DATA SHEET

74F764-1/74F765-1

DRAM dual-ported controllers

Product specification

1992 Aug 10

IC15 Data Handbook

Philips
Semiconductors

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DRAM dual-ported controllers

74F764-1/74F765-1

FEATURES

- Allows two microprocessors to access the same bank of dynamic RAM

- Performs arbitration, signal timing, address multiplexing and refresh

- 9 Address output pins allow direct control of up to 256K dynamic RAMs

- External address multiplexing enables control of 1Mbit (or greater) dynamic RAMs

- Separate refresh clock allows adjustable refresh timing

- 74F764-1 has an on-chip 18-bit address input latch

- 74F764-1/765-1 allow control of dynamic RAMs with row access times down to 40ns

- 74F764-1/765-1 output drivers designed for first reflected wave switching

DESCRIPTION

The 74F764-1/765-1 DRAM Dual-ported Controller is a high-speed synchronous dual-port arbiter and timing generator that allows two microprocessors, microcontrollers, or any other memory accessing device to share the same block of DRAM. The device performs arbitration, signal timing, address multiplexing, and refresh address generation, replacing up to 25 discrete devices.

74F764-1 vs. 74F765-1

The 74F764-1, though functionally and pin-to-pin compatible with the 74F765-1, differs from the later in that it has an on-chip address input latch. This is useful in systems that have unlatched or multiplexed address and data bus.
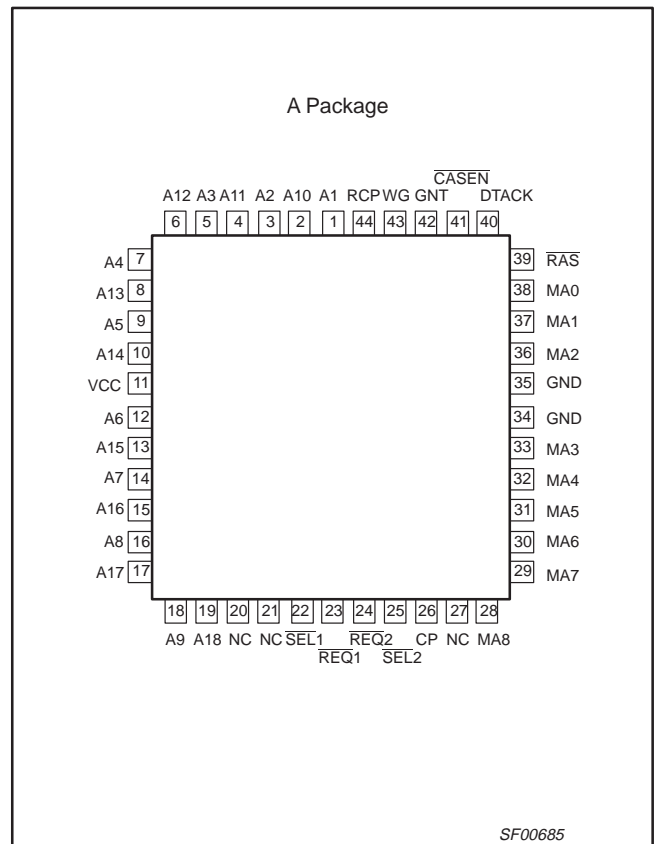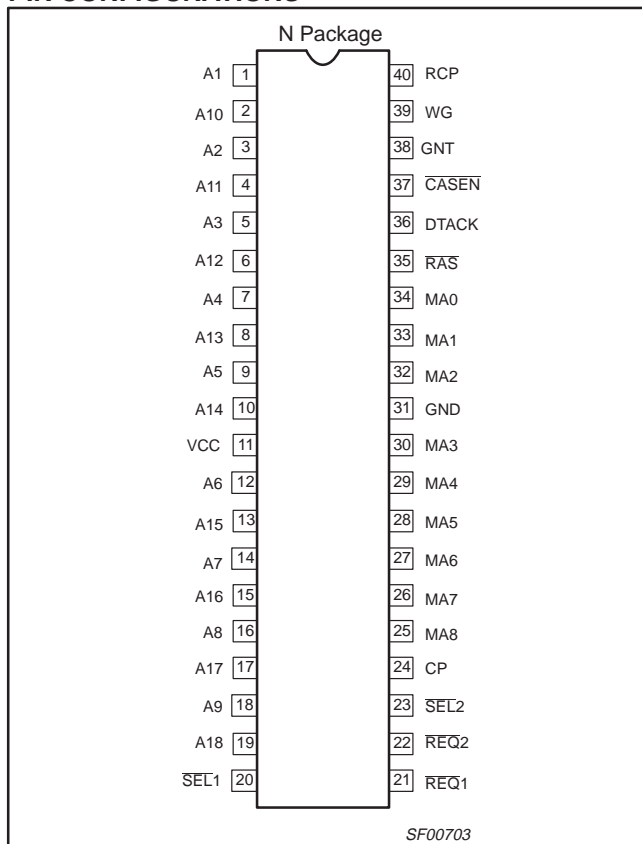
The specialized outputs eliminate the need for signal terminations in essentially all applications.

Both devices are available in 40-pin plastic DIP or 44-pin PLCC with pinouts designed to allow convenient placement of microprocessors, DRAMs, and other support chips.

ORDERING INFORMATION

DESCRIPTION	COMMERCIAL RANGE V_{CC} = 5V±10%, T_{amb} = 0°C to 70°C	DRAWING NUMBER
40-Pin Plastic Dual In-line Package	74F764-1N, 74F765-1N	SOT129–1
44-Pin Plastic Leaded Chip Carrier	74F764-1A, 74F765-1A	SOT187–2

PIN CONFIGURATIONS

N Package

A1	1	40	RCP
A10	2	39	WG
A2	3	38	GNT
A11	4	37	CASEN
A3	5	36	DTACK
A12	6	35	RAS
A4	7	34	MA0
A13	8	33	MA1
A5	9	32	MA2
A14	10	31	GND
VCC	11	30	MA3
A6	12	29	MA4
A15	13	28	MA5
A7	14	27	MA6
A16	15	26	MA7
A8	16	25	MA8
A17	17	24	CP
A9	18	23	SEL2
A18	19	22	REQ2
SEL1	20	21	REQ1

SF00703

A Package

Top pins: A12(6) A3(5) A11(4) A2(3) A10(2) A1(1) RCP(44) WG(43) GNT(42) CASEN(41) DTACK(40)

Left pins:
A4 7
A13 8
A5 9
A14 10
VCC 11
A6 12
A15 13
A7 14
A16 15
A8 16
A17 17

Right pins:
39 RAS
38 MA0
37 MA1
36 MA2
35 GND
34 GND
33 MA3
32 MA4
31 MA5
30 MA6
29 MA7

Bottom pins: 18 19 20 21 22 23 24 25 26 27 28
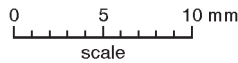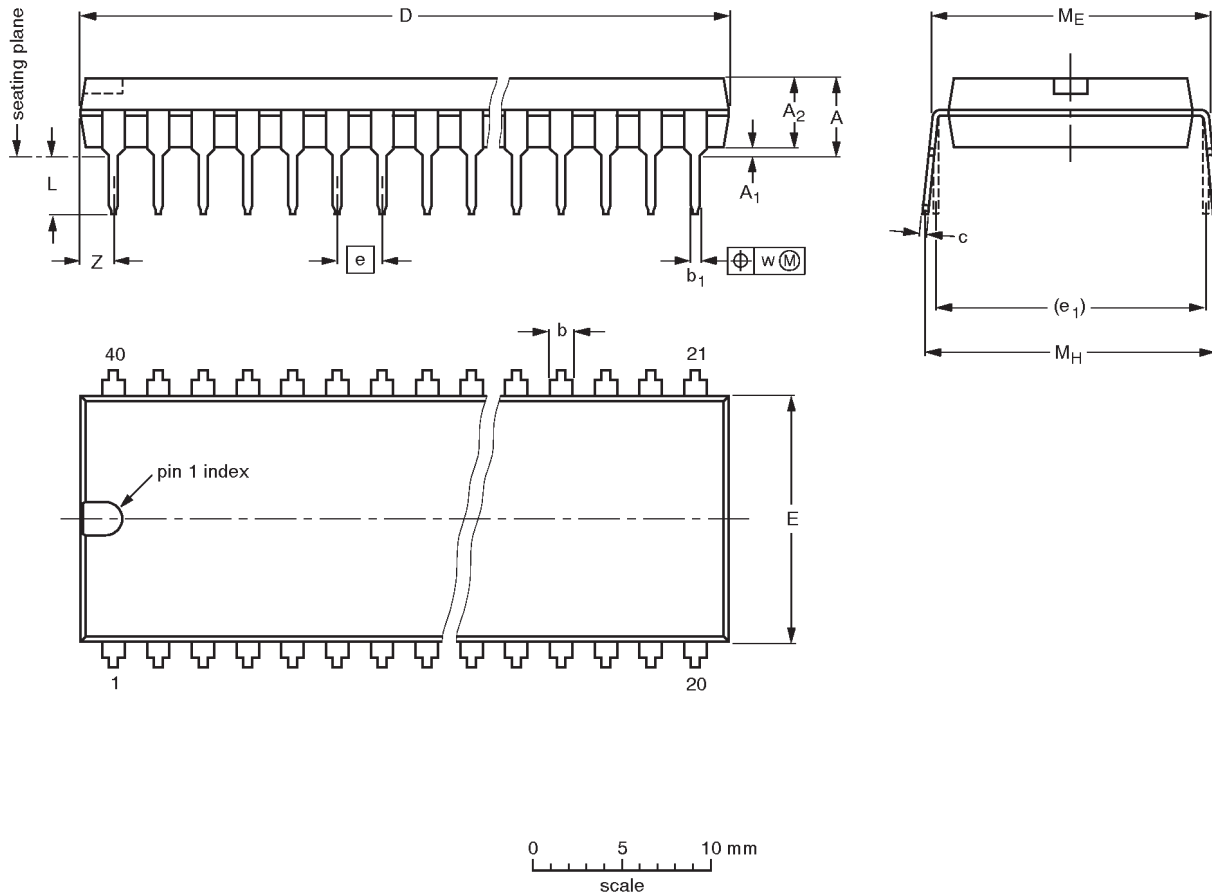A9 A18 NC NC SEL1/REQ1 REQ2/SEL2 CP NC MA8

SF00685

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74F764-1/74F765-1

DIP40: plastic dual in-line package; 40 leads (600 mil)

SOT129-1

DIMENSIONS (inch dimensions are derived from the original mm dimensions)

UNIT	A max.	A₁ min.	A₂ max.	b	b₁	c	D (1)	E (1)	e	e₁	L	M_E	M_H	w	z (1) max.
mm	4.7	0.51	4.0	1.70 1.14	0.53 0.38	0.36 0.23	52.50 51.50	14.1 13.7	2.54	15.24	3.60 3.05	15.80 15.24	17.42 15.90	0.254	2.25
inches	0.19	0.020	0.16	0.067 0.045	0.021 0.015	0.014 0.009	2.067 2.028	0.56 0.54	0.10	0.60	0.14 0.12	0.62 0.60	0.69 0.63	0.01	0.089

Note

1. Plastic or metal protrusions of 0.25 mm maximum per side are not included.

OUTLINE VERSION	REFERENCES			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ		
SOT129-1	051G08	MO-015AJ			~~92-11-17~~ 95-01-14