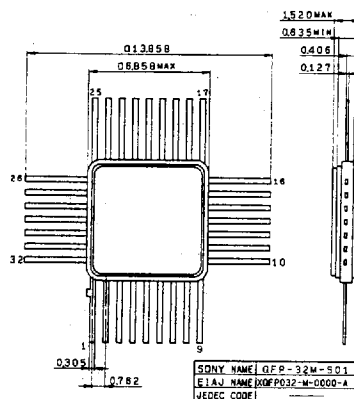
24pin QFP (QFP-24M-S01)

24pin QFP (Metal) 0.3g



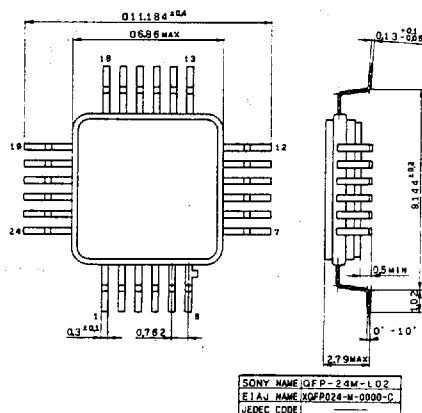
32pin QFP (QFP-32M-S01)

32pin QFP (Metal) 0.2g



24pin QFP (QFP-24M-L02)

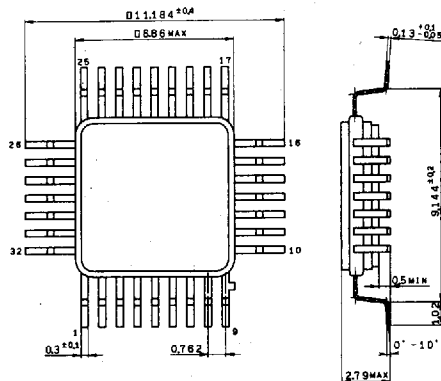
24pin QFP (Metal) 0.3g



T-90-20

32pin QFP (QFP-32M-L02)

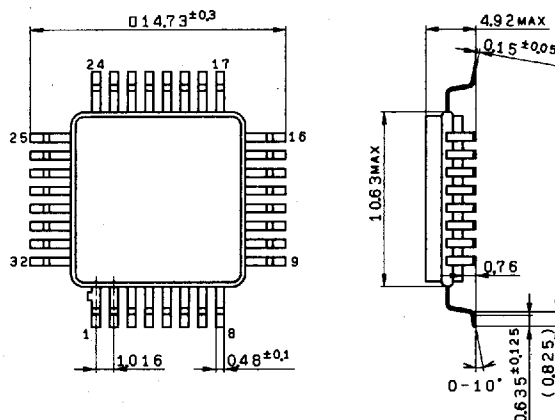
32pin QFP (Metal) 0.2g



SONY NAME	QFP-32M-L02
EIAJ NAME	XQFP032-M-0000-C
JEDEC CODE	

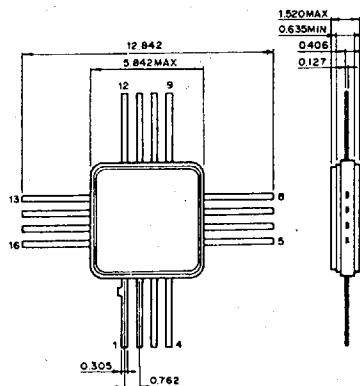
32pin QFP (QFP-32C-L01)

32pin QFP (Ceramic)



SONY NAME	QFP-32C-L01
EIAJ NAME	XQFP032-G-0000-A
JEDEC CODE	

16pin QFP



Package Data

Package Data	Page
1. 16 pin QFP	6-3
2. 24 pin QFP	6-3
3. 32 pin QFP	6-3
4. 24 pin QFP with formed lead	6-4
5. 32 pin QFP with formed lead	6-4

Package Data

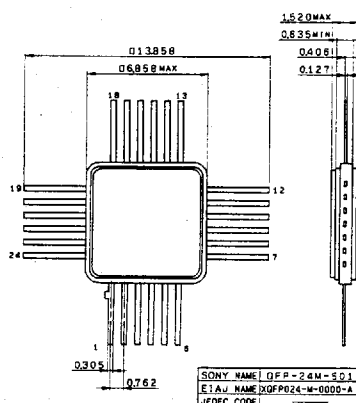
T-90-20

Package Outline

Unit: mm

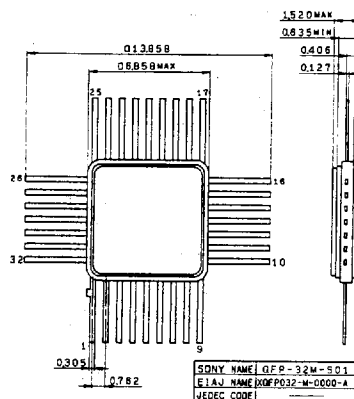
24pin QFP (QFP-24M-S01)

24pin QFP (Metal) 0.3g



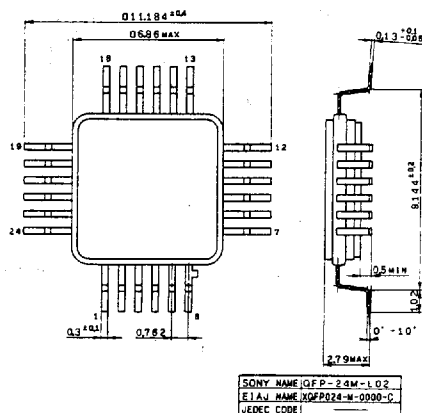
32pin QFP (QFP-32M-S01)

32pin QFP (Metal) 0.2g



24pin QFP (QFP-24M-L02)

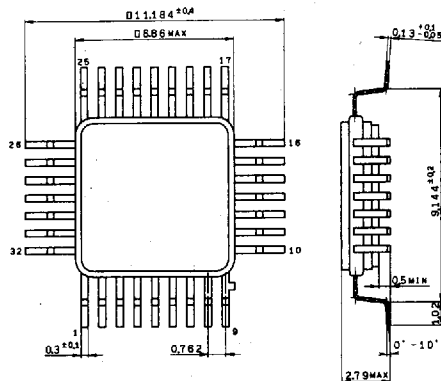
24pin QFP (Metal) 0.3g



T-90-20

32pin QFP (QFP-32M-L02)

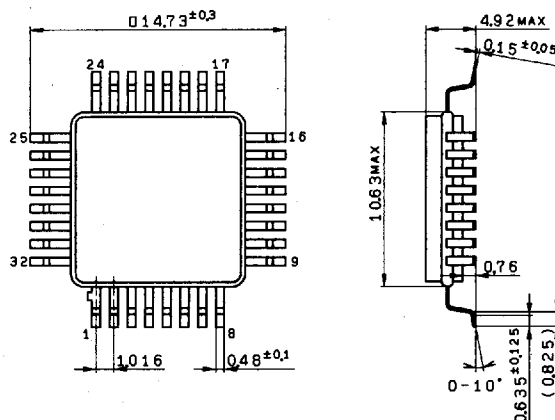
32pin GFP (Metal) 0.2g



SONY NAME	QFP-32M-L02
EIAJ NAME	XQFP032-M-0000-C
JEDEC CODE	

32pin QFP (QFP-32C-L01)

32pin GFP (Ceramic)



SONY NAME	QFP-32C-L01
EIAJ NAME	XQFP032-G-0000-A
JEDEC CODE	

16pin QFP

