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VOLUME 2 - APPENDIX A

ELECTRICAL EVALUATION OF RCA MWS5001D RANDOM ACCESS MEMORY

(NASA-CR-162262) ELECTRICAL EVALUATION OF
RCA MWS501D RANDOM ACCESS MEMORY, VOLUME 2,
APPENDIX A Final Report (Hughes Aircraft
Co.) 178 p HC A09/MF A01 CSCL 09B

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Unclass

JUNE 1979

AEROSPACE GROUPS

HUGHES

HUGHES AIRCRAFT COMPANY
CULVER CITY, CALIFORNIA



ELECTRICAL EVALUATION OF
RCA MWS5501D RANDOM ACCESS MEMORY

Volume 2
FINAL REPORT
JUNE 1979

(Appendix A)
Contract Number JPL 954789

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AEROSPACE GROUPS
Hughes Aircraft Company • Culver City, California

APPENDIX A
CHARACTERIZATION DATA

PATTERN SELECTION DATA

ADDRESS ACCESS TIME RCA MWS50010 12 SEP 77 SN: 1

TEMP= 25

VCC =	4.5V	5.0V	5.5V
GALPAT	165.N	130.N	110.N
WALK	130.N	110.N	95.0N
SKIP	160.N	125.N	105.N
CHECK1	115.N	95.0N	90.0N
SCAN	50.0N	50.0N	50.0N
DIAG1	130.N	105.N	95.0N
DIAG2	160.N	125.N	105.N

TEMP= -55

VCC =	4.5V	5.0V	5.5V
GALPAT	190.N	130.N	100.N
WALK	150.N	110.N	90.0N
SKIP	185.N	125.N	100.N
CHECK1	140.N	100.N	80.0N
SCAN	50.0N	50.0N	50.0N
DIAG1	160.N	110.N	90.0N
DIAG2	175.N	125.N	100.N
DIAG3	50.0N	50.0N	50.0N

TEMP= 125

VCC =	4.5V	5.0V	5.5V
GALPAT	165.N	140.N	125.N
WALK	195.N	170.N	155.N
SKIP	170.N	140.N	125.N
CHECK1	145.N	130.N	120.N
SCAN	50.0N	50.0N	50.0N
DIAG1	190.N	170.N	155.N
DIAG2	190.N	165.N	150.N
DIAG3	50.0N	50.0N	50.0N

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DATA SETUP TIME

RCA MWS5001D

12 SEP 77

SN: 1

TEMP= 25

VCC	4.5V	5.0V	5.5V
-----	------	------	------

GALPAT	12.0N	10.0N	8.00N
WALK	12.0N	10.0N	8.00N
SKIP	12.0N	12.0N	10.0N
CHECK1	18.0N	16.0N	14.0N
SCAN	18.0N	14.0N	12.0N
DIAG1	12.0N	10.0N	8.00N
DIAG2	12.0N	10.0N	8.00N

TEMP= -55

VCC	4.5V	5.0V	5.5V
-----	------	------	------

GALPAT	12.0N	10.0N	8.00N
WALK	14.0N	10.0N	8.00N
SKIP	14.0N	12.0N	10.0N
CHECK1	16.0N	14.0N	12.0N
SCAN	16.0N	12.0N	12.0N
DIAG1	12.0N	8.00N	6.00N
DIAG2	12.0N	8.00N	6.00N
DIAG3	0.00	0.00	0.00

TEMP= 125

VCC	4.5V	5.0V	5.5V
-----	------	------	------

GALPAT	14.0N	12.0N	12.0N
WALK	14.0N	12.0N	12.0N
SKIP	14.0N	12.0N	12.0N
CHECK1	18.0N	16.0N	14.0N
SCAN	18.0N	16.0N	14.0N
DIAG1	14.0N	12.0N	12.0N
DIAG2	14.0N	12.0N	12.0N
DIAG3	0.00	0.00	0.00

DATA HOLD TIME

RCA MWS5001D

12 SEP 77

SN: 1

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	14.0N	18.0N	20.0N
WALK	14.0N	18.0N	18.0N
SKIP	14.0N	16.0N	18.0N
CHECK1	12.0N	14.0N	14.0N
SCAN	10.0N	12.0N	14.0N
DIAG1	14.0N	16.0N	18.0N
DIAG2	14.0N	16.0N	18.0N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	14.0N	16.0N	18.0N
WALK	14.0N	16.0N	18.0N
SKIP	14.0N	16.0N	18.0N
CHECK1	10.0N	12.0N	14.0N
SCAN	10.0N	12.0N	14.0N
DIAG1	14.0N	14.0N	18.0N
DIAG2	14.0N	14.0N	18.0N
DIAG3	0.00	0.00	0.00

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	16.0N	18.0N	22.0N
WALK	16.0N	18.0N	22.0N
SKIP	16.0N	18.0N	22.0N
CHECK1	12.0N	14.0N	18.0N
SCAN	12.0N	14.0N	16.0N
DIAG1	16.0N	18.0N	20.0N
DIAG2	16.0N	18.0N	20.0N
DIAG3	0.00	0.00	0.00

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RCA MWS5001D

12 SEP '77

SN: 1

TEMP= 25

VCC = 4.5V

5.0V

5.5V

GALPAT	48.0N	44.0N	40.0N
WALK	48.0N	44.0N	40.0N
SKIP	48.0N	44.0N	40.0N
CHECK1	48.0N	44.0N	38.0N
SCAN	46.0N	42.0N	38.0N
DIAG1	48.0N	44.0N	40.0N
DIAG2	48.0N	44.0N	40.0N

TEMP= -55

VCC = 4.5V

5.0V

5.5V

GALPAT	42.0N	38.0N	36.0N
WALK	44.0N	38.0N	36.0N
SKIP	44.0N	40.0N	36.0N
CHECK1	46.0N	38.0N	34.0N
SCAN	42.0N	38.0N	34.0N
DIAG1	50.0N	44.0N	40.0N
DIAG2	50.0N	44.0N	40.0N
DIAG3	20.0N	20.0N	20.0N

TEMP= 125

VCC = 4.5V

5.0V

5.5V .

GALPAT	62.0N	56.0N	54.0N
WALK	62.0N	56.0N	54.0N
SKIP	64.0N	58.0N	54.0N
CHECK1	60.0N	54.0N	48.0N
SCAN	62.0N	56.0N	52.0N
DIAG1	62.0N	54.0N	50.0N
DIAG2	62.0N	54.0N	50.0N
DIAG3	20.0N	20.0N	20.0N

ADDRESS SETUP TIME RCA MWS5001D 12 SEP 77 SN: 1

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	12.0N	12.0N	12.0N
WALK	12.0N	12.0N	12.0N
SKIP	12.0N	10.0N	12.0N
CHECK1	24.0N	18.0N	18.0N
SCAN	10.0N	10.0N	10.0N
DIAG1	20.0N	16.0N	16.0N
DIAG2	20.0N	16.0N	16.0N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	10.0N	10.0N	10.0N
WALK	10.0N	10.0N	10.0N
SKIP	10.0N	10.0N	10.0N
CHECK1	36.0N	22.0N	18.0N
SCAN	10.0N	10.0N	10.0N
DIAG1	26.0N	18.0N	16.0N
DIAG2	26.0N	18.0N	16.0N
DIAG3	10.0N	10.0N	10.0N

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	10.0N	10.0N	12.0N
WALK	10.0N	10.0N	12.0N
SKIP	10.0N	10.0N	10.0N
CHECK1	32.0N	30.0N	28.0N
SCAN	10.0N	10.0N	10.0N
DIAG1	28.0N	24.0N	24.0N
DIAG2	28.0N	24.0N	24.0N
DIAG3	10.0N	10.0N	10.0N

ADDRESS HOLD TIME RCA MWS5001D 12 SEP 77 SN: 1

TEMP= 25

	VCC	=	4.5V	5.0V	5.5V
GALPAT			-10.0N	-6.00N	-2.00N
WALK			-10.0N	-6.00N	-2.00N
SKIP			-8.00N	-6.00N	-2.00N
CHECK1			-10.0N	-6.00N	-4.00N
SCAN			-18.0N	-18.0N	-20.0N
DIAG1			-10.0N	-6.00N	-4.00N
DIAG2			-10.0N	-6.00N	-4.00N

TEMP= -55

	VCC	=	4.5V	5.0V	5.5V
GALPAT			-8.00N	-6.00N	-2.00N
WALK			-10.0N	-6.00N	-2.00N
SKIP			-10.0N	-6.00N	-2.00N
CHECK1			-10.0N	-6.00N	-2.00N
SCAN			-18.0N	-20.0N	-20.0N
DIAG1			-10.0N	-6.00N	-4.00N
DIAG2			-10.0N	-6.00N	-4.00N
DIAG3			-20.0N	-20.0N	-20.0N

TEMP= 125

	VCC	=	4.5V	5.0V	5.5V
GALPAT			-12.0N	-8.00N	-4.00N
WALK			-12.0N	-8.00N	-4.00N
SKIP			-12.0N	-8.00N	-6.00N
CHECK1			-14.0N	-10.0N	-6.00N
SCAN			-18.0N	-18.0N	-18.0N
DIAG1			-12.0N	-8.00N	-6.00N
DIAG2			-12.0N	-8.00N	-6.00N
DIAG3			-20.0N	-20.0N	-20.0N

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RCA MWS5001D

12 SEP 77

SN: 1

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	46.0N	42.0N	38.0N
WALK	46.0N	42.0N	38.0N
SKIP	46.0N	42.0N	38.0N
CHECK1	46.0N	40.0N	36.0N
SCAN	44.0N	40.0N	34.0N
DIAG1	50.0N	44.0N	36.0N
DIAG2	50.0N	44.0N	36.0N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	40.0N	36.0N	32.0N
WALK	42.0N	36.0N	32.0N
SKIP	42.0N	36.0N	32.0N
CHECK1	44.0N	38.0N	32.0N
SCAN	40.0N	34.0N	30.0N
DIAG1	46.0N	42.0N	36.0N
DIAG2	46.0N	42.0N	36.0N
DIAG3	0.00	0.00	0.00

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	60.0N	54.0N	50.0N
WALK	60.0N	54.0N	48.0N
SKIP	62.0N	56.0N	50.0N
CHECK1	58.0N	52.0N	46.0N
SCAN	56.0N	50.0N	46.0N
DIAG1	58.0N	52.0N	48.0N
DIAG2	58.0N	52.0N	48.0N
DIAG3	0.00	0.00	0.00

TEMP= 25

	VCC =	4.5V	5.0V	5.5V
GALPAT		145.N	115.N	100.N
WALK		120.N	100.N	95.0N
SKIP		140.N	115.N	100.N
CHECK1		105.N	90.0N	80.0N
SCAN		50.0N	50.0N	50.0N
DIAG1		120.N	100.N	90.0N
DIAG2		140.N	115.N	100.N

TEMP= -55

	VCC =	4.5V	5.0V	5.5V
GALPAT		150.N	110.N	90.0N
WALK		120.N	95.0N	85.0N
SKIP		145.N	110.N	90.0N
CHECK1		100.N	80.0N	70.0N
SCAN		50.0N	50.0N	50.0N
DIAG1		115.N	95.0N	80.0N
DIAG2		135.N	105.N	90.0N
DIAG3		50.0N	50.0N	50.0N

TEMP= 125

	VCC =	4.5V	5.0V	5.5V
GALPAT		160.N	135.N	125.N
WALK		185.N	165.N	150.N
SKIP		160.N	135.N	125.N
CHECK1		135.N	120.N	110.N
SCAN		50.0N	50.0N	50.0N
DIAG1		185.N	165.N	150.N
DIAG2		180.N	160.N	145.N
DIAG3		50.0N	50.0N	50.0N

DATA SETUP TIME

RCA MWS50010

12 SEP 77

SN: 2

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	10.0N	10.0N	10.0N
WALK	12.0N	10.0N	10.0N
SKIP	12.0N	10.0N	10.0N
CHECK1	14.0N	14.0N	12.0N
SCAN	14.0N	14.0N	12.0N
DIAG1	10.0N	10.0N	10.0N
DIAG2	10.0N	10.0N	10.0N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	10.0N	8.00N	8.00N
WALK	10.0N	8.00N	8.00N
SKIP	10.0N	10.0N	8.00N
CHECK1	12.0N	10.0N	10.0N
SCAN	12.0N	10.0N	10.0N
DIAG1	8.00N	8.00N	8.00N
DIAG2	8.00N	8.00N	8.00N
DIAG3	0.00	0.00	0.00

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	12.0N	12.0N	12.0N
WALK	12.0N	12.0N	12.0N
SKIP	14.0N	12.0N	12.0N
CHECK1	16.0N	14.0N	14.0N
SCAN	14.0N	14.0N	12.0N
DIAG1	14.0N	12.0N	12.0N
DIAG2	14.0N	12.0N	12.0N
DIAG3	0.00	0.00	0.00

DATA HOLD TIME

RCA MWS5001D

12 SEP 77

SN: 2

TEMP= 25

	VCC =	4.5V	5.0V	5.5V
GALPAT		20.0N	22.0N	24.0N
WALK		20.0N	22.0N	24.0N
SKIP		18.0N	20.0N	22.0N
CHECK1		14.0N	16.0N	18.0N
SCAN		12.0N	14.0N	16.0N
DIAG1		18.0N	20.0N	22.0N
DIAG2		18.0N	20.0N	22.0N

TEMP= -55

	VCC =	4.5V	5.0V	5.5V
GALPAT		18.0N	20.0N	22.0N
WALK		18.0N	20.0N	22.0N
SKIP		18.0N	20.0N	22.0N
CHECK1		14.0N	16.0N	18.0N
SCAN		12.0N	14.0N	16.0N
DIAG1		18.0N	20.0N	20.0N
DIAG2		18.0N	20.0N	20.0N
DIAG3		0.00	0.00	0.00

TEMP= 125

	VCC =	4.5V	5.0V	5.5V
GALPAT		20.0N	24.0N	26.0N
WALK		20.0N	24.0N	26.0N
SKIP		20.0N	24.0N	26.0N
CHECK1		16.0N	18.0N	22.0N
SCAN		14.0N	16.0N	18.0N
DIAG1		20.0N	22.0N	26.0N
DIAG2		20.0N	22.0N	26.0N
DIAG3		0.00	0.00	0.00

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12 SEP 77

SN: 2

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	48.0N	46.0N	44.0N
WALK	48.0N	46.0N	42.0N
SKIP	48.0N	46.0N	44.0N
CHECK1	48.0N	46.0N	42.0N
SCAN	48.0N	44.0N	40.0N
DIAG1	48.0N	46.0N	42.0N
DIAG2	48.0N	46.0N	42.0N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	44.0N	40.0N	38.0N
WALK	44.0N	40.0N	38.0N
SKIP	44.0N	40.0N	38.0N
CHECK1	44.0N	38.0N	38.0N
SCAN	40.0N	38.0N	36.0N
DIAG1	48.0N	44.0N	38.0N
DIAG2	48.0N	44.0N	38.0N
DIAG3	20.0N	20.0N	20.0N

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	62.0N	58.0N	54.0N
WALK	64.0N	60.0N	56.0N
SKIP	64.0N	62.0N	56.0N
CHECK1	62.0N	56.0N	54.0N
SCAN	64.0N	60.0N	56.0N
DIAG1	62.0N	58.0N	54.0N
DIAG2	62.0N	58.0N	54.0N
DIAG3	20.0N	20.0N	20.0N

ADDRESS SETUP TIME RCA MWS5001D 12 SEP 77 SN: 2

TEMP= 25

VCC =	4.5V	5.0V	5.5V
GALPAT	10.0N	10.0N	10.0N
WALK	10.0N	10.0N	10.0N
SKIP	10.0N	10.0N	10.0N
CHECK1	22.0N	18.0N	16.0N
SCAN	10.0N	10.0N	10.0N
DIAG1	18.0N	16.0N	16.0N
DIAG2	18.0N	16.0N	16.0N

TEMP= -55

VCC =	4.5V	5.0V	5.5V
GALPAT	10.0N	10.0N	10.0N
WALK	10.0N	10.0N	10.0N
SKIP	10.0N	10.0N	10.0N
CHECK1	26.0N	20.0N	16.0N
SCAN	10.0N	10.0N	10.0N
DIAG1	20.0N	16.0N	16.0N
DIAG2	20.0N	16.0N	16.0N
DIAG3	10.0N	10.0N	10.0N

TEMP= 125

VCC =	4.5V	5.0V	5.5V
GALPAT	10.0N	10.0N	10.0N
WALK	10.0N	10.0N	10.0N
SKIP	10.0N	10.0N	10.0N
CHECK1	30.0N	26.0N	26.0N
SCAN	10.0N	10.0N	10.0N
DIAG1	30.0N	28.0N	26.0N
DIAG2	30.0N	28.0N	26.0N
DIAG3	10.0N	10.0N	10.0N

ADDRESS HOLD TIME

RCA MW55001D

12 SEP 77

SN: 2

TEMP= 25

VCC = 4.5V

5.0V

5.5V

GALPAT	-6.00N	-4.00N	-2.00N
WALK	-6.00N	-4.00N	-2.00N
SKIP	-6.00N	-4.00N	-2.00N
CHECK1	-6.00N	-4.00N	-2.00N
SCAN	-18.0N	-20.0N	-20.0N
DIAG1	-6.00N	-4.00N	-2.00N
DIAG2	-6.00N	-4.00N	-2.00N

TEMP= -55

VCC = 4.5V

5.0V

5.5V

GALPAT	-6.00N	-2.00N /	0.00
WALK	-6.00N	-2.00N	0.00
SKIP	-6.00N	-4.00N	0.00
CHECK1	-6.00N	-4.00N	0.00
SCAN	-18.0N	-20.0N	-20.0N
DIAG1	-6.00N	-4.00N	0.00
DIAG2	-6.00N	-4.00N	0.00
DIAG3	-20.0N	-20.0N	-20.0N

TEMP= 125

VCC = 4.5V

5.0V

5.5V

GALPAT	-10.0N	-6.00N	-4.00N
WALK	-10.0N	-6.00N	-4.00N
SKIP	-10.0N	-6.00N	-4.00N
CHECK1	-10.0N	-6.00N	-4.00N
SCAN	-18.0N	-18.0N	-18.0N
DIAG1	-10.0N	-6.00N	-4.00N
DIAG2	-10.0N	-6.00N	-4.00N
DIAG3	-20.0N	-20.0N	-20.0N

CE TO WRITE TIME

RCA MWS5001D

12 SEP 77

SN:

2

TEMP= 25

VCC = 4.5V

5.0V

5.5V

GALPAT	46.0N	42.0N	40.0N
WALK	46.0N	42.0N	40.0N
SKIP	48.0N	42.0N	40.0N
CHECK1	46.0N	42.0N	38.0N
SCAN	44.0N	40.0N	36.0N
DIAG1	50.0N	42.0N	42.0N
DIAG2	50.0N	42.0N	42.0N

TEMP= -55

VCC = 4.5V

5.0V

5.5V

GALPAT	40.0N	36.0N	34.0N
WALK	40.0N	38.0N	34.0N
SKIP	40.0N	38.0N	34.0N
CHECK1	42.0N	38.0N	36.0N
SCAN	38.0N	34.0N	32.0N
DIAG1	46.0N	42.0N	38.0N
DIAG2	46.0N	42.0N	38.0N
DIAG3	0.00	0.00	0.00

TEMP= 125

VCC = 4.5V

5.0V

5.5V

GALPAT	60.0N	56.0N	52.0N
WALK	60.0N	56.0N	50.0N
SKIP	64.0N	58.0N	54.0N
CHECK1	60.0N	56.0N	50.0N
SCAN	58.0N	54.0N	48.0N
DIAG1	60.0N	56.0N	50.0N
DIAG2	60.0N	56.0N	50.0N
DIAG3	0.00	0.00	0.00

ADDRESS ACCESS TIME RCA MWS5001D 12 SEP 77 S/N: J

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	325.N	225.N	180.N
WALK	210.N	165.N	135.N
SKIP	305.N	215.N	170.N
CHECK1	150.N	125.N	115.N
SCAN	50.0N	50.0N	50.0N
DIAG1	175.N	135.N	115.N
DIAG2	210.N	160.N	135.N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	1.00K	270.N	180.N
WALK	395.N	220.N	160.N
SKIP	1.00K	225.N	190.N
CHECK1	175.N	125.N	100.N
SCAN	50.0N	50.0N	50.0N
DIAG1	210.N	140.N	110.N
DIAG2	230.N	155.N	120.N
DIAG3	50.0N	50.0N	50.0N

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	280.N	220.N	190.N
WALK	295.N	255.N	235.N
SKIP	280.N	220.N	190.N
CHECK1	195.N	170.N	155.N
SCAN	50.0N	50.0N	50.0N
DIAG1	260.N	225.N	205.N
DIAG2	250.N	215.N	195.N
DIAG3	50.0N	50.0N	50.0N

DATA SETUP TIME

RCA MWS5001D

12 SEP 77

SN: 3

TEMP= 25

VCC = 4.5V

5.0V

5.5V

GALPAT	16.0N	14.0N	14.0N
WALK	16.0N	14.0N	14.0N
SKIP	18.0N	16.0N	14.0N
CHECK1	28.0N	22.0N	20.0N
SCAN	28.0N	22.0N	20.0N
DIAG1	16.0N	14.0N	12.0N
DIAG2	16.0N	14.0N	14.0N

TEMP= -55

VCC = 4.5V

5.0V

5.5V

GALPAT	16.0N	14.0N	12.0N
WALK	18.0N	14.0N	12.0N
SKIP	20.0N	16.0N	14.0N
CHECK1	24.0N	16.0N	16.0N
SCAN	22.0N	16.0N	16.0N
DIAG1	16.0N	12.0N	12.0N
DIAG2	16.0N	12.0N	12.0N
DIAG3	0.00	0.00	0.00

TEMP= 125

VCC = 4.5V

5.0V

5.5V

GALPAT	20.0N	18.0N	16.0N
WALK	20.0N	18.0N	16.0N
SKIP	20.0N	18.0N	18.0N
CHECK1	24.0N	24.0N	20.0N
SCAN	24.0N	22.0N	20.0N
DIAG1	20.0N	18.0N	16.0N
DIAG2	20.0N	18.0N	16.0N
DIAG3	0.00	0.00	0.00

DATA HOLD TIME

RCA MWS50010

12 SEP 77

SN: 3

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	14.0N	16.0N	18.0N
WALK	14.0N	16.0N	18.0N
SKIP	14.0N	14.0N	18.0N
CHECK1	10.0N	12.0N	14.0N
SCAN	8.00N	10.0N	14.0N
DIAG1	12.0N	14.0N	16.0N
DIAG2	12.0N	14.0N	18.0N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	12.0N	14.0N	16.0N
WALK	12.0N	14.0N	16.0N
SKIP	12.0N	14.0N	16.0N
CHECK1	10.0N	12.0N	12.0N
SCAN	8.00N	10.0N	12.0N
DIAG1	12.0N	14.0N	16.0N
DIAG2	12.0N	14.0N	16.0N
DIAG3	0.00	0.00	0.00

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	14.0N	18.0N	20.0N
WALK	14.0N	18.0N	20.0N
SKIP	14.0N	18.0N	20.0N
CHECK1	12.0N	14.0N	16.0N
SCAN	10.0N	12.0N	16.0N
DIAG1	14.0N	16.0N	20.0N
DIAG2	14.0N	16.0N	20.0N
DIAG3	0.00	0.00	0.00

WRITE PULSE WIDTH

RCA MWS5001D

12 SEP 77

SN: 3

TEMP= 25

VCC = 4.5V

5.0V

5.5V

GALPAT	56.0N	52.0N	46.0N
WALK	56.0N	52.0N	46.0N
SKIP	56.0N	52.0N	46.0N
CHECK1	56.0N	52.0N	46.0N
SCAN	56.0N	50.0N	46.0N
DIAG1	56.0N	56.0N	46.0N
DIAG2	60.0N	56.0N	46.0N

TEMP= -55

VCC = 4.5V

5.0V

5.5V

GALPAT	48.0N	46.0N	40.0N
WALK	50.0N	46.0N	40.0N
SKIP	52.0N	46.0N	40.0N
CHECK1	56.0N	48.0N	40.0N
SCAN	48.0N	44.0N	40.0N
DIAG1	60.0N	50.0N	46.0N
DIAG2	56.0N	50.0N	46.0N
DIAG3	20.0N	20.0N	20.0N

TEMP= 125

VCC = 4.5V

5.0V

5.5V

GALPAT	76.0N	70.0N	62.0N
WALK	78.0N	70.0N	62.0N
SKIP	78.0N	70.0N	64.0N
CHECK1	72.0N	64.0N	58.0N
SCAN	72.0N	66.0N	62.0N
DIAG1	72.0N	64.0N	60.0N
DIAG2	72.0N	64.0N	60.0N
DIAG3	20.0N	20.0N	20.0N

ADDRESS SETUP TIME RCA MWS5001D 12 SEP 77 SN: 3

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	12.0N	10.0N	10.0N
WALK	10.0N	10.0N	10.0N
SKIP	10.0N	10.0N	10.0N
CHECK1	32.0N	24.0N	22.0N
SCAN	10.0N	10.0N	10.0N
DIAG1	26.0N	20.0N	20.0N
DIAG2	26.0N	20.0N	20.0N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	10.0N	10.0N	10.0N
WALK	10.0N	10.0N	10.0N
SKIP	10.0N	10.0N	10.0N
CHECK1	40.0N	28.0N	22.0N
SCAN	10.0N	10.0N	10.0N
DIAG1	34.0N	24.0N	18.0N
DIAG2	30.0N	22.0N	18.0N
DIAG3	10.0N	10.0N	10.0N

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	1.00K	10.0N	10.0N
WALK	1.00K	10.0N	10.0N
SKIP	1.00K	10.0N	10.0N
CHECK1	40.0N	38.0N	36.0N
SCAN	10.0N	10.0N	10.0N
DIAG1	32.0N	28.0N	28.0N
DIAG2	32.0N	28.0N	28.0N
DIAG3	10.0N	10.0N	10.0N

ADDRESS HOLD TIME RCA MWS50010 12 SEP 77 SN: 3

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	-12.0N	-8.00N	-4.00N
WALK	-12.0N	-8.00N	-4.00N
SKIP	-12.0N	-8.00N	-4.00N
CHECK1	-14.0N	-10.0N	-8.00N
SCAN	-18.0N	-18.0N	-20.0N
DIAG1	-14.0N	-10.0N	-6.00N
DIAG2	-14.0N	-10.0N	-6.00N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	1.00K	-6.00N	-4.00N
WALK	1.00K	-8.00N	-4.00N
SKIP	1.00K	-8.00N	-4.00N
CHECK1	-12.0N	-8.00N	-4.00N
SCAN	-18.0N	-18.0N	-20.0N
DIAG1	-12.0N	-6.00N	-6.00N
DIAG2	-12.0N	-8.00N	-6.00N
DIAG3	-20.0N	-20.0N	-20.0N

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	-16.0N	-12.0N	-8.00N
WALK	-16.0N	-12.0N	-8.00N
SKIP	-16.0N	-12.0N	-8.00N
CHECK1	-18.0N	-14.0N	-10.0N
SCAN	-18.0N	-18.0N	-18.0N
DIAG1	-16.0N	-12.0N	-8.00N
DIAG2	-16.0N	-12.0N	-8.00N
DIAG3	-20.0N	-20.0N	-20.0N

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SN: 3

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	56.0N	50.0N	44.0N
WALK	56.0N	50.0N	44.0N
SKIP	56.0N	50.0N	44.0N
CHECK1	56.0N	48.0N	42.0N
SCAN	54.0N	48.0N	42.0N
DIAG1	60.0N	54.0N	48.0N
DIAG2	60.0N	54.0N	48.0N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	48.0N	42.0N	38.0N
WALK	50.0N	42.0N	38.0N
SKIP	50.0N	44.0N	38.0N
CHECK1	52.0N	42.0N	36.0N
SCAN	48.0N	42.0N	36.0N
DIAG1	58.0N	48.0N	44.0N
DIAG2	58.0N	48.0N	44.0N
DIAG3	0.00	0.00	0.00

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	74.0N	66.0N	60.0N
WALK	74.0N	66.0N	58.0N
SKIP	76.0N	68.0N	62.0N
CHECK1	70.0N	62.0N	56.0N
SCAN	70.0N	62.0N	54.0N
DIAG1	70.0N	64.0N	56.0N
DIAG2	70.0N	64.0N	56.0N
DIAG3	0.00	0.00	0.00

TEMP= 25

	VCC = 4.5V	5.0V	5.5V
GALPAT	130.N	105.N	95.0N
WALK	120.N	100.N	90.0N
SKIP	130.N	105.N	95.0N
CHECK1	100.N	90.0N	80.0N
SCAN	50.0N	50.0N	50.0N
DIAG1	115.N	95.0N	85.0N
DIAG2	125.N	105.N	90.0N

TEMP= -55

	VCC = 4.5V	5.0V	5.5V
GALPAT	125.N	95.0N	85.0N
WALK	105.N	85.0N	75.0N
SKIP	125.N	95.0N	80.0N
CHECK1	90.0N	75.0N	65.0N
SCAN	50.0N	50.0N	50.0N
DIAG1	105.N	85.0N	70.0N
DIAG2	120.N	95.0N	80.0N
DIAG3	50.0N	50.0N	50.0N

TEMP= 125

	VCC = 4.5V	5.0V	5.5V
GALPAT	165.N	140.N	125.N
WALK	210.N	180.N	165.N
SKIP	170.N	145.N	130.N
CHECK1	135.N	120.N	110.N
SCAN	50.0N	50.0N	50.0N
DIAG1	205.N	180.N	160.N
DIAG2	210.N	180.N	160.N
DIAG3	50.0N	50.0N	50.0N

DATA SETUP TIME

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12 SEP 77

SN: 4

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	14.0N	12.0N	12.0N
WALK	14.0N	12.0N	12.0N
SKIP	14.0N	12.0N	12.0N
CHECK1	20.0N	16.0N	14.0N
SCAN	20.0N	16.0N	14.0N
DIAG1	14.0N	12.0N	12.0N
DIAG2	14.0N	12.0N	12.0N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	12.0N	12.0N	10.0N
WALK	14.0N	12.0N	10.0N
SKIP	14.0N	12.0N	10.0N
CHECK1	16.0N	12.0N	12.0N
SCAN	16.0N	14.0N	12.0N
DIAG1	14.0N	10.0N	8.00N
DIAG2	14.0N	10.0N	8.00N
DIAG3	0.00	0.00	0.00

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	18.0N	16.0N	14.0N
WALK	18.0N	16.0N	16.0N
SKIP	18.0N	16.0N	16.0N
CHECK1	22.0N	20.0N	18.0N
SCAN	18.0N	16.0N	14.0N
DIAG1	18.0N	16.0N	14.0N
DIAG2	18.0N	16.0N	14.0N
DIAG3	0.00	0.00	0.00

DATA HOLD TIME

RCA MWS5001D

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SN: 4

TEMP= 25

	VCC =	4.5V	5.0V	5.5V
GALPAT		12.0N	14.0N	16.0N
WALK		12.0N	14.0N	14.0N
SKIP		12.0N	14.0N	14.0N
CHECK1		8.00N	10.0N	12.0N
SCAN		8.00N	10.0N	12.0N
DIAG1		10.0N	12.0N	14.0N
DIAG2		10.0N	12.0N	14.0N

TEMP= -55

	VCC =	4.5V	5.0V	5.5V
GALPAT		12.0N	12.0N	14.0N
WALK		12.0N	12.0N	14.0N
SKIP		10.0N	12.0N	14.0N
CHECK1		8.00N	10.0N	12.0N
SCAN		8.00N	10.0N	10.0N
DIAG1		10.0N	12.0N	12.0N
DIAG2		10.0N	12.0N	12.0N
DIAG3		0.00	0.00	0.00

TEMP= 125

	VCC =	4.5V	5.0V	5.5V
GALPAT		14.0N	14.0N	18.0N
WALK		14.0N	14.0N	18.0N
SKIP		12.0N	14.0N	18.0N
CHECK1		10.0N	12.0N	14.0N
SCAN		8.00N	10.0N	12.0N
DIAG1		12.0N	14.0N	16.0N
DIAG2		12.0N	14.0N	16.0N
DIAG3		0.00	0.00	0.00

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RCA MWS5001D

12 SEP 77

SN:

4

TEMP= 25

VCC = 4.5V

5.0V

5.5V

GALPAT	50.0N	46.0N	42.0N
WALK	54.0N	48.0N	44.0N
SKIP	50.0N	46.0N	42.0N
CHECK1	48.0N	46.0N	40.0N
SCAN	48.0N	46.0N	40.0N
DIAG1	52.0N	46.0N	42.0N
DIAG2	52.0N	46.0N	42.0N

TEMP= -55

VCC = 4.5V

5.0V

5.5V

GALPAT	42.0N	38.0N	36.0N
WALK	42.0N	38.0N	36.0N
SKIP	44.0N	38.0N	36.0N
CHECK1	46.0N	38.0N	34.0N
SCAN	40.0N	36.0N	32.0N
DIAG1	46.0N	38.0N	38.0N
DIAG2	46.0N	38.0N	38.0N
DIAG3	20.0N	20.0N	20.0N

TEMP= 125

VCC = 4.5V

5.0V

5.5V

GALPAT	68.0N	62.0N	56.0N
WALK	68.0N	62.0N	56.0N
SKIP	70.0N	62.0N	56.0N
CHECK1	64.0N	60.0N	54.0N
SCAN	66.0N	62.0N	56.0N
DIAG1	68.0N	62.0N	56.0N
DIAG2	68.0N	62.0N	56.0N
DIAG3	20.0N	20.0N	20.0N

ADDRESS SETUP TIME RCA MWS5001D 12 SEP 77 SN: 4

TEMP= 25

	VCC =	4.5V	5.0V	5.5V
GALPAT		10.0N	10.0N	10.0N
WALK		10.0N	10.0N	10.0N
SKIP		10.0N	10.0N	10.0N
CHECK1		18.0N	16.0N	16.0N
SCAN		10.0N	10.0N	10.0N
DIAG1		16.0N	16.0N	16.0N
DIAG2		16.0N	16.0N	16.0N

TEMP= -55

	VCC =	4.5V	5.0V	5.5V
GALPAT		12.0N	10.0N	10.0N
WALK		12.0N	10.0N	10.0N
SKIP		10.0N	10.0N	10.0N
CHECK1		20.0N	16.0N	14.0N
SCAN		10.0N	10.0N	10.0N
DIAG1		18.0N	16.0N	16.0N
DIAG2		18.0N	16.0N	16.0N
DIAG3		10.0N	10.0N	10.0N

TEMP= 125

	VCC =	4.5V	5.0V	5.5V
GALPAT		10.0N	10.0N	10.0N
WALK		10.0N	10.0N	10.0N
SKIP		10.0N	10.0N	10.0N
CHECK1		26.0N	24.0N	24.0N
SCAN		10.0N	10.0N	10.0N
DIAG1		40.0N	34.0N	32.0N
DIAG2		40.0N	34.0N	32.0N
DIAG3		10.0N	10.0N	10.0N

ADDRESS HOLD TIME RCA MWS5001D 12 SEP 77 SN: 4

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	-8.00N	-6.00N	-4.00N
WALK	-8.00N	-6.00N	-4.00N
SKIP	-8.00N	-6.00N	-4.00N
CHECK1	-10.0N	-6.00N	-4.00N
SCAN	-18.0N	-20.0N	-20.0N
DIAG1	-10.0N	-6.00N	-4.00N
DIAG2	-10.0N	-6.00N	-4.00N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	-6.00N	-4.00N	-2.00N
WALK	-6.00N	-4.00N	-2.00N
SKIP	-8.00N	-4.00N	-2.00N
CHECK1	-8.00N	-4.00N	-2.00N
SCAN	-18.0N	-20.0N	-20.0N
DIAG1	-8.00N	-4.00N	-2.00N
DIAG2	-8.00N	-4.00N	-2.00N
DIAG3	-20.0N	-20.0N	-20.0N

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	-14.0N	-10.0N	-6.00N
WALK	-14.0N	-10.0N	-6.00N
SKIP	-14.0N	-10.0N	-6.00N
CHECK1	-14.0N	-10.0N	-8.00N
SCAN	-18.0N	-18.0N	-18.0N
DIAG1	-14.0N	-10.0N	-8.00N
DIAG2	-14.0N	-10.0N	-6.00N
DIAG3	-20.0N	-20.0N	-20.0N

CE TO WRITE TIME

RCA MWS5001D

12 SEP 77

SN: 4

TEMP= 25

	VCC = 4.5V	5.0V	5.5V
GALPAT	48.0N	44.0N	40.0N
WALK	48.0N	44.0N	40.0N
SKIP	48.0N	44.0N	40.0N
CHECK1	48.0N	42.0N	38.0N
SCAN	46.0N	42.0N	36.0N
DIAG1	48.0N	42.0N	38.0N
DIAG2	48.0N	42.0N	38.0N

TEMP= -55

	VCC = 4.5V	5.0V	5.5V
GALPAT	40.0N	36.0N	32.0N
WALK	40.0N	36.0N	32.0N
SKIP	40.0N	36.0N	32.0N
CHECK1	42.0N	34.0N	30.0N
SCAN	38.0N	34.0N	30.0N
DIAG1	44.0N	34.0N	34.0N
DIAG2	44.0N	38.0N	34.0N
DIAG3	0.00	0.00	0.00

TEMP= 125

	VCC = 4.5V	5.0V	5.5V
GALPAT	64.0N	58.0N	52.0N
WALK	64.0N	58.0N	52.0N
SKIP	66.0N	60.0N	54.0N
CHECK1	62.0N	56.0N	50.0N
SCAN	64.0N	58.0N	52.0N
DIAG1	64.0N	58.0N	52.0N
DIAG2	64.0N	58.0N	52.0N
DIAG3	0.00	0.00	0.00

ADDRESS ACCESS TIME RCA MWS5001D 12 SEP 77 SN: 5

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	185.N	180.N	185.N
WALK	170.N	170.N	175.N
SKIP	175.N	170.N	175.N
CHECK1	105.N	90.0N	80.0N
SCAN	50.0N	50.0N	50.0N
DIAG1	170.N	165.N	175.N
DIAG2	175.N	170.N	175.N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	205.N	150.N	150.N
WALK	145.N	140.N	145.N
SKIP	200.N	145.N	150.N
CHECK1	120.N	90.0N	75.0N
SCAN	50.0N	50.0N	50.0N
DIAG1	145.N	140.N	145.N
DIAG2	180.N	145.N	150.N
DIAG3	50.0N	50.0N	50.0N

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	175.N	145.N	130.N
WALK	200.N	175.N	160.N
SKIP	180.N	150.N	130.N
CHECK1	150.N	130.N	120.N
SCAN	50.0N	50.0N	50.0N
DIAG1	205.N	180.N	160.N
DIAG2	205.N	180.N	165.N
DIAG3	50.0N	50.0N	50.0N

DATA SETUP TIME

RCA MWS5001D

12 SEP 77

SN: 5

TEMP= 25

VCC = 4.5V

5.0V

5.5V

GALPAT	14.0N	12.0N	10.0N
WALK	14.0N	12.0N	10.0N
SKIP	14.0N	12.0N	12.0N
CHECK1	22.0N	18.0N	14.0N
SCAN	22.0N	18.0N	14.0N
DIAG1	14.0N	12.0N	10.0N
DIAG2	14.0N	12.0N	10.0N

TEMP= -55

VCC = 4.5V

5.0V

5.5V

GALPAT	14.0N	12.0N	10.0N
WALK	16.0N	12.0N	10.0N
SKIP	16.0N	14.0N	12.0N
CHECK1	20.0N	16.0N	14.0N
SCAN	20.0N	16.0N	12.0N
DIAG1	12.0N	10.0N	8.00N
DIAG2	12.0N	10.0N	8.00N
DIAG3	0.00	0.00	0.00

TEMP= 125

VCC = 4.5V

5.0V

5.5V

GALPAT	16.0N	14.0N	14.0N
WALK	16.0N	14.0N	14.0N
SKIP	18.0N	16.0N	14.0N
CHECK1	22.0N	18.0N	18.0N
SCAN	20.0N	18.0N	18.0N
DIAG1	16.0N	14.0N	14.0N
DIAG2	16.0N	14.0N	14.0N
DIAG3	0.00	0.00	0.00

DATA HOLD TIME

RCA MWS5001D

12 SEP 77

SN: 5

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	14.0N	16.0N	18.0N
WALK	14.0N	16.0N	18.0N
SKIP	14.0N	16.0N	18.0N
CHECK1	10.0N	12.0N	14.0N
SCAN	8.00N	12.0N	12.0N
DIAG1	14.0N	14.0N	18.0N
DIAG2	14.0N	14.0N	16.0N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	14.0N	14.0N	18.0N
WALK	14.0N	16.0N	18.0N
SKIP	12.0N	14.0N	16.0N
CHECK1	10.0N	12.0N	14.0N
SCAN	8.00N	12.0N	12.0N
DIAG1	12.0N	14.0N	16.0N
DIAG2	12.0N	14.0N	16.0N
DIAG3	0.00	0.00	0.00

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	16.0N	18.0N	20.0N
WALK	14.0N	18.0N	20.0N
SKIP	14.0N	18.0N	20.0N
CHECK1	12.0N	14.0N	16.0N
SCAN	10.0N	12.0N	14.0N
DIAG1	14.0N	16.0N	20.0N
DIAG2	14.0N	16.0N	20.0N
DIAG3	0.00	0.00	0.00

WRITE PULSE WIDTH

RCA MWS5001D

12 SEP 77

SN: 5

TEMP= 25

VCC = 4.5V

5.0V

5.5V

GALPAT	54.0N	48.0N	46.0N
WALK	56.0N	52.0N	48.0N
SKIP	54.0N	48.0N	46.0N
CHECK1	54.0N	48.0N	44.0N
SCAN	54.0N	48.0N	44.0N
DIAG1	54.0N	48.0N	46.0N
DIAG2	54.0N	48.0N	44.0N

TEMP= -55

VCC = 4.5V

5.0V

5.5V

GALPAT	46.0N	42.0N	38.0N
WALK	46.0N	44.0N	38.0N
SKIP	48.0N	44.0N	38.0N
CHECK1	52.0N	46.0N	38.0N
SCAN	46.0N	40.0N	38.0N
DIAG1	56.0N	48.0N	38.0N
DIAG2	56.0N	48.0N	38.0N
DIAG3	20.0N	20.0N	20.0N

TEMP= 125

VCC = 4.5V

5.0V

5.5V

GALPAT	72.0N	64.0N	60.0N
WALK	72.0N	64.0N	60.0N
SKIP	72.0N	66.0N	62.0N
CHECK1	70.0N	62.0N	56.0N
SCAN	70.0N	62.0N	56.0N
DIAG1	70.0N	62.0N	56.0N
DIAG2	70.0N	62.0N	56.0N
DIAG3	20.0N	20.0N	20.0N

ADDRESS SETUP TIME RCA MWS5001D 12 SEP 77 SN: 5

TEMP= 25

VCC = 4.5V 5.0V 5.5V

GALPAT	74.0N	88.0N	104.0N
WALK	72.0N	86.0N	102.0N
SKIP	68.0N	82.0N	100.0N
CHECK1	24.0N	26.0N	36.0N
SCAN	14.0N	24.0N	34.0N
DIAG1	76.0N	86.0N	98.0N
DIAG2	76.0N	86.0N	98.0N

TEMP= -55

VCC = 4.5V 5.0V 5.5V

GALPAT	62.0N	74.0N	86.0N
WALK	62.0N	72.0N	84.0N
SKIP	60.0N	70.0N	82.0N
CHECK1	32.0N	22.0N	18.0N
SCAN	10.0N	10.0N	18.0N
DIAG1	68.0N	76.0N	84.0N
DIAG2	70.0N	76.0N	84.0N
DIAG3	10.0N	10.0N	10.0N

TEMP= 125

VCC = 4.5V 5.0V 5.5V

GALPAT	10.0N	10.0N	10.0N
WALK	10.0N	10.0N	10.0N
SKIP	10.0N	10.0N	10.0N
CHECK1	34.0N	30.0N	30.0N
SCAN	10.0N	10.0N	10.0N
DIAG1	40.0N	36.0N	32.0N
DIAG2	40.0N	36.0N	34.0N
DIAG3	10.0N	10.0N	10.0N

TEMP= 25

VCC = 4.5V

5.0V

5.5V

GALPAT	-10.0N	-6.00N	-4.00N
WALK	-10.0N	-6.00N	-4.00N
SKIP	-10.0N	-6.00N	-4.00N
CHECK1	-12.0N	-8.00N	-4.00N
SCAN	-18.0N	-18.0N	-20.0N
DIAG1	-12.0N	-8.00N	-4.00N
DIAG2	-12.0N	-8.00N	-4.00N

TEMP= -55

VCC = 4.5V

5.0V

5.5V

GALPAT	-8.00N	-4.00N	-2.00N
WALK	-10.0N	-6.00N	-2.00N
SKIP	-10.0N	-6.00N	-4.00N
CHECK1	-10.0N	-6.00N	-4.00N
SCAN	-18.0N	-18.0N	-20.0N
DIAG1	-10.0N	-6.00N	-4.00N
DIAG2	-10.0N	-6.00N	-4.00N
DIAG3	-20.0N	-20.0N	-20.0N

TEMP= 125

VCC = 4.5V

5.0V

5.5V

GALPAT	-14.0N	-10.0N	-6.00N
WALK	-14.0N	-10.0N	-6.00N
SKIP	-14.0N	-10.0N	-6.00N
CHECK1	-14.0N	-10.0N	-6.00N
SCAN	-18.0N	-18.0N	-18.0N
DIAG1	-14.0N	-10.0N	-6.00N
DIAG2	-14.0N	-10.0N	-6.00N
DIAG3	-20.0N	-20.0N	-20.0N

CE TO WRITE TIME

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SN: 5

TEMP= 25

VCC = 4.5V

5.0V

5.5V

GALPAT	52.0N	46.0N	42.0N
WALK	52.0N	46.0N	42.0N
SKIP	52.0N	46.0N	42.0N
CHECK1	52.0N	46.0N	40.0N
SCAN	52.0N	46.0N	40.0N
DIAG1	56.0N	46.0N	42.0N
DIAG2	56.0N	48.0N	42.0N

TEMP= -55

VCC = 4.5V

5.0V

5.5V

GALPAT	46.0N	40.0N	36.0N
WALK	46.0N	40.0N	36.0N
SKIP	46.0N	40.0N	36.0N
CHECK1	48.0N	42.0N	34.0N
SCAN	44.0N	38.0N	34.0N
DIAG1	56.0N	48.0N	40.0N
DIAG2	56.0N	44.0N	40.0N
DIAG3	0.00	0.00	0.00

TEMP= 125

VCC = 4.5V

5.0V

5.5V

GALPAT	70.0N	62.0N	56.0N
WALK	70.0N	62.0N	56.0N
SKIP	72.0N	64.0N	58.0N
CHECK1	66.0N	60.0N	54.0N
SCAN	66.0N	60.0N	54.0N
DIAG1	66.0N	60.0N	54.0N
DIAG2	66.0N	60.0N	54.0N
DIAG3	0.00	0.00	0.00

FUNCTIONAL TESTS AND AC AND DC PARAMETRIC TESTS

PRECEDING PAGE BLANK NOT FILMED

PASSED GALPAT (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	160.N	125.N	110.N	250.NS
DATA SETUP TIME (TDS)	16.0N	14.0N	12.0N	50.0NS
DATA HOLD TIME (TDH)	16.0N	18.0N	22.0N	50.0NS
WRITE PULSE WIDTH (TWP)	46.0N	40.0N	38.0N	90.0NS
ADDRESS SETUP TIME (TAS)	26.0N	20.0N	22.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-6.00N	-2.00N	4.00N	60.0NS
CE TO WRITE TIME (TWS)	48.0N	38.0N	32.0N	70.0NS
MIN READ CYCLE TIME (TRC)	155.N	130.N	115.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	30.0N	26.0N	22.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	145.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.38 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	420.NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-577.PA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	654.PA	500.NA
SUPPLY CURRENT (ICC180)	443.NA	1.00MA
SUPPLY CURRENT (ICC181)	16.3UA	1.00MA
SUPPLY CURRENT (ICC280)	513.NA	1.00MA
SUPPLY CURRENT (ICC281)	17.2UA	1.00MA

DEVICE PASSED ALL TESTS

PRECEDING PAGE BLANK NOT FILMED

PASSED GALPAT (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	170.N	130.N	110.N	250.NS
DATA SETUP TIME (TDS)	14.0N	12.0N	10.0N	50.0NS
DATA HOLD TIME (TDH)	18.0N	18.0N	22.0N	50.0NS
WRITE PULSE WIDTH (TWP)	48.0N	38.0N	38.0N	90.0NS
ADDRESS SETUP TIME (TAS)	30.0N	22.0N	20.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-4.00N	0.00	4.00N	60.0NS
CE TO WRITE TIME (TWS)	46.0N	40.0N	34.0N	70.0NS
MIN READ CYCLE TIME (TRC)	145.N	115.N	105.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	28.0N	24.0N	20.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	125.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.40 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	54.0NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-423.PA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	8.54E-18 A	500.NA
SUPPLY CURRENT (ICC180)	24.0NA	1.00MA
SUPPLY CURRENT (ICC181)	16.1UA	1.00MA
SUPPLY CURRENT (ICC280)	29.5NA	1.00MA
SUPPLY CURRENT (ICC281)	17.0UA	1.00MA

DEVICE PASSED ALL TESTS

RCA MWS5001 1K CMOS STATIC RAM 08 OCT 77 TEMP: -55 C SN: 1

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PASSED GALPAT (WIDE LIMITS)
PASSED NOISE IMMUNITY FUNCTIONAL
PASSED GALPAT (TIGHT LIMIT)

		VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME	(TAA)	180.N	130.N	105.N	250.NS
DATA SETUP TIME	(TDS)	14.0N	12.0N	10.0N	50.0NS
DATA HOLD TIME	(TDH)	16.0N	18.0N	20.0N	50.0NS
WRITE PULSE WIDTH	(TWP)	46.0N	40.0N	32.0N	90.0NS
ADDRESS SETUP TIME	(TAS)	40.0N	26.0N	22.0N	70.0NS
ADDRESS HOLD TIME	(TAH)	-6.00N	0.00	4.00N	60.0NS
CE TO WRITE TIME	(TWS)	44.0N	38.0N	32.0N	70.0NS
MIN READ CYCLE TIME	(TRC)	155.N	115.N	105.N	250.NS
MIN WRITE CYCLE TIME	(TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME	(TEN)	26.0N	22.0N	20.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

		DATA	LIMIT
OUTPUT VOLTAGE LOW	(VOL)	120.MV	400.MV
OUTPUT VOLTAGE HIGH	(VOH)	4.41 V	3.60 V
OUTPUT LEAKAGE CURRENT	(IOL)	17.5NA	1.00UA
AVERAGE INPUT CURRENT LOW	(IIL)	-154.PA	500.NA
AVERAGE INPUT CURRENT HIGH	(IIH)	1.92NA	500.NA
SUPPLY CURRENT	(ICC1B0)	5.00NA	1.00MA
SUPPLY CURRENT	(ICC1B1)	16.1UA	1.00MA
SUPPLY CURRENT	(ICC2B0)	5.00NA	1.00MA
SUPPLY CURRENT	(ICC2B1)	16.90A	1.00MA

DEVICE PASSED ALL TESTS

PASSED GALPAT (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	160.N	135.N	120.N	250.NS
DATA SETUP TIME (TDS)	18.0N	14.0N	14.0N	50.0NS
DATA HOLD TIME (TDH)	16.0N	20.0N	22.0N	50.0NS
WRITE PULSE WIDTH (TWP)	54.0N	46.0N	42.0N	90.0NS
ADDRESS SETUP TIME (TAS)	22.0N	22.0N	24.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-6.00N	-2.00N	4.00N	60.0NS
CE TO WRITE TIME (TWS)	50.0N	42.0N	36.0N	70.0NS
MIN READ CYCLE TIME (TRC)	165.N	145.N	130.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	32.0N	28.0N	24.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	170.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.35 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	3.21UA <*	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-8.58NA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	25.5NA	500.NA
SUPPLY CURRENT (ICC1B0)	13.8UA	1.00MA
SUPPLY CURRENT (ICC1B1)	31.0UA	1.00MA
SUPPLY CURRENT (ICC2B0)	15.3UA	1.00MA
SUPPLY CURRENT (ICC2B1)	28.2UA	1.00MA

<* MEASURED VALUE OUTSIDE SPECIFIED LIMITS

RCA MWS5001 1K CMOS STATIC RAM 08 OCT 77 TEMP: 125 C SN: 1

PAGE 5 OF 5

PASSED GALPAT (WIDE LIMITS)
PASSED NOISE IMMUNITY FUNCTIONAL
PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	170.N	145.N	130.N	250.NS
DATA SETUP TIME (TDS)	16.0N	14.0N	16.0N	50.0NS
DATA HOLD TIME (TDH)	18.0N	20.0N	24.0N	50.0NS
WRITE PULSE WIDTH (TWP)	60.0N	54.0N	48.0N	90.0NS
ADDRESS SETUP TIME (TAS)	26.0N	26.0N	26.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-6.00N	-2.00N	2.00N	50.0NS
CE TO WRITE TIME (TWS)	58.0N	50.0N	44.0N	70.0NS
MIN READ CYCLE TIME (TRC)	175.N	155.N	145.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 84.0N	< 84.0N	< 84.0N	220.NS
OUTPUT ENABLE TIME (TEN)	34.0N	30.0N	28.0N	50.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	190.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.32 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	10.70A <*	1.000A
AVERAGE INPUT CURRENT LOW (IIL)	-100.NA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	105.NA	500.NA
SUPPLY CURRENT (ICC1B0)	96.4UA	1.00MA
SUPPLY CURRENT (ICC1B1)	113.UA	1.00MA
SUPPLY CURRENT (ICC2B0)	105.UA	1.00MA
SUPPLY CURRENT (ICC2B1)	90.9UA	1.00MA

<* MEASURED VALUE OUTSIDE SPECIFIED LIMITS

RCA MWS5001 1K CMOS STATIC RAM 08 OCT 77 TEMP: 25 C SN: 2

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PASSED GALPAT (WIDE LIMITS)
PASSED NOISE IMMUNITY FUNCTIONAL
PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	140.N	115.N	105.N	250.NS
DATA SETUP TIME (TDS)	12.0N	12.0N	14.0N	50.0NS
DATA HOLD TIME (TDH)	18.0N	20.0N	22.0N	50.0NS
WRITE PULSE WIDTH (TWP)	46.0N	44.0N	40.0N	90.0NS
ADDRESS SETUP TIME (TAS)	22.0N	18.0N	20.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-4.00N	0.00	2.00N	60.0NS
CE TO WRITE TIME (TWS)	48.0N	40.0N	36.0N	70.0NS
MIN READ CYCLE TIME (TRC)	130.N	110.N	100.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	26.0N	22.0N	20.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

		DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)		130.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)		4.38 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)		40.0NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)		-1.38NA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)		1.23NA	500.NA
SUPPLY CURRENT (ICC1B0)		76.0UA	1.00MA
SUPPLY CURRENT (ICC1B1)		200.UA	1.00MA
SUPPLY CURRENT (ICC2B0)		69.1UA	1.00MA
SUPPLY CURRENT (ICC2B1)		215.UA	1.00MA

DEVICE PASSED ALL TESTS

PASSED GALPAT (WIDE LIMITS)
PASSED NOISE IMMUNITY FUNCTIONAL
PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	140.N	115.N	100.N	250.NS
DATA SETUP TIME (TDS)	12.0N	10.0N	12.0N	50.0NS
DATA HOLD TIME (TDH)	18.0N	22.0N	22.0N	50.0NS
WRITE PULSE WIDTH (TWP)	48.0N	44.0N	38.0N	90.0NS
ADDRESS SETUP TIME (TAS)	22.0N	20.0N	18.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-4.00N	0.00	4.00N	60.0NS
CE TO WRITE TIME (TWS)	44.0N	40.0N	36.0N	70.0NS
MIN READ CYCLE TIME (TRC)	115.N	100.N	100.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	24.0N	20.0N	18.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	110.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.40 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	2.00NA	1.000A
AVERAGE INPUT CURRENT LOW (IIL)	-346.PA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	154.PA	500.NA
SUPPLY CURRENT (ICC180)	64.0UA	1.00MA
SUPPLY CURRENT (ICC181)	198.UA	1.00MA
SUPPLY CURRENT (ICC280)	59.8UA	1.00MA
SUPPLY CURRENT (ICC281)	219.UA	1.00MA

DEVICE PASSED ALL TESTS

RCA MWS5001 1K CMOS STATIC RAM 08 OCT 77 TEMP: -55 C SN: 2

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PASSED GALPAT (WIDE LIMITS)
PASSED NOISE IMMUNITY FUNCTIONAL
PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	145.N	105.N	95.0N	250.NS
DATA SETUP TIME (TDS)	12.0N	10.0N	10.0N	50.0NS
DATA HOLD TIME (TDH)	18.0N	20.0N	22.0N	50.0NS
WRITE PULSE WIDTH (TWP)	46.0N	38.0N	38.0N	90.0NS
ADDRESS SETUP TIME (TAS)	26.0N	20.0N	20.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-4.00N	0.00	4.00N	60.0NS
CE TO WRITE TIME (TWS)	44.0N	40.0N	36.0N	70.0NS
MIN READ CYCLE TIME (TRC)	115.N	100.N	100.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	22.0N	18.0N	16.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

		DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)		100.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)		4.42 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)		16.5NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)		-231.PA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)		962.PA	500.NA
SUPPLY CURRENT (ICC1B0)		61.0UA	1.00MA
SUPPLY CURRENT (ICC1B1)		205.UA	1.00MA
SUPPLY CURRENT (ICC2B0)		56.6UA	1.00MA
SUPPLY CURRENT (ICC2B1)		226.UA	1.00MA

DEVICE PASSED ALL TESTS

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PASSED GALPAT (WIDE LIMITS)
PASSED NOISE IMMUNITY FUNCTIONAL
PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	145.N	125.N	115.N	250.NS
DATA SETUP TIME (TDS)	16.0N	14.0N	16.0N	50.0NS
DATA HOLD TIME (TDH)	18.0N	22.0N	26.0N	50.0NS
WRITE PULSE WIDTH (TWP)	54.0N	48.0N	46.0N	90.0NS
ADDRESS SETUP TIME (TAS)	22.0N	22.0N	22.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-4.00N	0.00	2.00N	60.0NS
CE TO WRITE TIME (TWS)	50.0N	48.0N	40.0N	70.0NS
MIN READ CYCLE TIME (TRC)	145.N	125.N	115.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	28.0N	24.0N	22.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	155.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.36 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	670.NA	1.000A
AVERAGE INPUT CURRENT LOW (IIL)	-26.3NA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	31.6NA	500.NA
SUPPLY CURRENT (ICC180)	124.UA	1.00MA
SUPPLY CURRENT (ICC181)	261.UA	1.00MA
SUPPLY CURRENT (ICC280)	119.UA	1.00MA
SUPPLY CURRENT (ICC281)	248.UA	1.00MA

DEVICE PASSED ALL TESTS

PASSED GALPAT (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	160.N	140.N	130.N	250.NS
DATA SETUP TIME (TDS)	16.0N	16.0N	18.0N	50.0NS
DATA HOLD TIME (TDH)	20.0N	22.0N	26.0N	50.0NS
WRITE PULSE WIDTH (TWP)	62.0N	56.0N	54.0N	90.0NS
ADDRESS SETUP TIME (TAS)	24.0N	24.0N	24.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-6.00N	0.00	2.00N	60.0NS
CE TO WRITE TIME (TWS)	60.0N	54.0N	50.0N	70.0NS
MIN READ CYCLE TIME (TRC)	155.N	145.N	130.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 88.0N	< 88.0N	< 88.0N	220.NS
OUTPUT ENABLE TIME (TEN)	32.0N	28.0N	24.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	175.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.34 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	3.510A <*	1.000A
AVERAGE INPUT CURRENT LOW (IIL)	-165.NA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	145.NA	500.NA
SUPPLY CURRENT (ICC1B0)	311.UA	1.00MA
SUPPLY CURRENT (ICC1B1)	493.UA	1.00MA
SUPPLY CURRENT (ICC2B0)	312.UA	1.00MA
SUPPLY CURRENT (ICC2B1)	408.UA	1.00MA

<* MEASURED VALUE OUTSIDE SPECIFIED LIMITS

PASSED GALPAT (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	300.N <*	215.N	175.N	250.NS
DATA SETUP TIME (TDS)	24.0N	20.0N	20.0N	50.0NS
DATA HOLD TIME (TDH)	14.0N	18.0N	22.0N	50.0NS
WRITE PULSE WIDTH (TWP)	54.0N	48.0N	44.0N	90.0NS
ADDRESS SETUP TIME (TAS)	32.0N	26.0N	26.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-8.00N	-4.00N	2.00N	60.0NS
CE TO WRITE TIME (TWS)	54.0N	50.0N	40.0N	70.0NS
MIN READ CYCLE TIME (TRC)	190.N	155.N	140.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	36.0N	30.0N	28.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	175.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.36 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	3.50NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-423.PA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	654.PA	500.NA
SUPPLY CURRENT (ICC1B0)	15.3UA	1.00MA
SUPPLY CURRENT (ICC1B1)	87.7UA	1.00MA
SUPPLY CURRENT (ICC2B0)	5.75UA	1.00MA
SUPPLY CURRENT (ICC2B1)	75.7UA	1.00MA

<* MEASURED VALUE OUTSIDE SPECIFIED LIMITS

PASSED GALPAT (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	1.00K <*	235.N	180.N	250.NS
DATA SETUP TIME (TDS)	20.0N	18.0N	16.0N	50.0NS
DATA HOLD TIME (TDH)	14.0N	18.0N	20.0N	50.0NS
WRITE PULSE WIDTH (TWP)	58.0N	50.0N	44.0N	90.0NS
ADDRESS SETUP TIME (TAS)	38.0N	26.0N	24.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-8.00N	-4.00N	2.00N	60.0NS
CE TO WRITE TIME (TWS)	54.0N	46.0N	40.0N	70.0NS
MIN READ CYCLE TIME (TRC)	185.N	140.N	125.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	32.0N	28.0N	24.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	155.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.38 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	0.00 A	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-38.5PA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	308.PA	500.NA
SUPPLY CURRENT (ICC180)	11.0UA	1.00MA
SUPPLY CURRENT (ICC181)	90.1UA	1.00MA
SUPPLY CURRENT (ICC280)	2.81UA	1.00MA
SUPPLY CURRENT (ICC281)	80.7UA	1.00MA

<* MEASURED VALUE OUTSIDE SPECIFIED LIMITS

PASSED GALPA1 (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	1.00K <*	270.N <*	190.N	250.NS
DATA SETUP TIME (TDS)	22.0N	16.0N	16.0N	50.0NS
DATA HOLD TIME (TDH)	14.0N	16.0N	20.0N	50.0NS
WRITE PULSE WIDTH (TWP)	56.0N	48.0N	38.0N	90.0NS
ADDRESS SETUP TIME (TAS)	48.0N	32.0N	24.0N	70.0NS
ADDRESS HOLD TIME (TAH)	1.00K <*	-4.00N	2.00N	60.0NS
CE TO WRITE TIME (TWS)	56.0N	48.0N	34.0N	70.0NS
MIN READ CYCLE TIME (TRC)	190.N	140.N	115.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	168.N <*	26.0N	24.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	140.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.39 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	4.00NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-269.PA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	538.PA	500.NA
SUPPLY CURRENT (ICC1B0)	8.71UA	1.00MA
SUPPLY CURRENT (ICC1B1)	95.0UA	1.00MA
SUPPLY CURRENT (ICC2B0)	1.64UA	1.00MA
SUPPLY CURRENT (ICC2B1)	87.7UA	1.00MA

<* MEASURED VALUE OUTSIDE SPECIFIED LIMITS

PASSED GALPAT (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	270.N <*	210.N	180.N	250.NS
DATA SETUP TIME (TDS)	28.0N	24.0N	24.0N	50.0NS
DATA HOLD TIME (TDH)	16.0N	20.0N	22.0N	50.0NS
WRITE PULSE WIDTH (TWP)	62.0N	54.0N	52.0N	90.0NS
ADDRESS SETUP TIME (TAS)	30.0N	28.0N	30.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-10.0N	-4.00N	2.00N	60.0NS
CE TO WRITE TIME (TWS)	64.0N	52.0N	48.0N	70.0NS
MIN READ CYCLE TIME (TRC)	210.N	175.N	160.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 92.0N	< 92.0N	< 92.0N	220.NS
OUTPUT ENABLE TIME (TEN)	40.0N	34.0N	30.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	210.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.32 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	255.NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-18.6NA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	45.1NA	500.NA
SUPPLY CURRENT (ICC1B0)	33.8UA	1.00MA
SUPPLY CURRENT (ICC1B1)	108.UA	1.00MA
SUPPLY CURRENT (ICC2B0)	25.5UA	1.00MA
SUPPLY CURRENT (ICC2B1)	90.0UA	1.00MA

<* MEASURED VALUE OUTSIDE SPECIFIED LIMITS

PASSED GALPAT (WIDE LIMITS)
PASSED NOISE IMMUNITY FUNCTIONAL
PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	280.N <*	225.N	195.N	250.NS
DATA SETUP TIME (TDS)	26.0N	24.0N	22.0N	50.0NS
DATA HOLD TIME (TDH)	18.0N	20.0N	26.0N	50.0NS
WRITE PULSE WIDTH (TWP)	72.0N	64.0N	60.0N	90.0NS
ADDRESS SETUP TIME (TAS)	34.0N	32.0N	34.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-10.0N	-4.00N	2.00N	60.0NS
CE TO WRITE TIME (TWS)	72.0N <*	62.0N	54.0N	70.0NS
MIN READ CYCLE TIME (TRC)	230.N	195.N	180.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 104.N	< 104.N	< 104.N	220.NS
OUTPUT ENABLE TIME (TEN)	42.0N	38.0N	34.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	240.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.30 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	670.NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-94.8NA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	107.NA	500.NA
SUPPLY CURRENT (ICC180)	115.UA	1.00MA
SUPPLY CURRENT (ICC181)	197.UA	1.00MA
SUPPLY CURRENT (ICC280)	116.UA	1.00MA
SUPPLY CURRENT (ICC281)	158.UA	1.00MA

<* MEASURED VALUE OUTSIDE SPECIFIED LIMITS

PASSED GALPAT (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	125.N	105.N	95.0N	250.NS
DATA SETUP TIME (TDS)	16.0N	14.0N	14.0N	50.0NS
DATA HOLD TIME (TDH)	12.0N	14.0N	16.0N	50.0NS
WRITE PULSE WIDTH (TWP)	48.0N	44.0N	40.0N	90.0NS
ADDRESS SETUP TIME (TAS)	18.0N	16.0N	18.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-6.00N	-4.00N	2.00N	60.0NS
CE TO WRITE TIME (TWS)	46.0N	40.0N	36.0N	70.0NS
MIN READ CYCLE TIME (TRC)	130.N	115.N	105.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	26.0N	22.0N	20.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	120.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.38 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	770.NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-2.12NA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	2.58NA	500.NA
SUPPLY CURRENT (ICC1B0)	25.9UA	1.00MA
SUPPLY CURRENT (ICC1B1)	102.UA	1.00MA
SUPPLY CURRENT (ICC2B0)	26.4UA	1.00MA
SUPPLY CURRENT (ICC2B1)	100.UA	1.00MA

DEVICE PASSED ALL TESTS

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PASSED GALPAT (WIDE LIMITS)
PASSED NOISE IMMUNITY FUNCTIONAL
PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	125.N	100.N	90.0N	250.NS
DATA SETUP TIME (TDS)	18.0N	12.0N	12.0N	50.0NS
DATA HOLD TIME (TDH)	12.0N	14.0N	16.0N	50.0NS
WRITE PULSE WIDTH (TWP)	46.0N	38.0N	38.0N	90.0NS
ADDRESS SETUP TIME (TAS)	18.0N	16.0N	16.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-6.00N	-2.00N	2.00N	60.0NS
CE TO WRITE TIME (TWS)	44.0N	36.0N	32.0N	70.0NS
MIN READ CYCLE TIME (TRC)	120.N	100.N	100.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	24.0N	22.0N	18.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	100.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.40 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	87.5NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-385.PA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	115.PA	500.NA
SUPPLY CURRENT (ICC1B0)	3.26UA	1.00MA
SUPPLY CURRENT (ICC1B1)	63.8UA	1.00MA
SUPPLY CURRENT (ICC2B0)	3.32UA	1.00MA
SUPPLY CURRENT (ICC2B1)	72.6UA	1.00MA

DEVICE PASSED ALL TESTS

PASSED GALPAT (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	125.N	95.0N	85.0N	250.NS
DATA SETUP TIME (TDS)	14.0N	12.0N	12.0N	50.0NS
DATA HOLD TIME (TDH)	12.0N	14.0N	16.0N	50.0NS
WRITE PULSE WIDTH (TWP)	44.0N	38.0N	32.0N	90.0NS
ADDRESS SETUP TIME (TAS)	18.0N	16.0N	16.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-4.00N	-2.00N	2.00N	60.0NS
CE TO WRITE TIME (TWS)	42.0N	36.0N	28.0N	70.0NS
MIN READ CYCLE TIME (TRC)	115.N	100.N	100.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	22.0N	20.0N	18.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	95.0MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.42 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	32.0NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-38.5PA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	1.58NA	500.NA
SUPPLY CURRENT (ICC1B0)	491.NA	1.00MA
SUPPLY CURRENT (ICC1B1)	58.8UA	1.00MA
SUPPLY CURRENT (ICC2B0)	478.NA	1.00MA
SUPPLY CURRENT (ICC2B1)	68.3UA	1.00MA

DEVICE PASSED ALL TESTS

PASSED GALPAT (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	140.N	120.N	110.N	250.NS
DATA SETUP TIME (TDS)	20.0N	16.0N	16.0N	50.0NS
DATA HOLD TIME (TDH)	12.0N	14.0N	18.0N	50.0NS
WRITE PULSE WIDTH (TWP)	60.0N	54.0N	48.0N	90.0NS
ADDRESS SETUP TIME (TAS)	18.0N	18.0N	18.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-6.00N	-4.00N	0.00	60.0NS
CE TO WRITE TIME (TWS)	58.0N	50.0N	44.0N	70.0NS
MIN READ CYCLE TIME (TRC)	150.N	135.N	125.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	30.0N	26.0N	24.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	140.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.36 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	6.30UA <*	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-38.9NA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	63.0NA	500.NA
SUPPLY CURRENT (ICC180)	209.UA	1.00MA
SUPPLY CURRENT (ICC181)	388.UA	1.00MA
SUPPLY CURRENT (ICC280)	208.UA	1.00MA
SUPPLY CURRENT (ICC281)	304.UA	1.00MA

<* MEASURED VALUE OUTSIDE SPECIFIED LIMITS

PASSED GALPAT (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	170.N	145.N	130.N	250.NS
DATA SETUP TIME (TDS)	20.0N	18.0N	18.0N	50.0NS
DATA HOLD TIME (TDH)	14.0N	16.0N	20.0N	50.0NS
WRITE PULSE WIDTH (TWP)	66.0N	60.0N	54.0N	90.0NS
ADDRESS SETUP TIME (TAS)	20.0N	20.0N	22.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-8.00N	-4.00N	0.00	60.0NS
CE TO WRITE TIME (TWS)	64.0N	58.0N	50.0N	70.0NS
MIN READ CYCLE TIME (TRC)	180.N	155.N	145.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 86.0N	< 86.0N	< 86.0N	220.NS
OUTPUT ENABLE TIME (TEN)	32.0N	28.0N	26.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	160.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.33 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	21.6UA <*	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-240.NA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	263.NA	500.NA
SUPPLY CURRENT (ICC1B0)	727.UA	1.00MA
SUPPLY CURRENT (ICC1B1)	1.13MA <*	1.00MA
SUPPLY CURRENT (ICC2B0)	716.UA	1.00MA
SUPPLY CURRENT (ICC2B1)	838.UA	1.00MA

<* MEASURED VALUE OUTSIDE SPECIFIED LIMITS

PASSED GALPAT (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	160.N	130.N	110.N	250.NS
DATA SETUP TIME (TDS)	20.0N	16.0N	14.0N	50.0NS
DATA HOLD TIME (TDH)	14.0N	18.0N	20.0N	50.0NS
WRITE PULSE WIDTH (TWP)	54.0N	46.0N	40.0N	90.0NS
ADDRESS SETUP TIME (TAS)	24.0N	20.0N	22.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-6.00N	-2.00N	2.00N	60.0NS
CE TO WRITE TIME (TWS)	50.0N	46.0N	38.0N	70.0NS
MIN READ CYCLE TIME (TRC)	155.N	130.N	115.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	30.0N	26.0N	22.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	140.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.37 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	71.5NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-2.81NA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	3.08NA	500.NA
SUPPLY CURRENT (ICC1B0)	3.36UA	1.00MA
SUPPLY CURRENT (ICC1B1)	4.37UA	1.00MA
SUPPLY CURRENT (ICC2B0)	146.UA	1.00MA
SUPPLY CURRENT (ICC2B1)	146.UA	1.00MA

DEVICE PASSED ALL TESTS

PASSED GALPAT (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	170.N	130.N	110.N	250.NS
DATA SETUP TIME (TDS)	20.0N	14.0N	12.0N	50.0NS
DATA HOLD TIME (TDH)	14.0N	18.0N	22.0N	50.0NS
WRITE PULSE WIDTH (TWP)	46.0N	46.0N	38.0N	90.0NS
ADDRESS SETUP TIME (TAS)	26.0N	20.0N	20.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-6.00N	-2.00N	2.00N	60.0NS
CE TO WRITE TIME (TWS)	50.0N	44.0N	38.0N	70.0NS
MIN READ CYCLE TIME (TRC)	145.N	120.N	105.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	28.0N	24.0N	20.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	125.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.39 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	5.00NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-192.PA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	269.PA	500.NA
SUPPLY CURRENT (ICC1B0)	551.NA	1.00MA
SUPPLY CURRENT (ICC1B1)	638.NA	1.00MA
SUPPLY CURRENT (ICC2B0)	132.UA	1.00MA
SUPPLY CURRENT (ICC2B1)	132.UA	1.00MA

DEVICE PASSED ALL TESTS

RCA MWS5001 1K CMOS STATIC RAM 08 OCT 77 TEMP: -55 C SN: 5

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PASSED GALPAT (WIDE LIMITS)
PASSED NOISE IMMUNITY FUNCTIONAL
PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	180.N	130.N	110.N	250.NS
DATA SETUP TIME (TDS)	16.0N	14.0N	12.0N	50.0NS
DATA HOLD TIME (TDH)	14.0N	18.0N	20.0N	50.0NS
WRITE PULSE WIDTH (TWP)	50.0N	42.0N	40.0N	90.0NS
ADDRESS SETUP TIME (TAS)	32.0N	22.0N	20.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-6.00N	0.00	4.00N	60.0NS
CE TO WRITE TIME (TWS)	52.0N	40.0N	36.0N	70.0NS
MIN READ CYCLE TIME (TRC)	150.N	115.N	100.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 80.0N	< 80.0N	< 80.0N	220.NS
OUTPUT ENABLE TIME (TEN)	26.0N	22.0N	20.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	115.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.41 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	13.5NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-692.PA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	3.35NA	500.NA
SUPPLY CURRENT (ICC180)	259.NA	1.00MA
SUPPLY CURRENT (ICC181)	271.NA	1.00MA
SUPPLY CURRENT (ICC280)	123.UA	1.00MA
SUPPLY CURRENT (ICC281)	123.UA	1.00MA

DEVICE PASSED ALL TESTS

RCA MWS5001 1K CMOS STATIC RAM 08 OCT 77 TEMP: 85 C SN: 5

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PASSED GALPAT (WIDE LIMITS)
PASSED NOISE IMMUNITY FUNCTIONAL
PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	155.N	135.N	120.N	250.NS
DATA SETUP TIME (TDS)	20.0N	16.0N	16.0N	50.0NS
DATA HOLD TIME (TDH)	14.0N	18.0N	22.0N	50.0NS
WRITE PULSE WIDTH (TWP)	62.0N	54.0N	48.0N	90.0NS
ADDRESS SETUP TIME (TAS)	24.0N	22.0N	24.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-6.00N	-2.00N	2.00N	60.0NS
CE TO WRITE TIME (TWS)	60.0N	52.0N	46.0N	70.0NS
MIN READ CYCLE TIME (TRC)	160.N	140.N	125.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 82.0N	< 82.0N	< 82.0N	220.NS
OUTPUT ENABLE TIME (TEN)	32.0N	28.0N	24.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

		DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)		165.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)		4.35 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)		947.NA	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)		-55.0NA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)		55.9NA	500.NA
SUPPLY CURRENT (ICC1B0)		45.8UA	1.00MA
SUPPLY CURRENT (ICC1B1)		55.8UA	1.00MA
SUPPLY CURRENT (ICC2B0)		205.UA	1.00MA
SUPPLY CURRENT (ICC2B1)		198.UA	1.00MA

DEVICE PASSED ALL TESTS

PASSED GALPAT (WIDE LIMITS)
 PASSED NOISE IMMUNITY FUNCTIONAL
 PASSED GALPAT (TIGHT LIMIT)

	VCC = 4.5V	5.0V	5.5V	LIMIT
ADDRESS ACCESS TIME (TAA)	180.N	150.N	135.N	250.NS
DATA SETUP TIME (TDS)	20.0N	18.0N	18.0N	50.0NS
DATA HOLD TIME (TDH)	16.0N	18.0N	22.0N	50.0NS
WRITE PULSE WIDTH (TWP)	66.0N	60.0N	54.0N	90.0NS
ADDRESS SETUP TIME (TAS)	28.0N	26.0N	28.0N	70.0NS
ADDRESS HOLD TIME (TAH)	-8.00N	-4.00N	2.00N	60.0NS
CE TO WRITE TIME (TWS)	64.0N	58.0N	50.0N	70.0NS
MIN READ CYCLE TIME (TRC)	175.N	155.N	145.N	250.NS
MIN WRITE CYCLE TIME (TWC)	< 92.0N	< 92.0N	< 92.0N	220.NS
OUTPUT ENABLE TIME (TEN)	34.0N	30.0N	26.0N	60.0NS

DC PARAMETRIC MEASUREMENTS :

	DATA	LIMIT
OUTPUT VOLTAGE LOW (VOL)	185.MV	400.MV
OUTPUT VOLTAGE HIGH (VOH)	4.32 V	3.60 V
OUTPUT LEAKAGE CURRENT (IOL)	4.56UA <*	1.00UA
AVERAGE INPUT CURRENT LOW (IIL)	-330.NA	500.NA
AVERAGE INPUT CURRENT HIGH (IIH)	339.NA	500.NA
SUPPLY CURRENT (ICC1B0)	240.UA	1.00MA
SUPPLY CURRENT (ICC1B1)	274.UA	1.00MA
SUPPLY CURRENT (ICC2B0)	421.UA	1.00MA
SUPPLY CURRENT (ICC2B1)	372.UA	1.00MA

<* MEASURED VALUE OUTSIDE SPECIFIED LIMITS

AC PARAMETER VERSUS SUPPLY VOLTAGE AND
SUPPLY CURRENT VERSUS CYCLE TIME

~~PREVIOUS~~ PAGE BLANK NOT FILMED

PASSED GALPAT (WIDE LIMITS)

VCC VS. ADDRESS ACCESS TIME

	50	150	250	350	450	550
4.50		*				
4.60		*				
4.70		*				
4.80		*				
4.90		*				
5.00		*				
5.10		*				
5.20		*				
5.30		*				
5.40		*				
5.50		*				

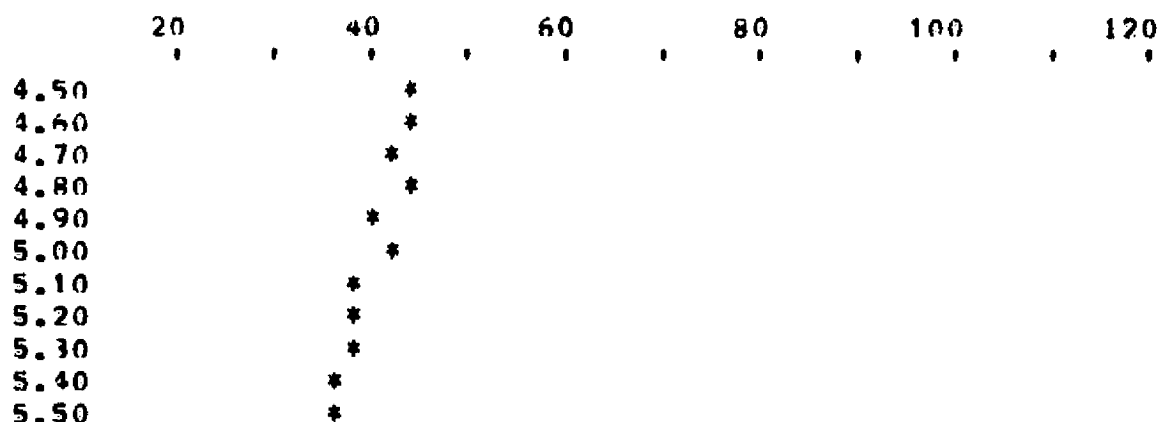
VCC VS. DATA SETUP TIME

	0	20	40
4.50		*	
4.60		*	
4.70		*	
4.80		*	
4.90		*	
5.00		*	
5.10		*	
5.20		*	
5.30		*	
5.40		*	
5.50		*	

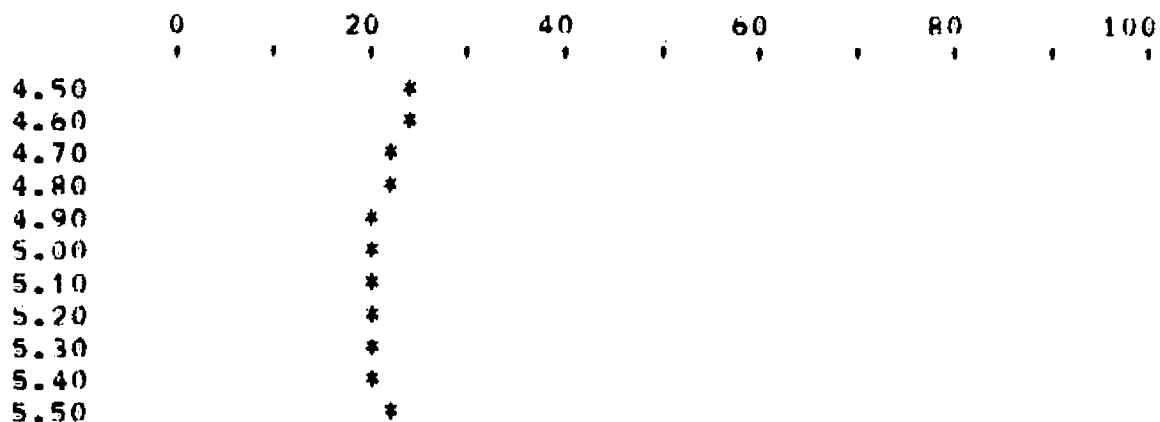
VCC VS. DATA HOLD TIME

	0	20	40
4.50		*	
4.60		*	
4.70		*	
4.80		*	
4.90		*	
5.00		*	
5.10		*	
5.20		*	
5.30		*	
5.40		*	
5.50		*	

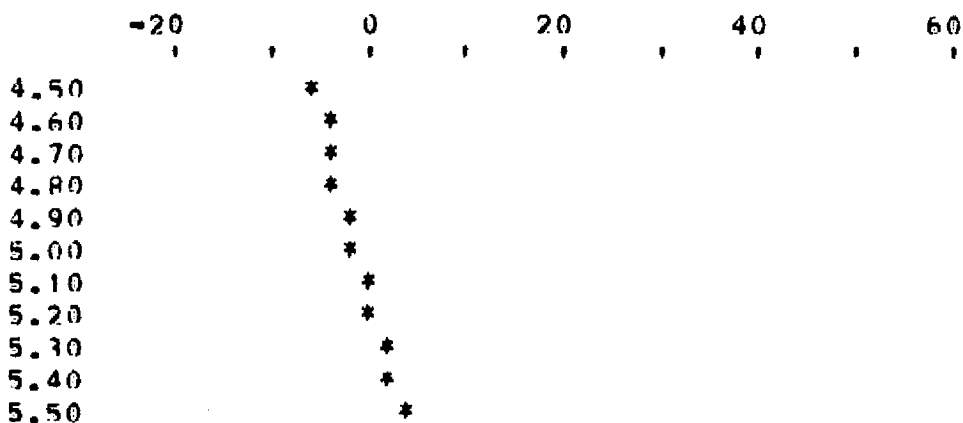
VCC VS. WRITE PULSE WIDTH



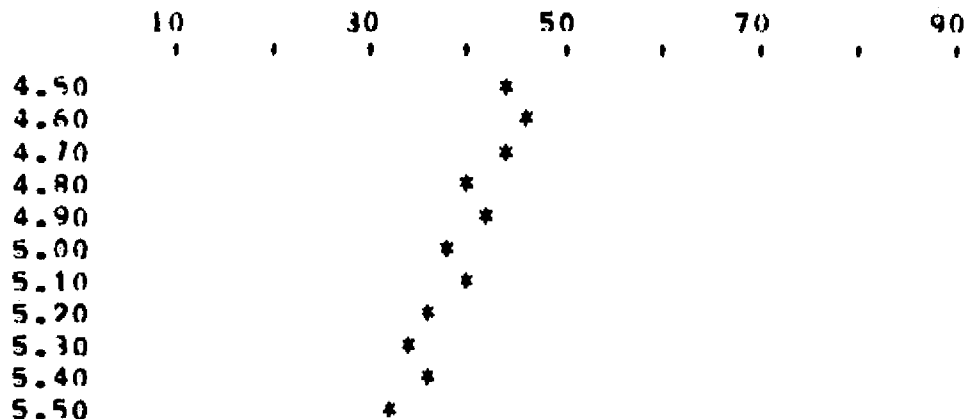
VCC VS. ADDRESS SETUP TIME



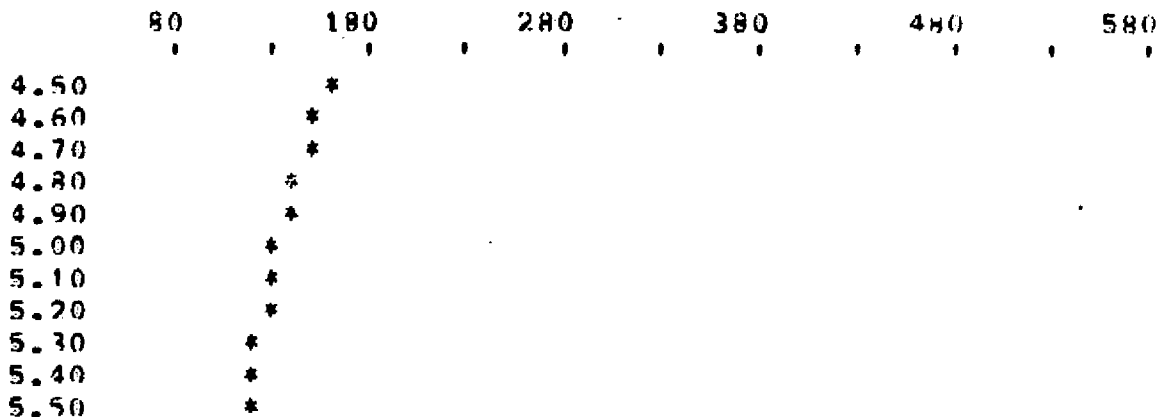
VCC VS. ADDRESS HOLD TIME



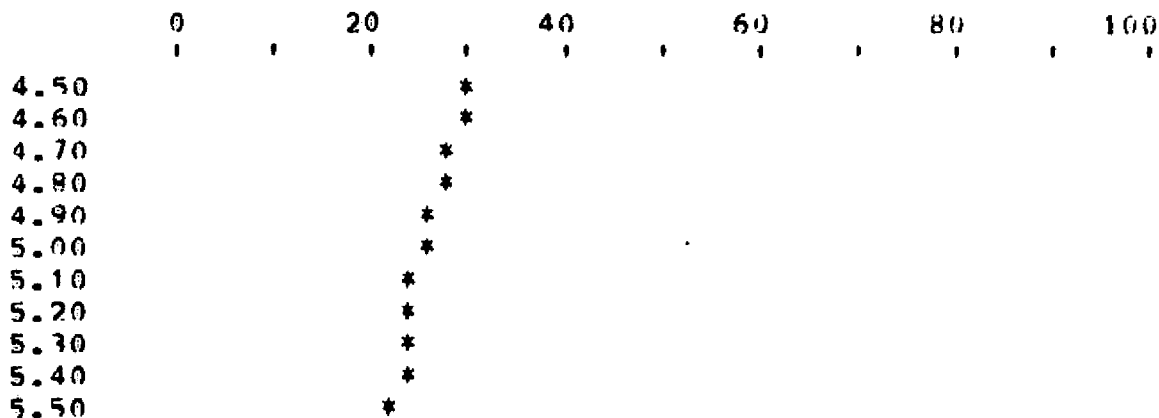
VCC VS. CE TO WRITE TIME



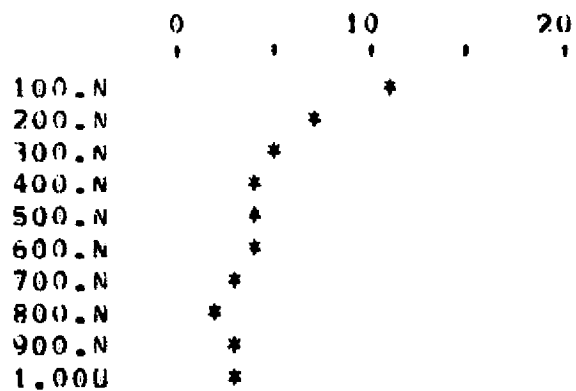
VCC VS. MIN READ CYCLE TIME



VCC VS. OUTPUT ENABLE TIME



ICC VS. CYCLE TIME



PASSED GALPAT (WIDE LIMITS)

VCC VS. ADDRESS ACCESS TIME

	50	150	250	350	450	550
4.50						
4.60						
4.70						
4.80						
4.90						
5.00						
5.10						
5.20						
5.30						
5.40						
5.50						

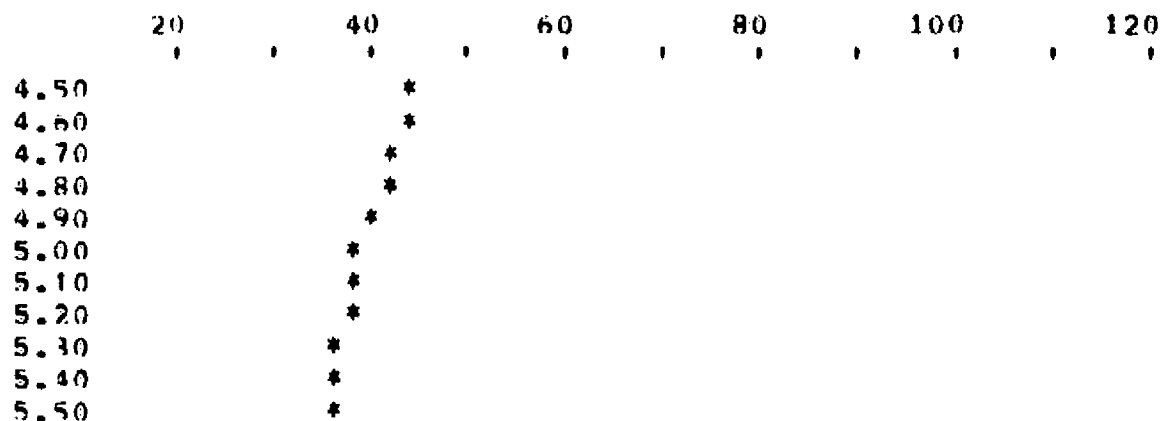
VCC VS. DATA SETUP TIME

	0	20	40
4.50			
4.60			
4.70			
4.80			
4.90			
5.00			
5.10			
5.20			
5.30			
5.40			
5.50			

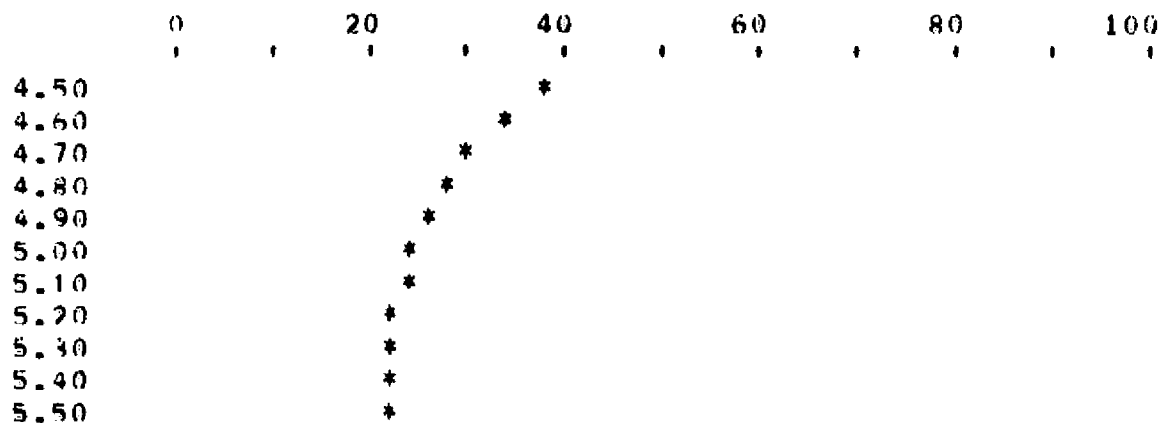
VCC VS. DATA HOLD TIME

	0	20	40
4.50			
4.60			
4.70			
4.80			
4.90			
5.00			
5.10			
5.20			
5.30			
5.40			
5.50			

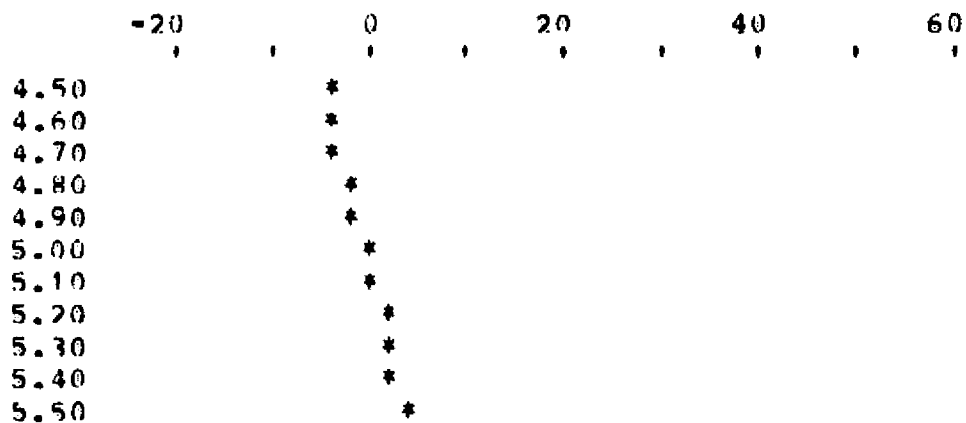
VCC VS. WRITE PULSE WIDTH



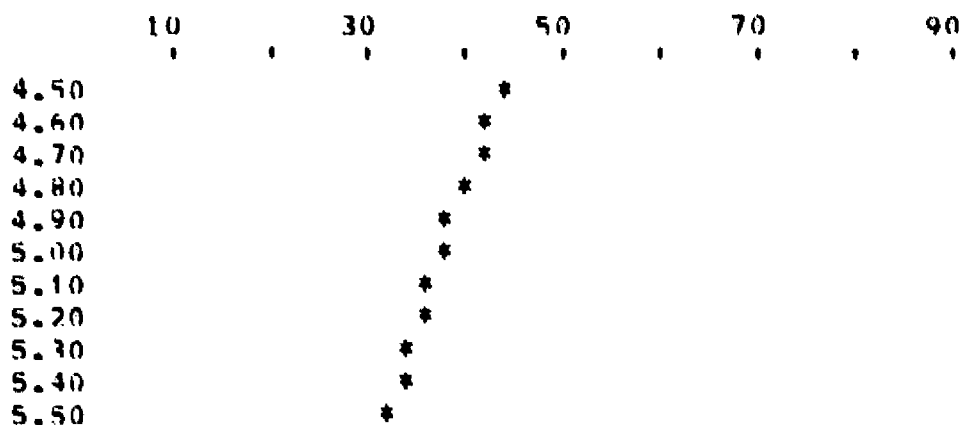
VCC VS. ADDRESS SETUP TIME



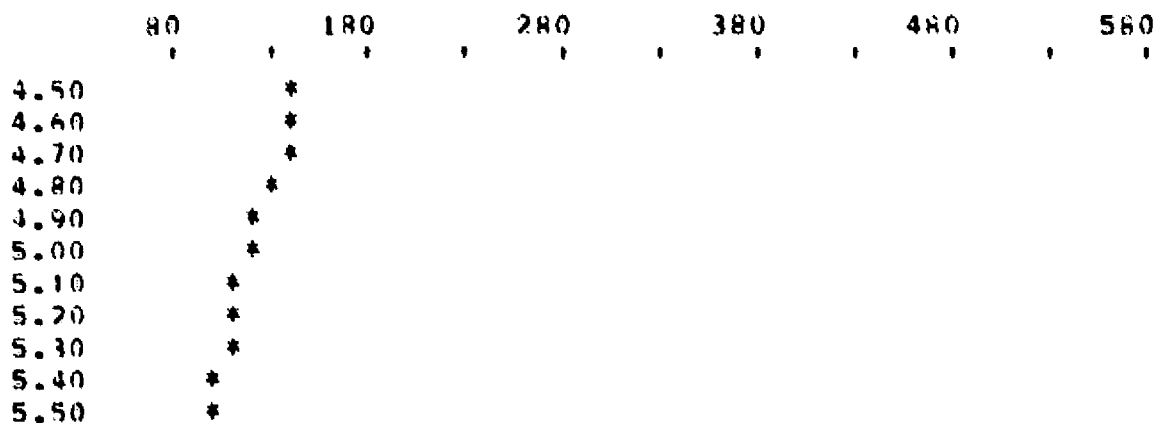
VCC VS. ADDRESS HOLD TIME



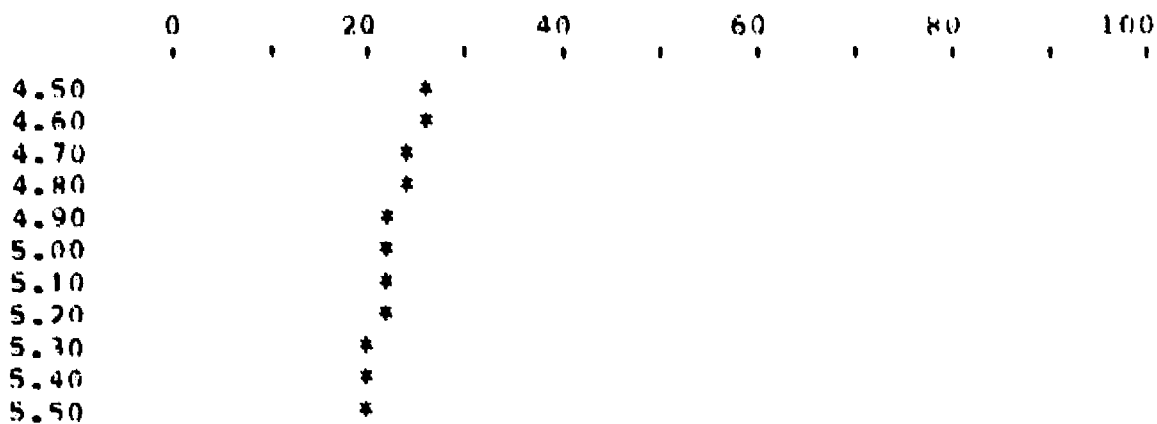
VCC VS. CE TO WRITE TIME



VCC VS. MIN READ CYCLE TIME



VCC VS. OUTPUT ENABLE TIME

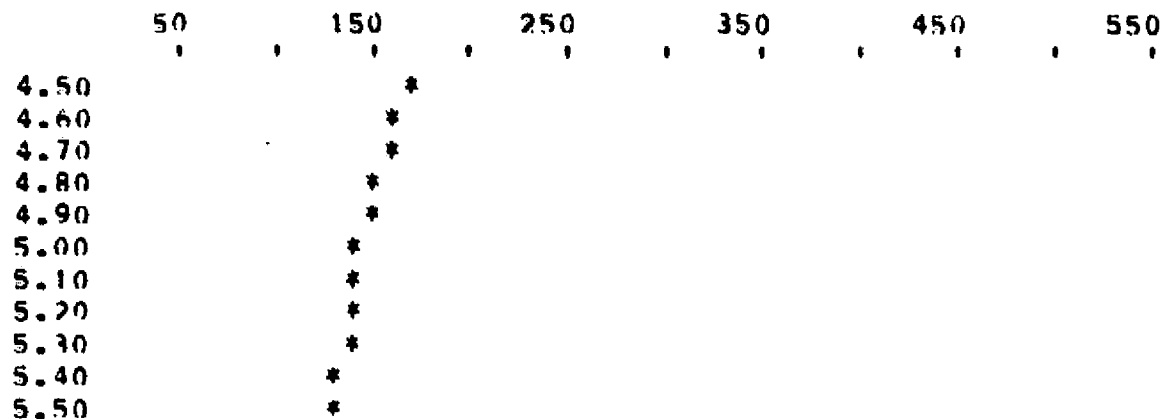


ICC VS. CYCLE TIME

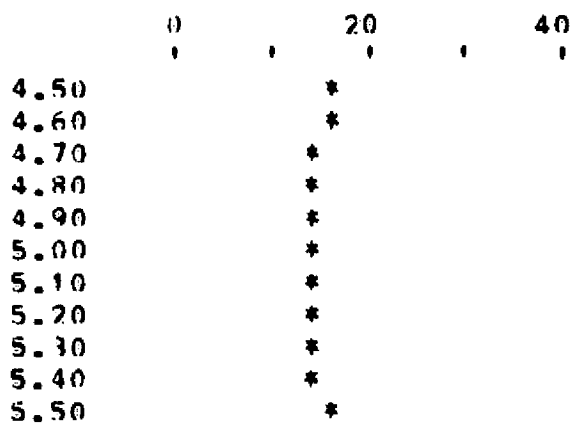
	0	10	20
100.N	*		*
200.N		*	
300.N		*	
400.N	*		
500.N	*		
600.N	*		
700.N	*		
800.N	*		
900.N	*		
1.000U	*		

PASSED GALPAT (WIDE LIMITS)

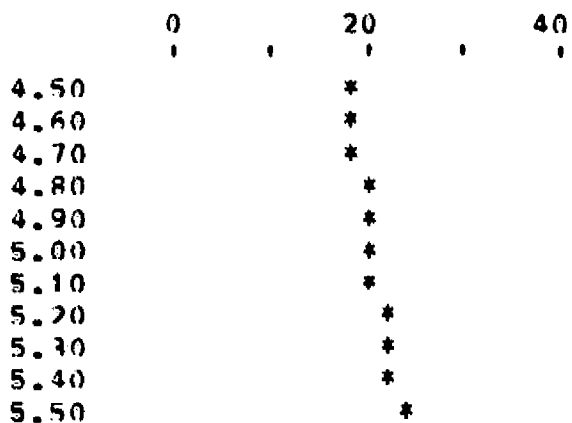
VCC VS. ADDRESS ACCESS TIME



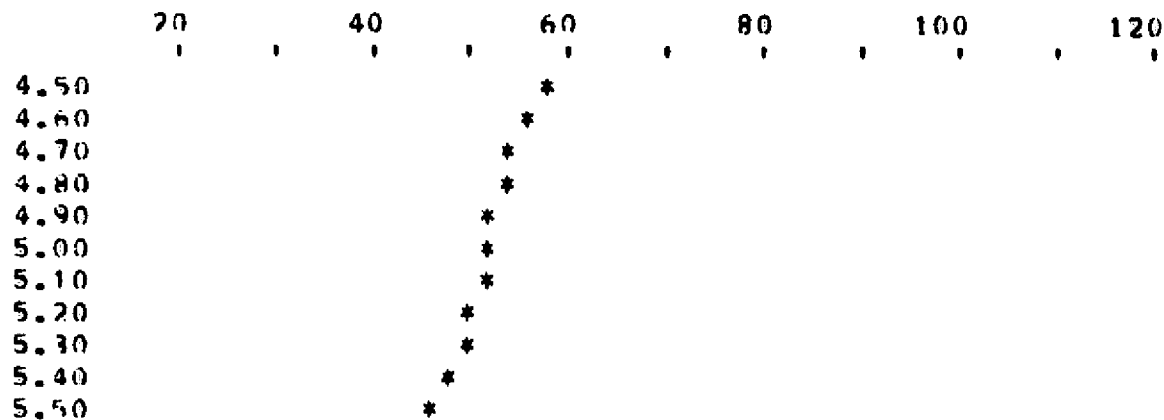
VCC VS. DATA SETUP TIME



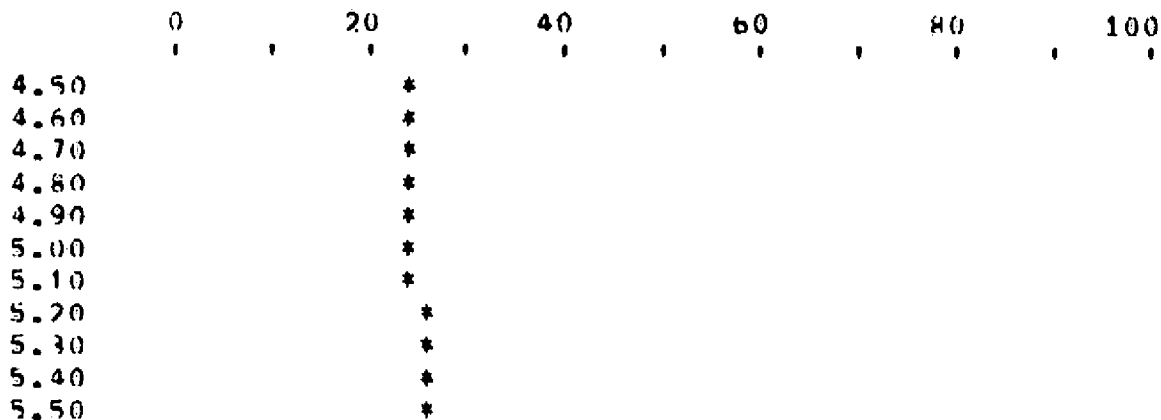
VCC VS. DATA HOLD TIME



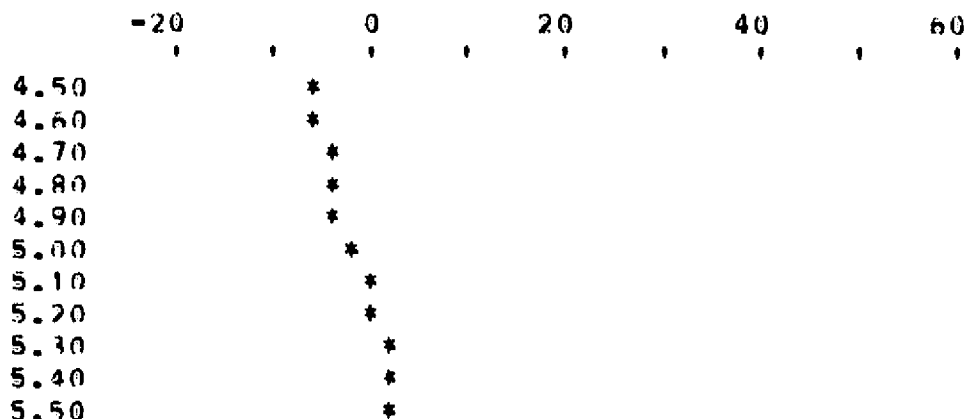
VCC VS. WRITE PULSE WIDTH



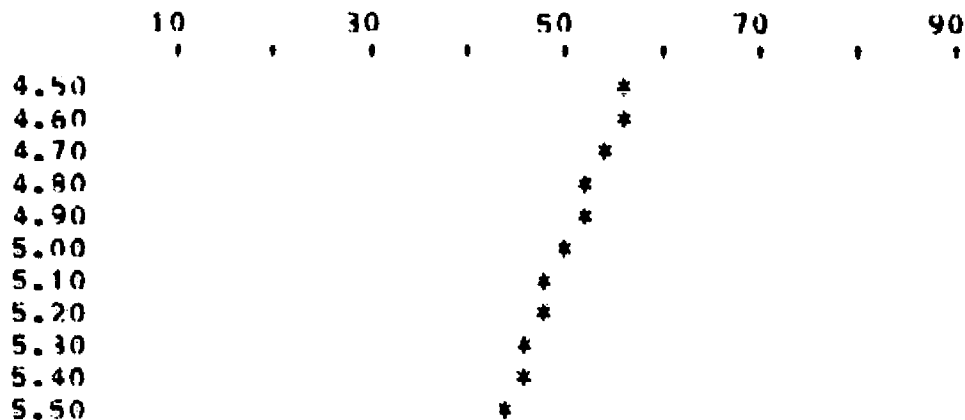
VCC VS. ADDRESS SETUP TIME



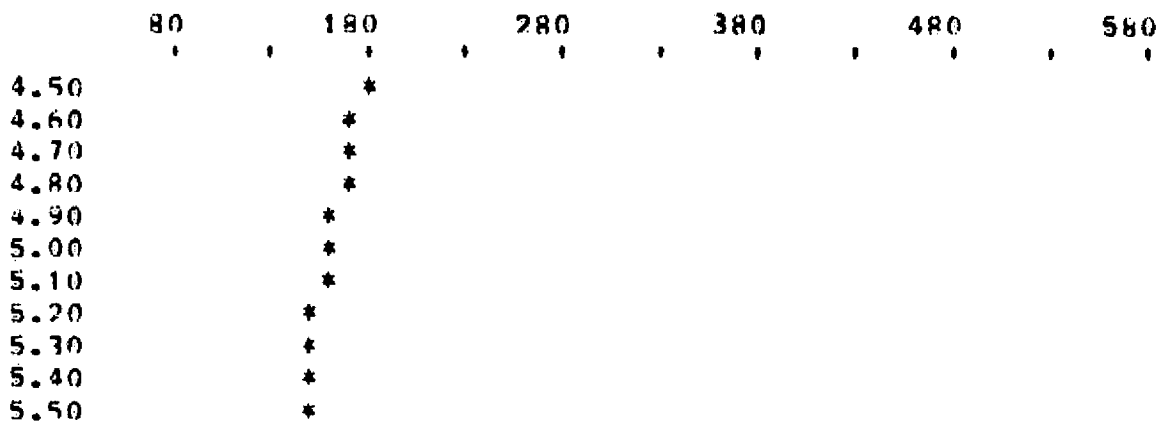
VCC VS. ADDRESS HOLD TIME



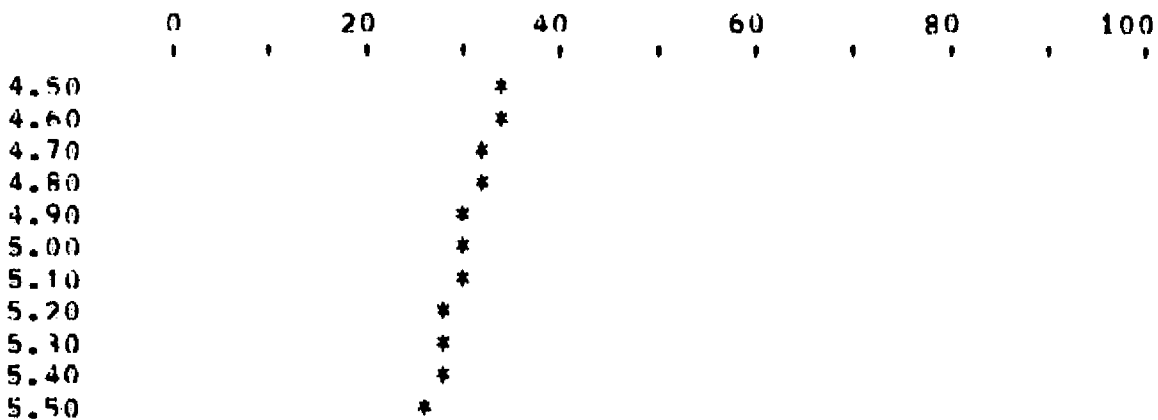
VCC VS. CE TO WRITE TIME



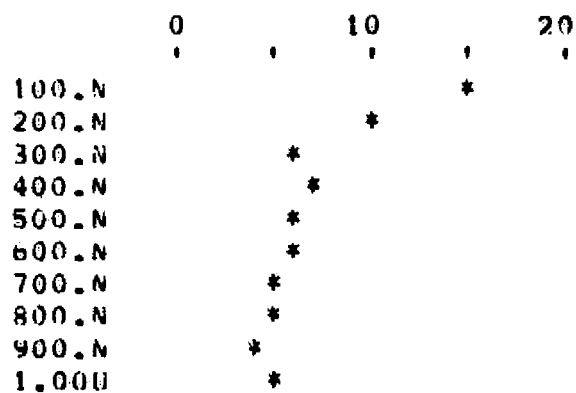
VCC VS. MIN READ CYCLE TIME



VCC VS. OUTPUT ENABLE TIME



ICC VS. CYCLE TIME



PASSED GALPAT (WIDE LIMITS)

VCC VS. ADDRESS ACCESS TIME

	50	150	250	350	450	550
4.50	*					
4.60	*					
4.70	*					
4.80	*					
4.90	*					
5.00	*					
5.10	*					
5.20	*					
5.30	*					
5.40	*					
5.50	*					

VCC VS. DATA SETUP TIME

	0	20	40
4.50	*		
4.60	*		
4.70	*		
4.80	*		
4.90	*		
5.00	*		
5.10	*		
5.20	*		
5.30	*		
5.40	*		
5.50	*		

VCC VS. DATA HOLD TIME

	0	20	40
4.50	*		
4.60	*		
4.70	*		
4.80	*		
4.90	*		
5.00	*		
5.10	*		
5.20	*		
5.30	*		
5.40	*		
5.50	*		

VCC VS. WRITE PULSE WIDTH

	20	40	60	80	100	120
4.50			*			
4.60		*				
4.70		*				
4.80		*				
4.90		*				
5.00		*				
5.10		*				
5.20		*				
5.30		*				
5.40		*				
5.50		*				

VCC VS. ADDRESS SETUP TIME

	0	20	40	60	80	100
4.50		*				
4.60		*				
4.70		*				
4.80		*				
4.90		*				
5.00		*				
5.10		*				
5.20		*				
5.30		*				
5.40		*				
5.50		*				

VCC VS. ADDRESS HOLD TIME

	-20	0	20	40	60
4.50		*			
4.60		*			
4.70		*			
4.80		*			
4.90		*			
5.00		*			
5.10		*			
5.20		*			
5.30		*			
5.40		*			
5.50		*			

VCC VS. CE TO WRITE TIME

	10	30	50	70	90
4.50			*		
4.60			*		
4.70			*		
4.80			*		
4.90			*		
5.00			*		
5.10			*		
5.20		*			
5.30		*			
5.40		*			
5.50		*			

VCC VS. MIN READ CYCLE TIME

	80	180	280	380	480	580
4.50		*				
4.60		*				
4.70		*				
4.80		*				
4.90		*				
5.00	*					
5.10	*					
5.20	*					
5.30	*					
5.40	*					
5.50	*					

VCC VS. OUTPUT ENABLE TIME

	0	20	40	60	80	100
4.50			*			
4.60		*				
4.70		*				
4.80		*				
4.90		*				
5.00		*				
5.10		*				
5.20		*				
5.30		*				
5.40		*				
5.50		*				

ICC VS. CYCLE TIME

	0	10	20
	1	1	1
100.N			*
200.N		*	
300.N		*	
400.N		*	
500.N		*	
600.N		*	
700.N		*	
800.N		*	
900.N		*	
1.000		*	

PASSED GALPAT (WIDE LIMITS)

VCC VS. ADDRESS ACCESS TIME

	50	150	250	350	450	550
4.50	*					
4.60	*					
4.70	*					
4.80	*					
4.90	*					
5.00	*					
5.10	*					
5.20	*					
5.30	*					
5.40	*					
5.50	*					

VCC VS. DATA SETUP TIME

	0	20	40
4.50	*		
4.60	*		
4.70	*		
4.80	*		
4.90	*		
5.00	*		
5.10	*		
5.20	*		
5.30	*		
5.40	*		
5.50	*		

VCC VS. DATA HOLD TIME

	0	20	40
4.50	*		
4.60	*		
4.70	*		
4.80	*		
4.90	*		
5.00	*		
5.10	*		
5.20	*		
5.30	*		
5.40	*		
5.50	*		

VCC VS. WRITE PULSE WIDTH

	20	40	60	80	100	120
4.50		*				
4.60		*				
4.70		*				
4.80		*				
4.90		*				
5.00		*				
5.10	*					
5.20		*				
5.30	*					
5.40		*				
5.50		*				

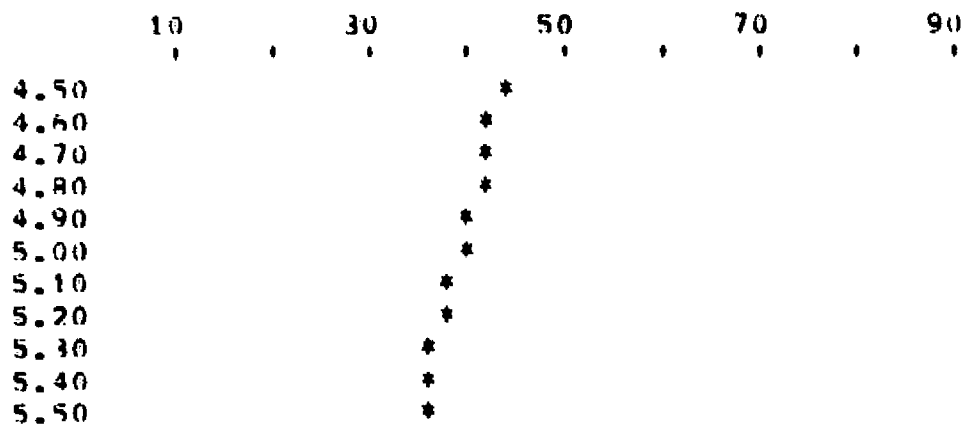
VCC VS. ADDRESS SETUP TIME

	0	20	40	60	80	100
4.50		*				
4.60		*				
4.70		*				
4.80		*				
4.90		*				
5.00		*				
5.10		*				
5.20		*				
5.30		*				
5.40		*				
5.50		*				

VCC VS. ADDRESS HOLD TIME

	-20	0	20	40	60
4.50		*			
4.60		*			
4.70		*			
4.80		*			
4.90		*			
5.00		*			
5.10		*			
5.20		*			
5.30		*			
5.40		*			
5.50		*			

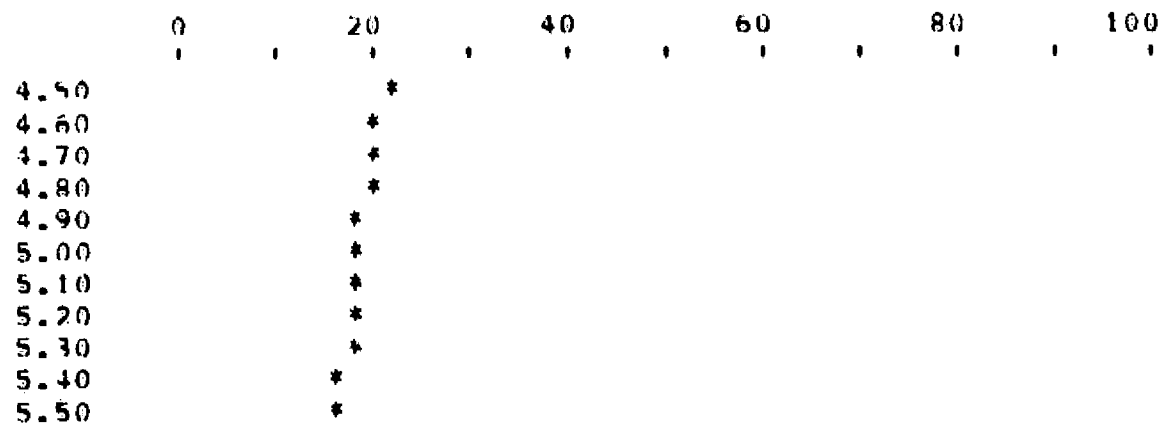
VCC VS. CE TO WRITE TIME



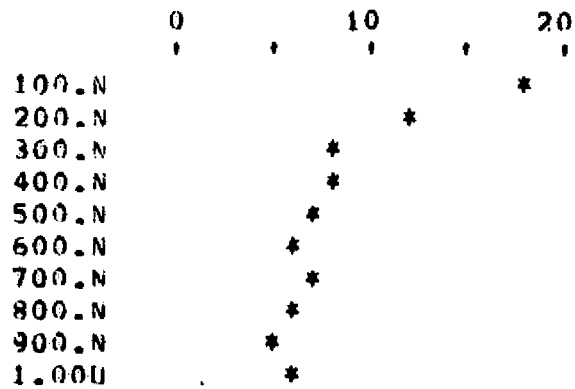
VCC VS. MIN READ CYCLE TIME



VCC VS. OUTPUT ENABLE TIME



ICC VS. CYCLE TIME



PASSED GALPAT (WIDE LIMITS)

VCC VS. ADDRESS ACCESS TIME

	50	150	250	350	450	550
4.50		*				
4.60		*				
4.70		*				
4.80		*				
4.90		*				
5.00		*				
5.10		*				
5.20		*				
5.30		*				
5.40		*				
5.50		*				

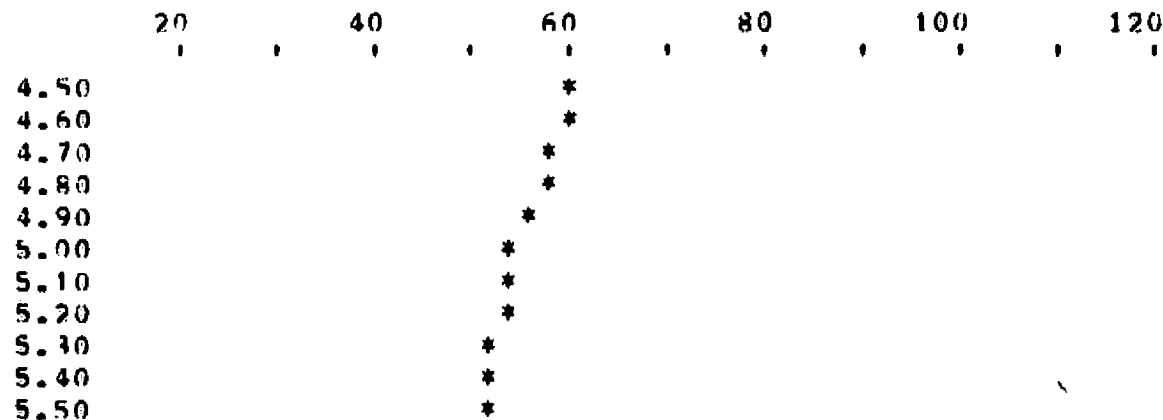
VCC VS. DATA SETUP TIME

	0	20	40
4.50		*	
4.60		*	
4.70		*	
4.80		*	
4.90		*	
5.00		*	
5.10		*	
5.20		*	
5.30		*	
5.40		*	
5.50		*	

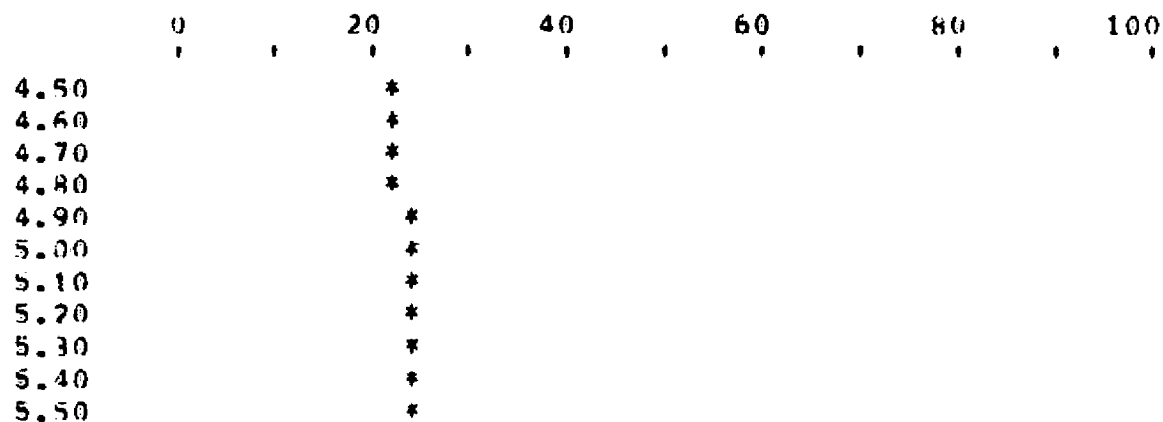
VCC VS. DATA HOLD TIME

	0	20	40
4.50		*	
4.60		*	
4.70		*	
4.80		*	
4.90		*	
5.00		*	
5.10		*	
5.20		*	
5.30		*	
5.40		*	
5.50		*	

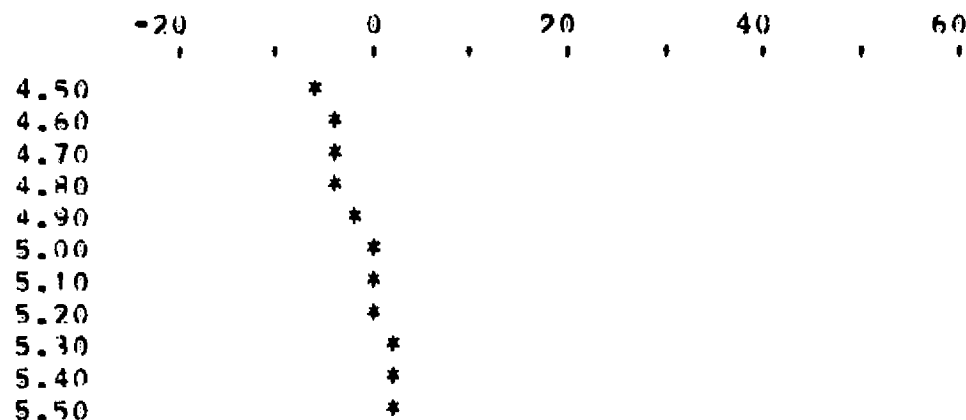
VCC VS. WRITE PULSE WIDTH



VCC VS. ADDRESS SETUP TIME



VCC VS. ADDRESS HOLD TIME



VCC VS. CE TO WRITE TIME

	10	30	50	70	90
4.50				*	
4.60				*	
4.70				*	
4.80				*	
4.90				*	
5.00			*		
5.10			*		
5.20			*		
5.30			*		
5.40			*		
5.50			*		

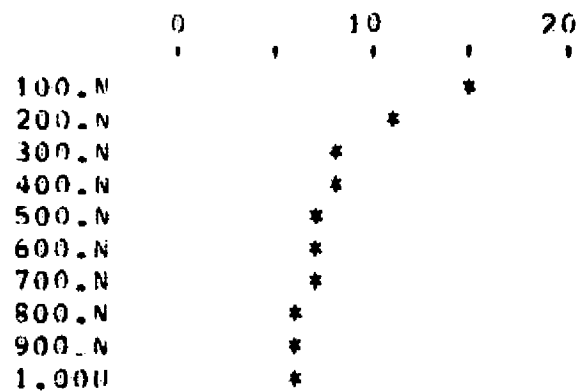
VCC VS. MIN READ CYCLE TIME

	80	180	280	380	480	580
4.50		*				
4.60		*				
4.70		*				
4.80		*				
4.90		*				
5.00		*				
5.10		*				
5.20		*				
5.30		*				
5.40		*				
5.50	*					

VCC VS. OUTPUT ENABLE TIME

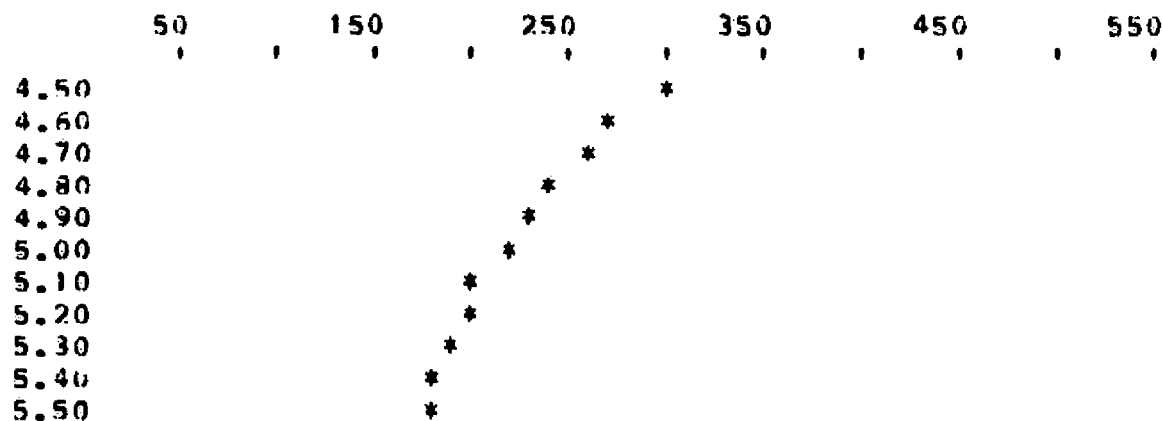
	0	20	40	60	80	100
4.50			*			
4.60			*			
4.70			*			
4.80			*			
4.90			*			
5.00			*			
5.10			*			
5.20			*			
5.30			*			
5.40		*				
5.50		*				

ICC VS. CYCLE TIME

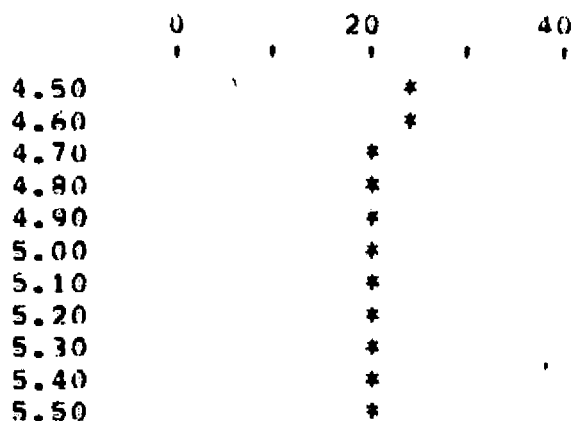


PASSED GALPAT (WIDE LIMITS)

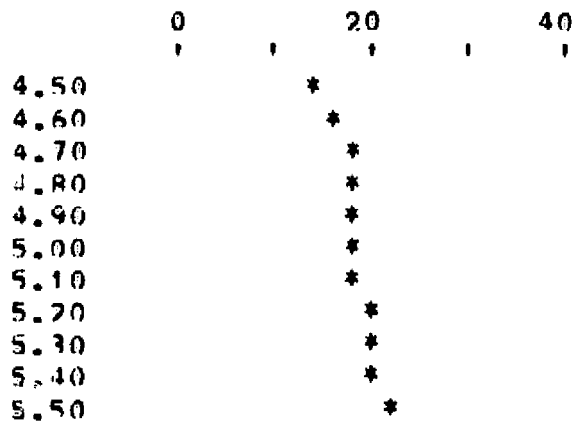
VCC VS. ADDRESS ACCESS TIME



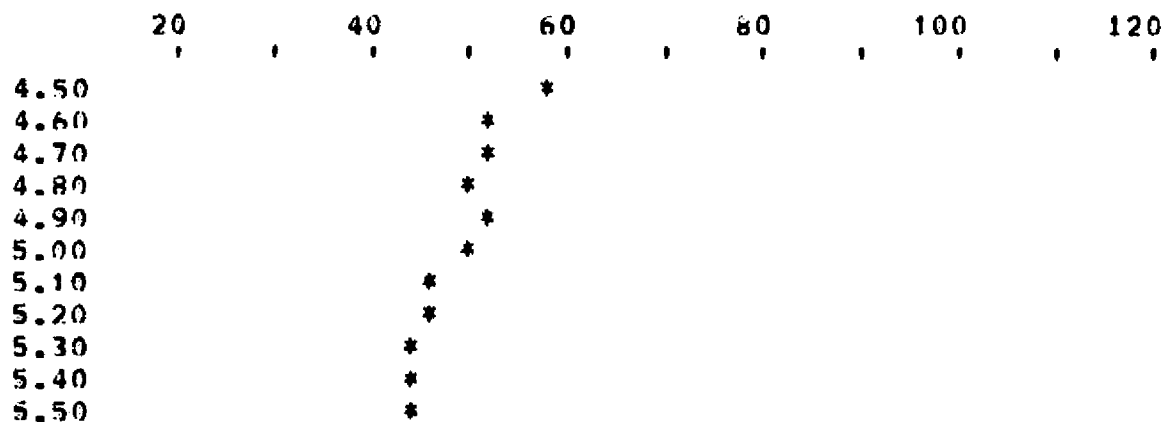
VCC VS. DATA SETUP TIME



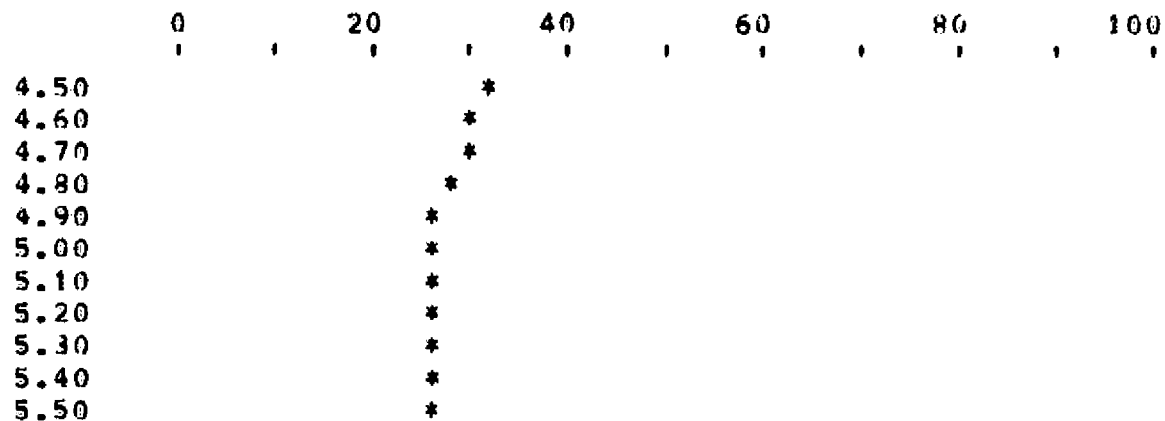
VCC VS. DATA HOLD TIME



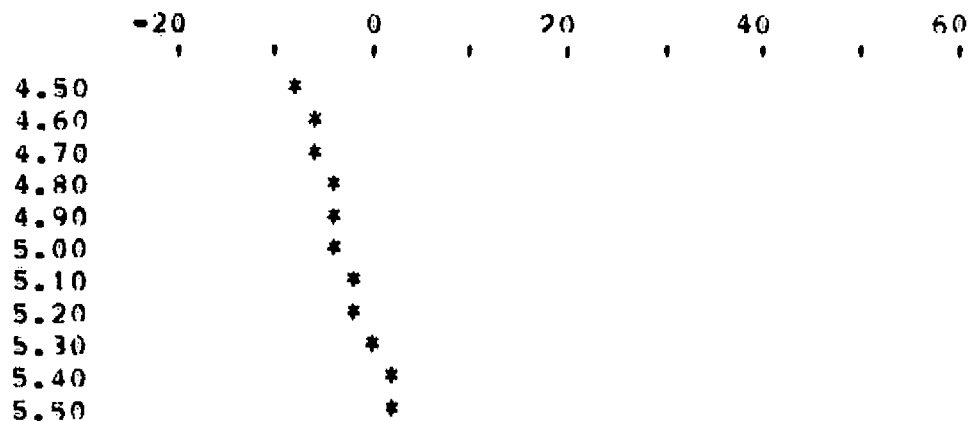
VCC VS. WRITE PULSE WIDTH



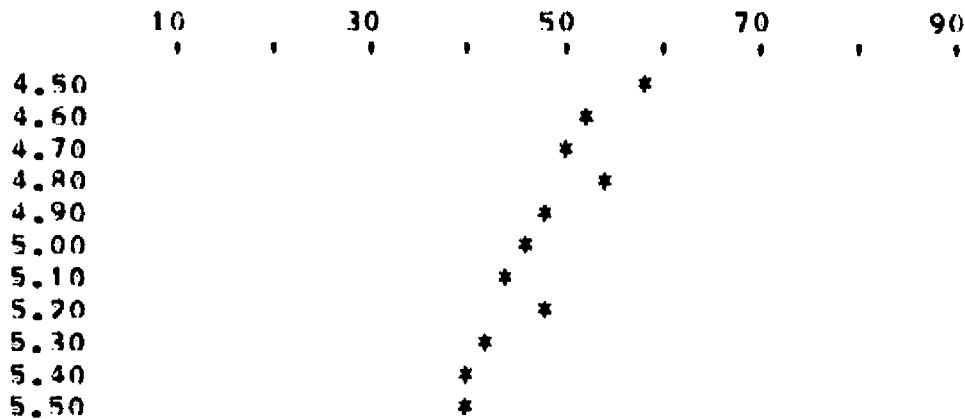
VCC VS. ADDRESS SETUP TIME



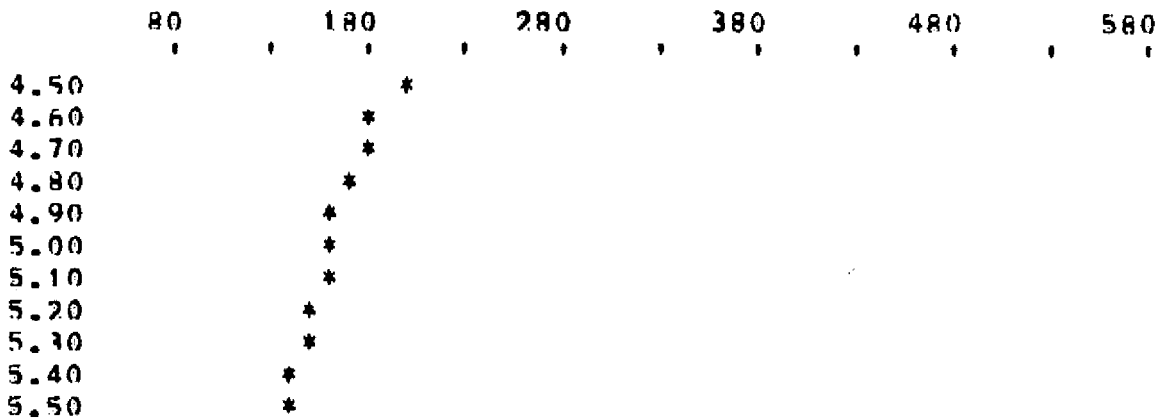
VCC VS. ADDRESS HOLD TIME



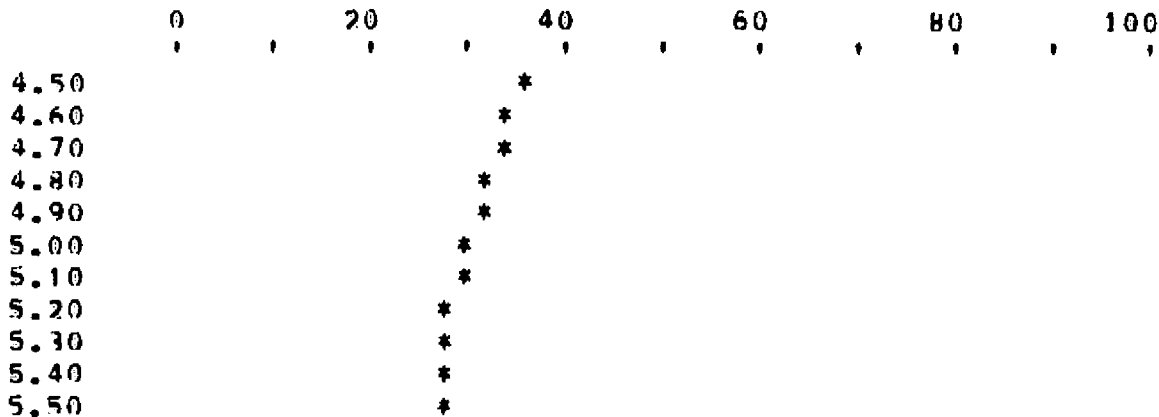
VCC VS. CE TO WRITE TIME



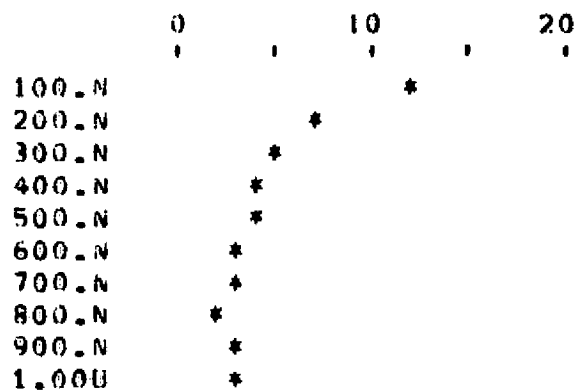
VCC VS. MIN READ CYCLE TIME



VCC VS. OUTPUT ENABLE TIME

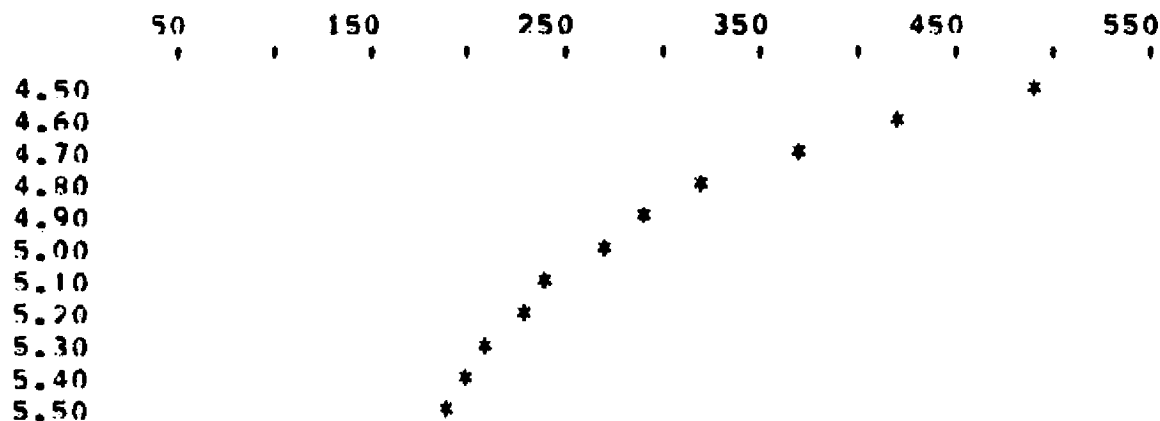


ICC VS. CYCLE TIME

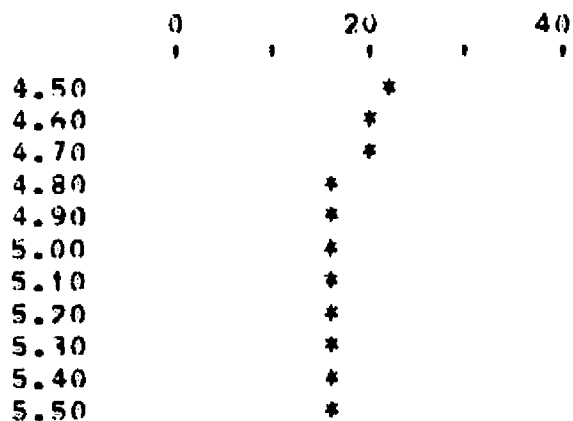


PASSED GALPAT (WIDE LIMITS)

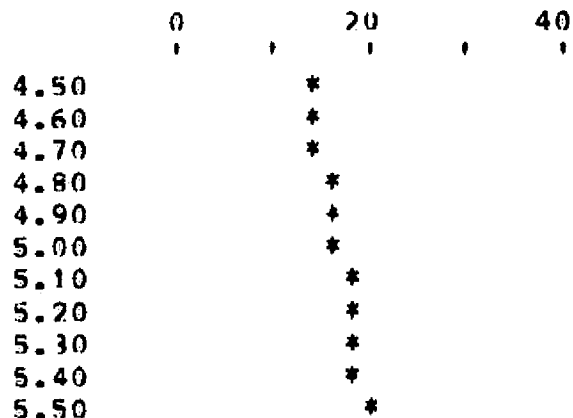
VCC VS. ADDRESS ACCESS TIME



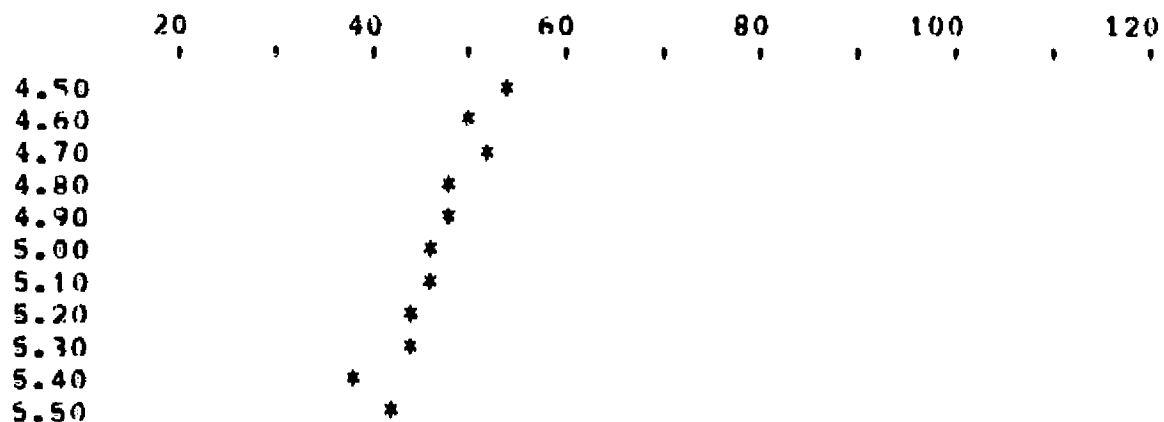
VCC VS. DATA SETUP TIME



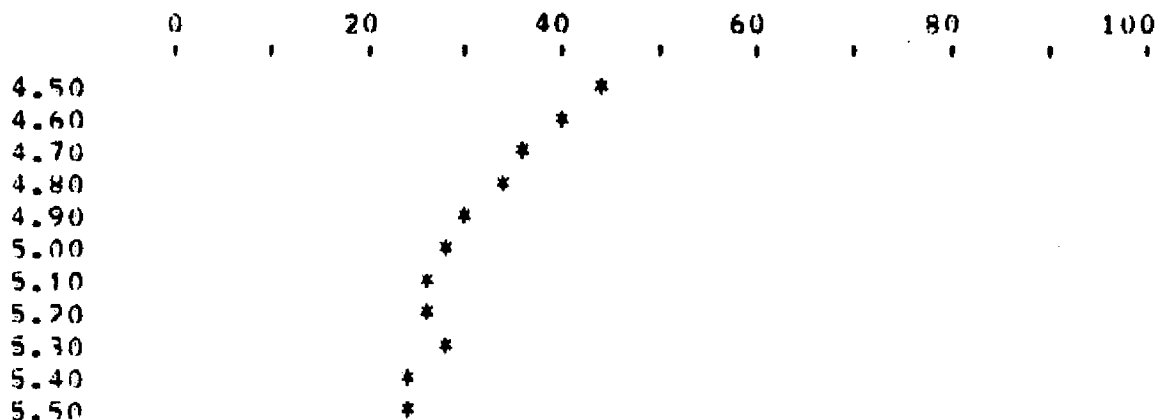
VCC VS. DATA HOLD TIME



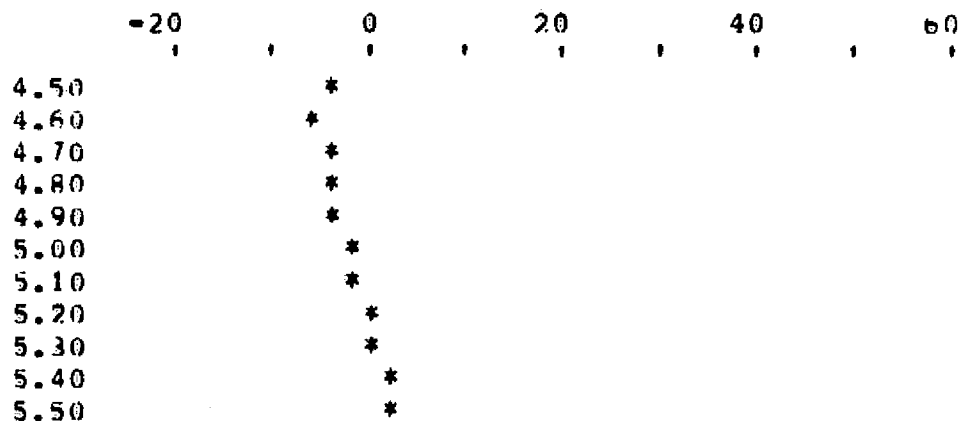
VCC VS. WRITE PULSE WIDTH



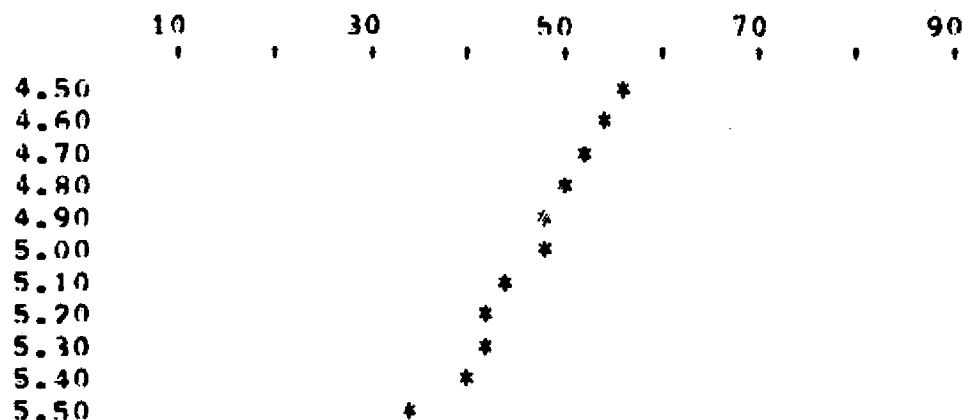
VCC VS. ADDRESS SETUP TIME



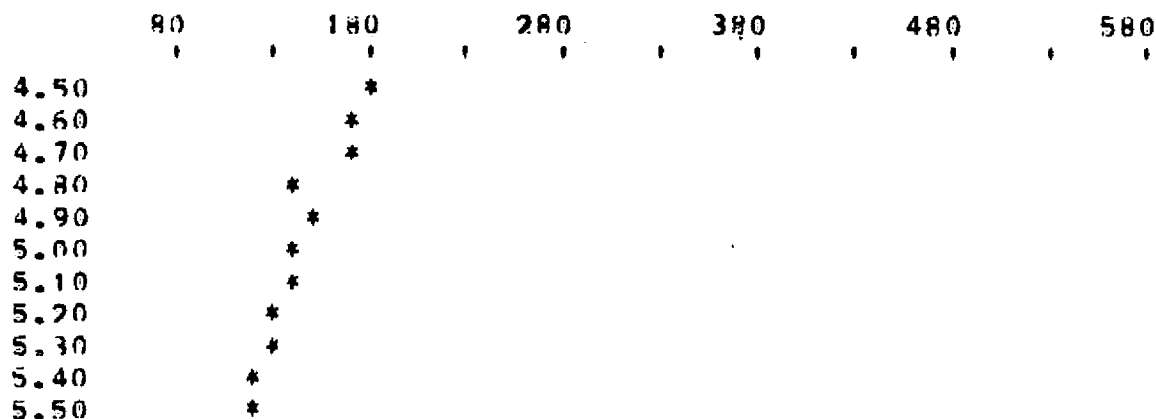
VCC VS. ADDRESS HOLD TIME



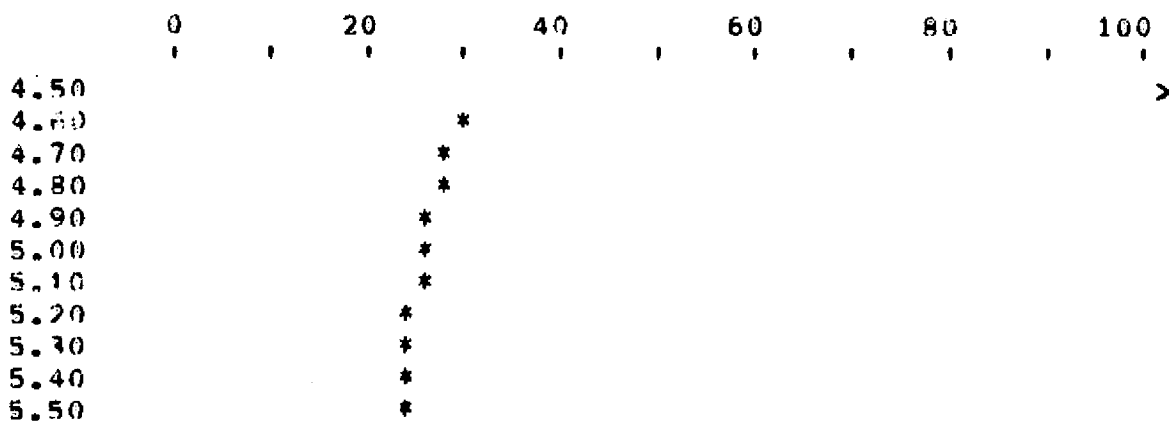
VCC VS. CE TO WRITE TIME



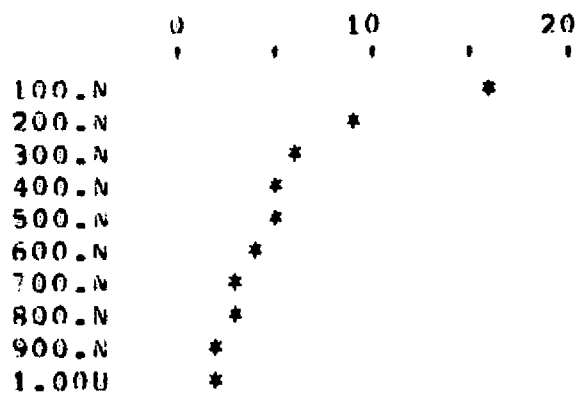
VCC VS. MIN READ CYCLE TIME



VCC VS. OUTPUT ENABLE TIME

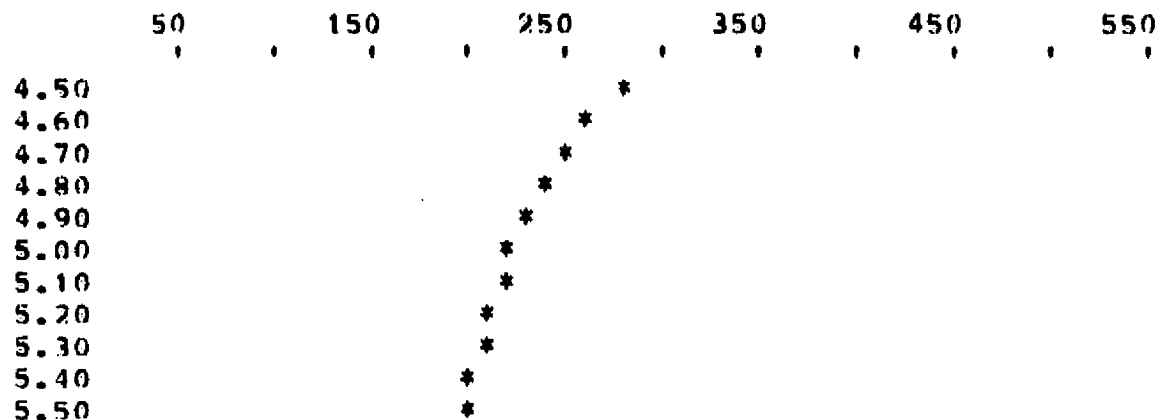


ICC VS. CYCLE TIME

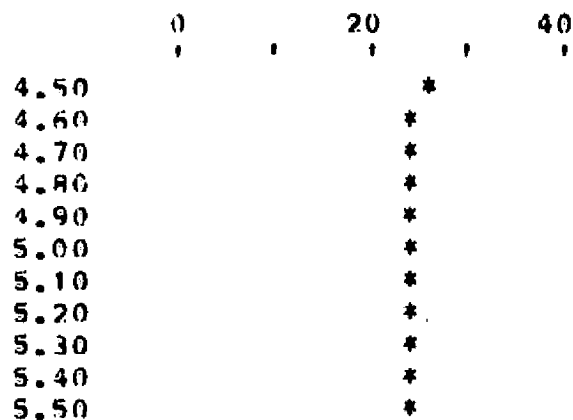


PASSED GALPAT (WIDE LIMITS)

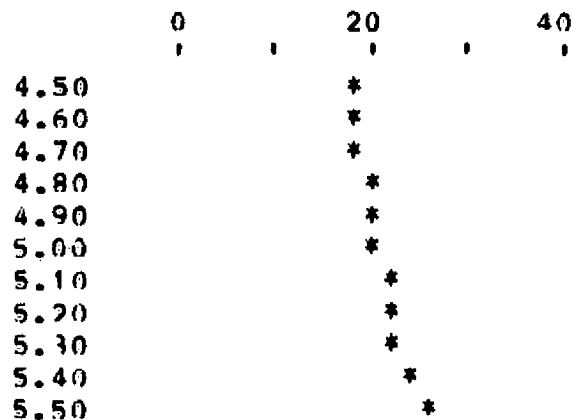
VCC VS. ADDRESS ACCESS TIME



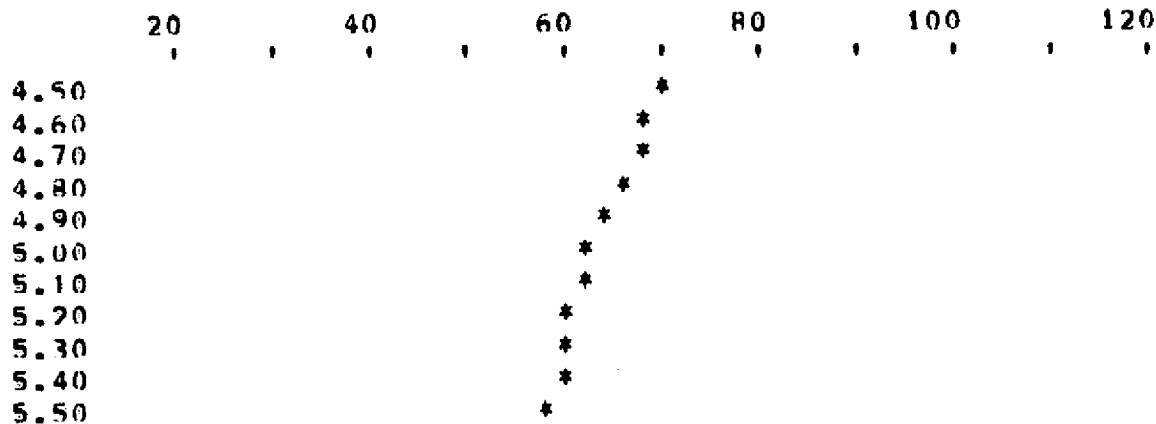
VCC VS. DATA SETUP TIME



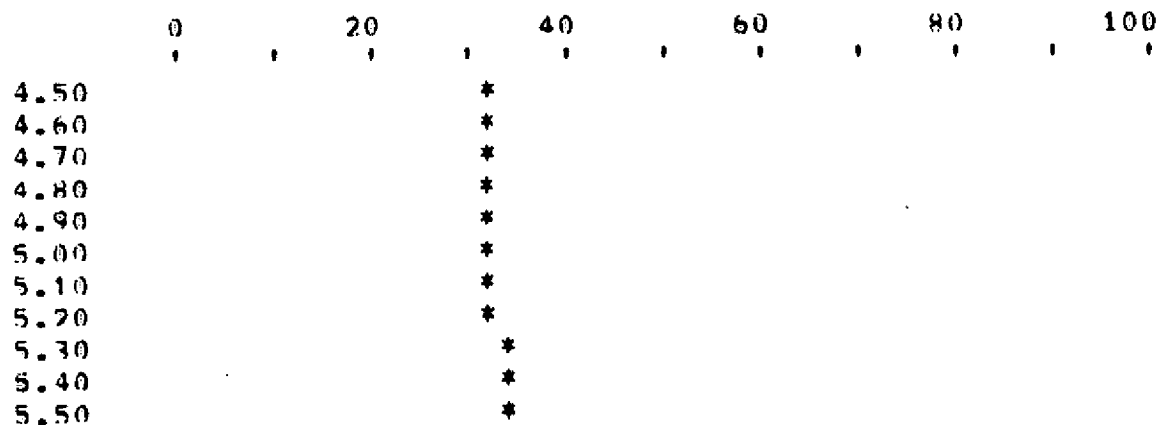
VCC VS. DATA HOLD TIME



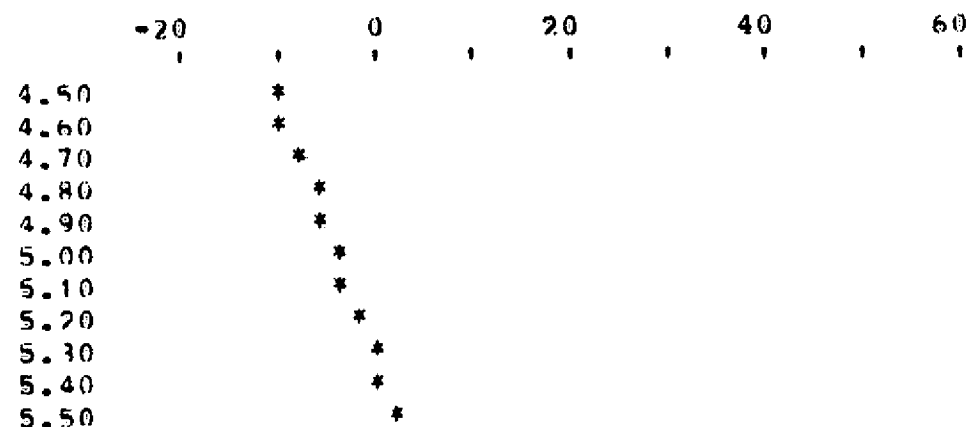
VCC VS. WRITE PULSE WIDTH



VCC VS. ADDRESS SETUP TIME

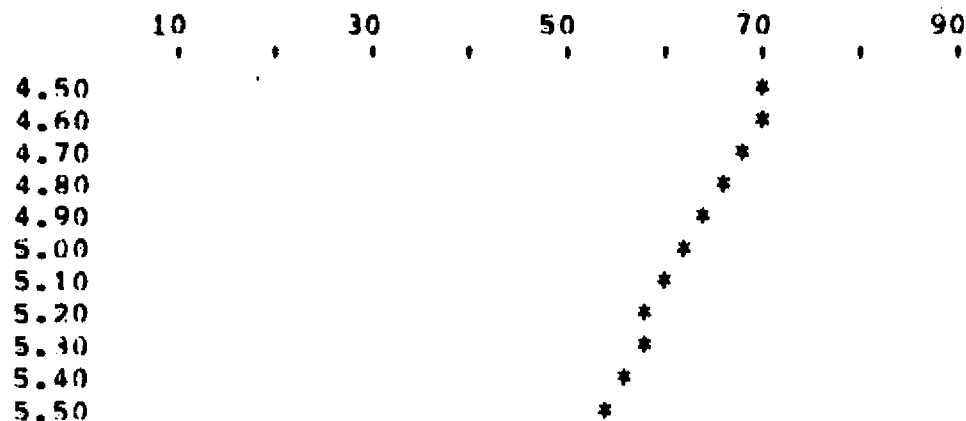


VCC VS. ADDRESS HOLD TIME

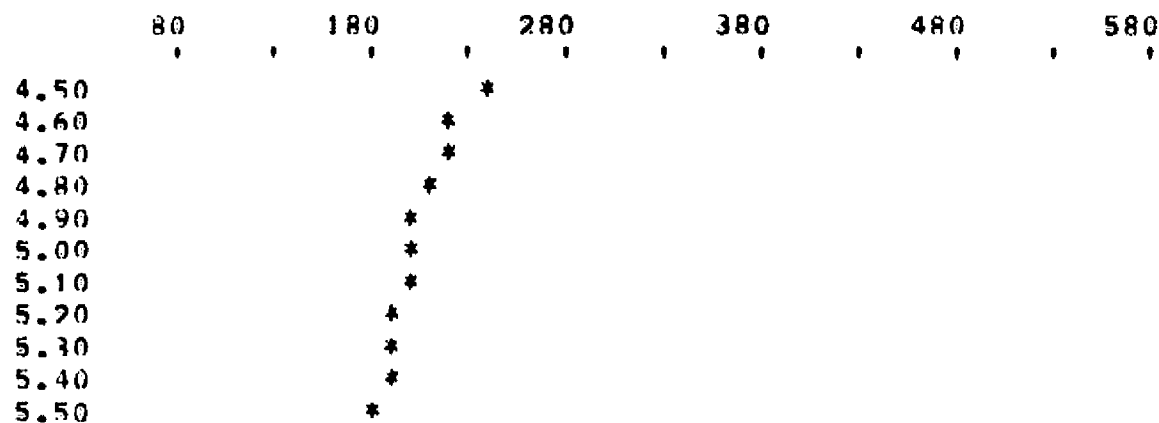


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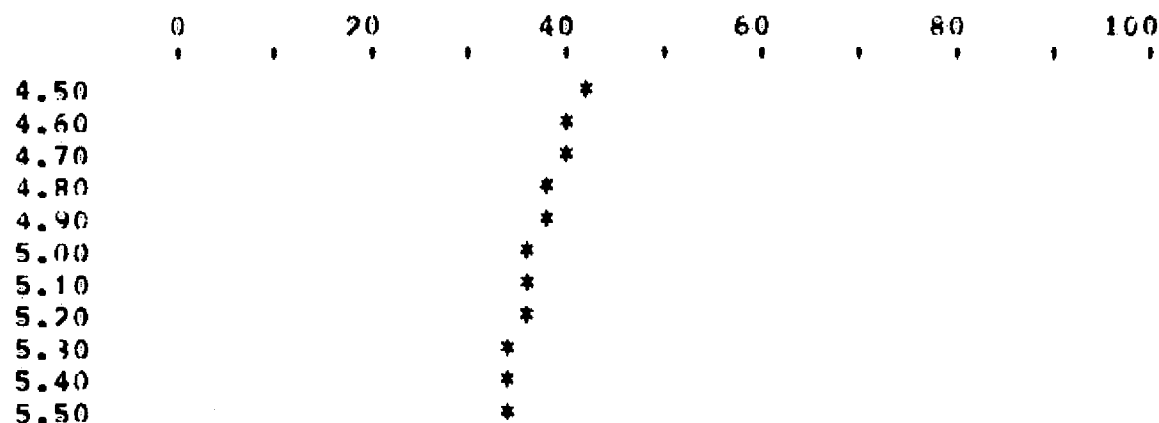
VCC VS. CE TO WRITE TIME



VCC VS. MIN READ CYCLE TIME



VCC VS. OUTPUT ENABLE TIME



ICC VS. CYCLE TIME

	0	10	20
100.N	*		
200.N		*	
300.N	*		
400.N	*		
500.N	*		
600.N	*		
700.N	*		
800.N	*		
900.N	*		
1.00U	*		

PASSED GALPAT (WIDE LIMITS)

VCC VS. ADDRESS ACCESS TIME

	50	150	250	350	450	550
4.50	*					
4.60	*					
4.70	*					
4.80	*					
4.90	*					
5.00	*					
5.10	*					
5.20	*					
5.30	*					
5.40	*					
5.50	*					

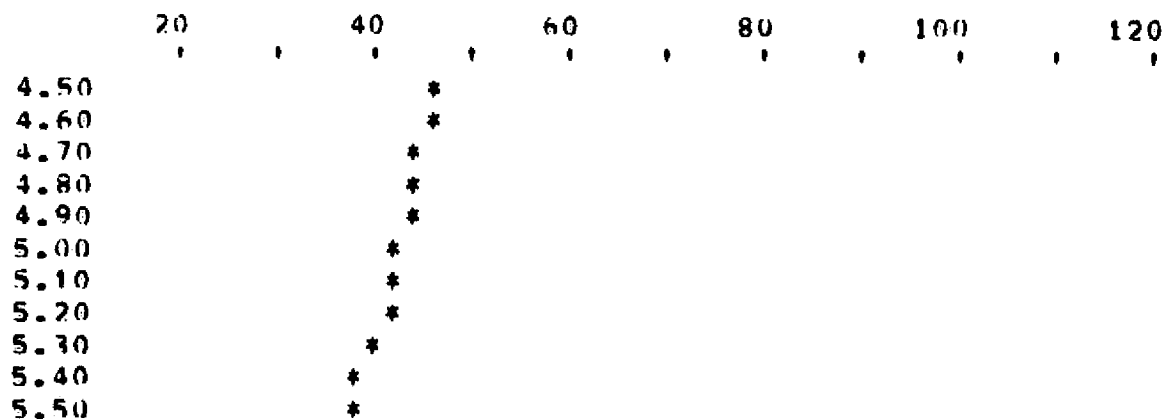
VCC VS. DATA SETUP TIME

	0	20	40
4.50	*		
4.60	*		
4.70	*		
4.80	*		
4.90	*		
5.00	*		
5.10	*		
5.20	*		
5.30	*		
5.40	*		
5.50	*		

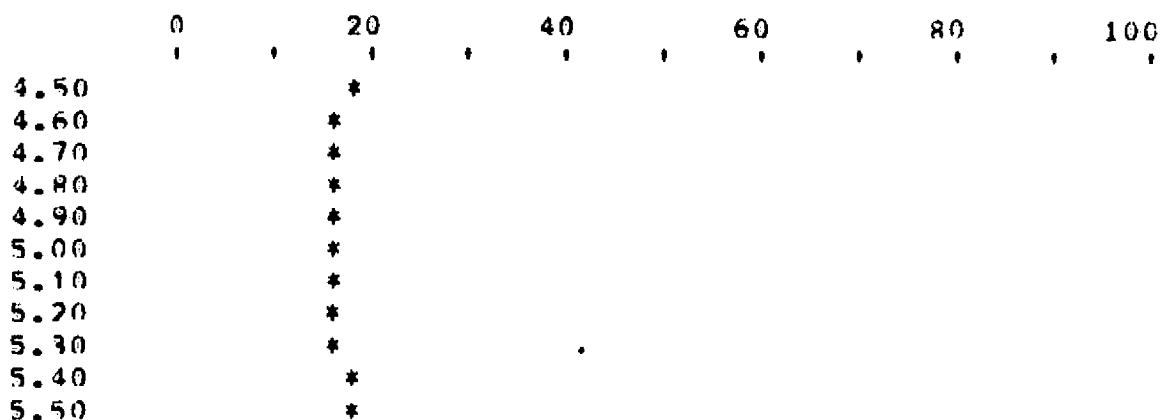
VCC VS. DATA HOLD TIME

	0	20	40
4.50	*		
4.60	*		
4.70	*		
4.80	*		
4.90	*		
5.00	*		
5.10	*		
5.20	*		
5.30	*		
5.40	*		
5.50	*		

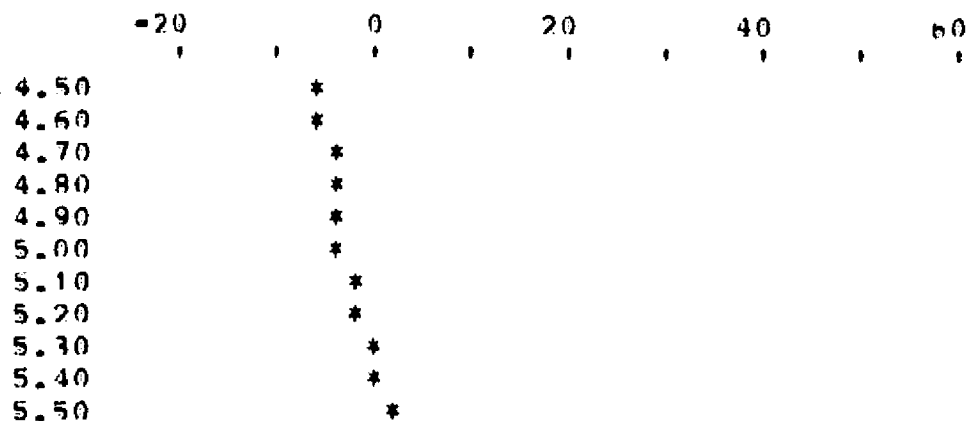
VCC VS. WRITE PULSE WIDTH



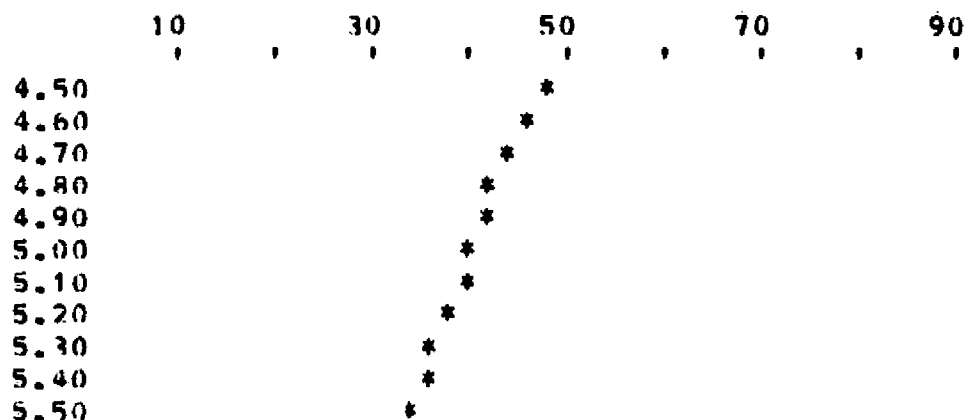
VCC VS. ADDRESS SETUP TIME



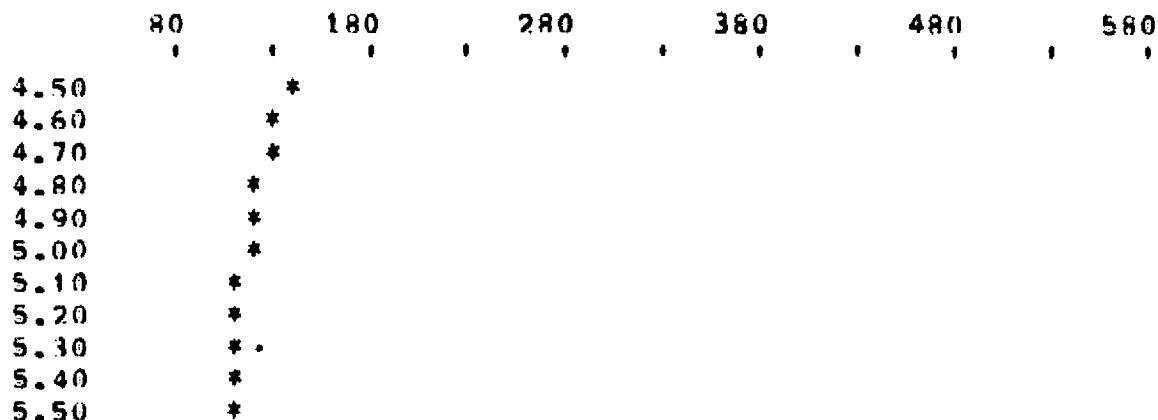
VCC VS. ADDRESS HOLD TIME



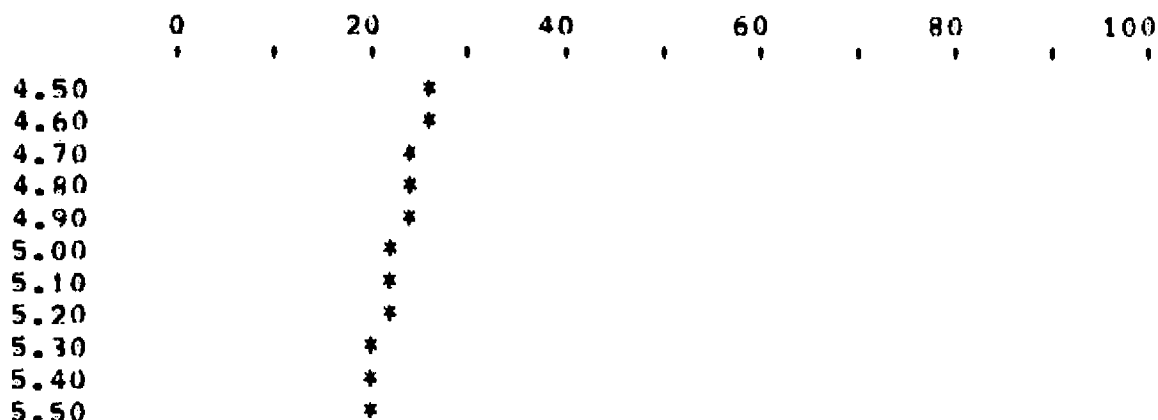
VCC VS. CE TO WRITE TIME



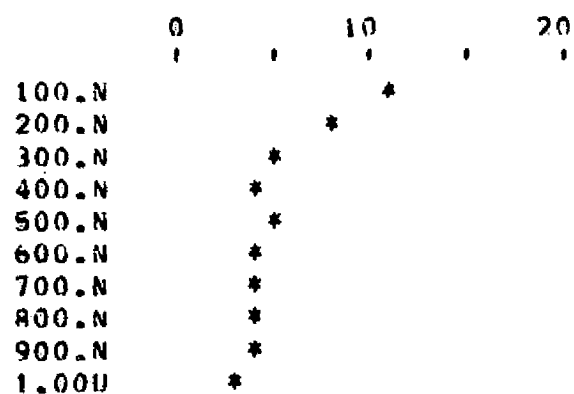
VCC VS. MIN READ CYCLE TIME



VCC VS. OUTPUT ENABLE TIME



ICC VS. CYCLE TIME



PASSED GALPAT (WIDE LIMITS)

VCC VS. ADDRESS ACCESS TIME

	50	150	250	350	450	550
4.50	*					
4.60	*					
4.70	*					
4.80	*					
4.90	*					
5.00	*					
5.10	*					
5.20	*					
5.30	*					
5.40	*					
5.50	*					

VCC VS. DATA SETUP TIME

	0	20	40
4.50	*		
4.60	*		
4.70	*		
4.80	*		
4.90	*		
5.00	*		
5.10	*		
5.20	*		
5.30	*		
5.40	*		
5.50	*		

VCC VS. DATA HOLD TIME

	0	20	40
4.50	*		
4.60	*		
4.70	*		
4.80	*		
4.90	*		
5.00	*		
5.10	*		
5.20	*		
5.30	*		
5.40	*		
5.50	*		

VCC VS. WRITE PULSE WIDTH

	20	40	60	80	100	120
4.50			*			
4.60		*				
4.70		*				
4.80		*				
4.90		*				
5.00		*				
5.10	*					
5.20	*					
5.30	*					
5.40	*					
5.50	*					

VCC VS. ADDRESS SETUP TIME

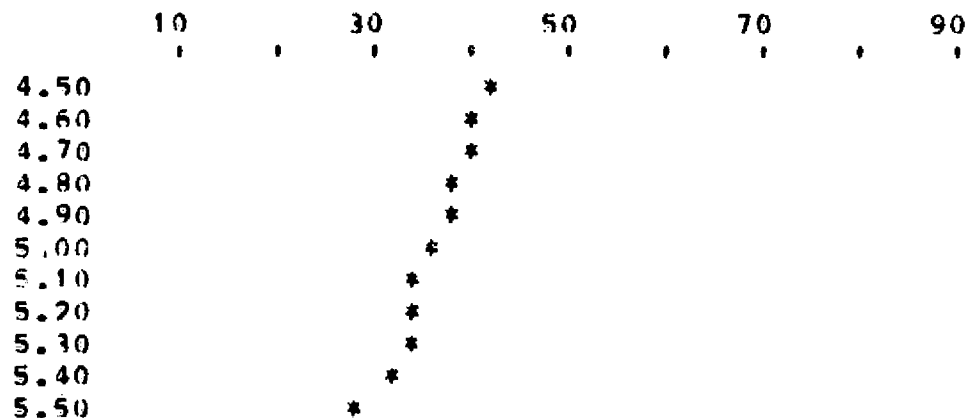
	0	20	40	60	80	100
4.50		*				
4.60		*				
4.70		*				
4.80		*				
4.90		*				
5.00		*				
5.10		*				
5.20		*				
5.30		*				
5.40		*				
5.50		*				

VCC VS. ADDRESS HOLD TIME

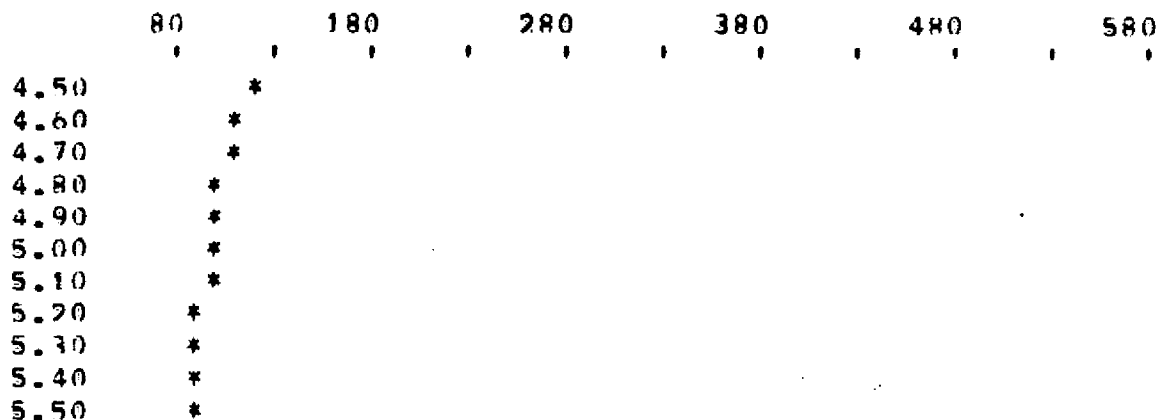
	-20	0	20	40	60
4.50		*			
4.60		*			
4.70		*			
4.80		*			
4.90		*			
5.00		*			
5.10		*			
5.20		*			
5.30		*			
5.40		*			
5.50		*			

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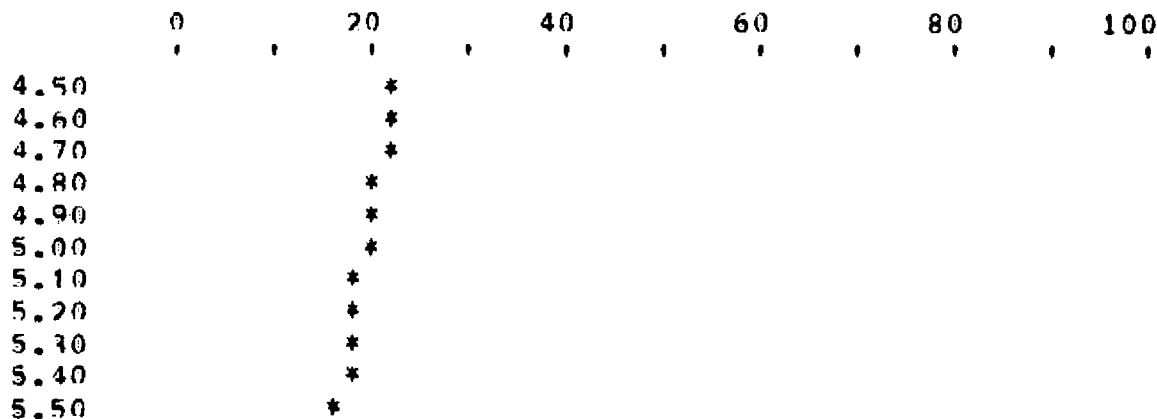
VCC VS. CE TO WRITE TIME



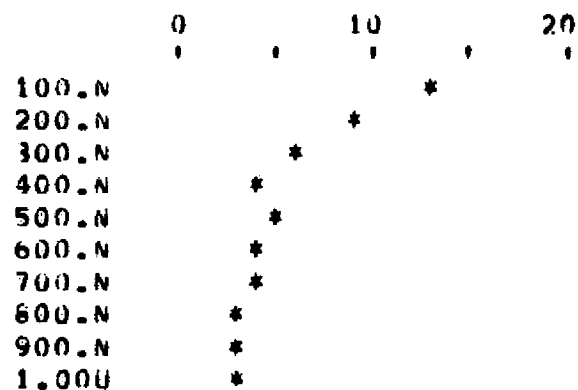
VCC VS. MIN READ CYCLE TIME



VCC VS. OUTPUT ENABLE TIME



ICC VS. CYCLE TIME



PASSED GALPAT (WIDE LIMITS)

VCC VS. ADDRESS ACCESS TIME

	50	150	250	350	450	550
4.50		*				
4.60		*				
4.70		*				
4.80		*				
4.90		*				
5.00		*				
5.10		*				
5.20		*				
5.30		*				
5.40		*				
5.50		*				

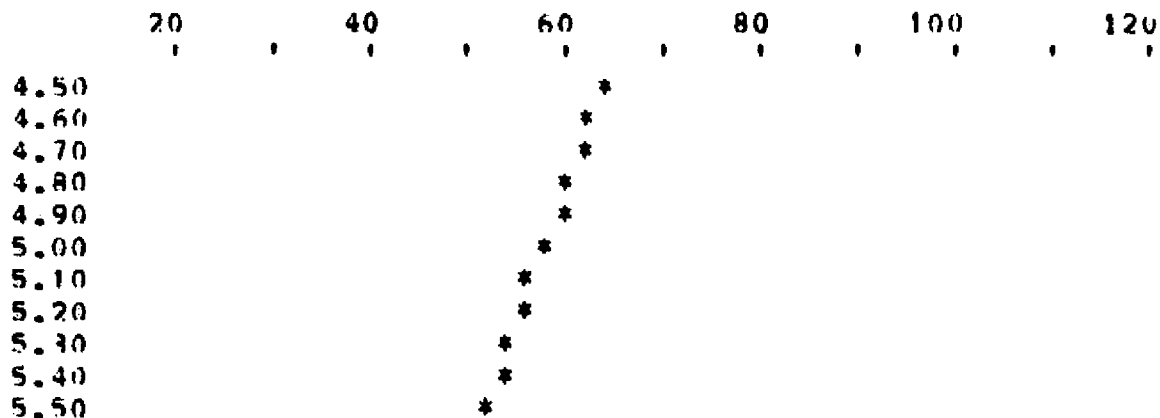
VCC VS. DATA SETUP TIME

	0	20	40
4.50		*	
4.60		*	
4.70		*	
4.80		*	
4.90		*	
5.00		*	
5.10		*	
5.20		*	
5.30		*	
5.40		*	
5.50		*	

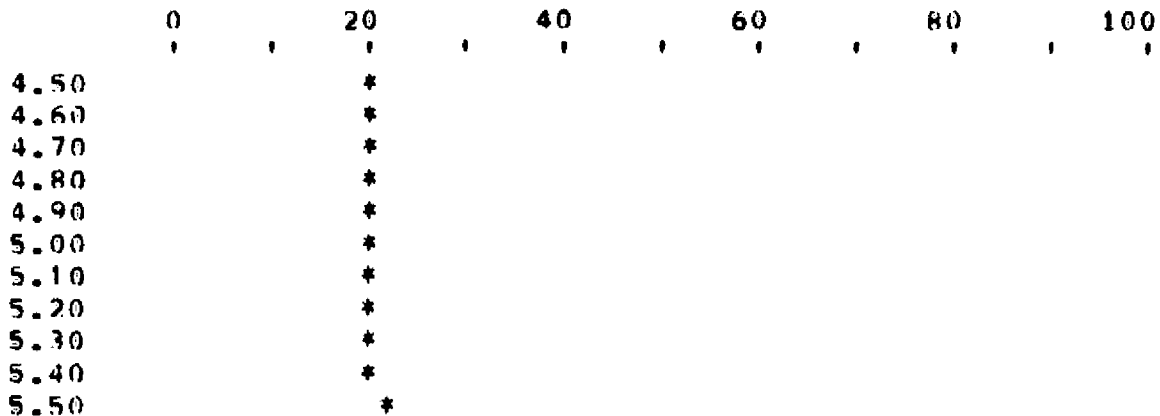
VCC VS. DATA HOLD TIME

	0	20	40
4.50		*	
4.60		*	
4.70		*	
4.80		*	
4.90		*	
5.00		*	
5.10		*	
5.20		*	
5.30		*	
5.40		*	
5.50		*	

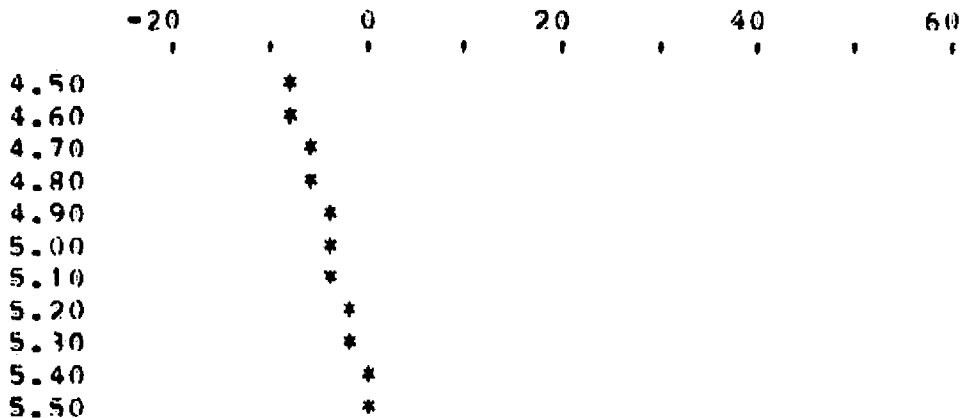
VCC VS. WRITE PULSE WIDTH



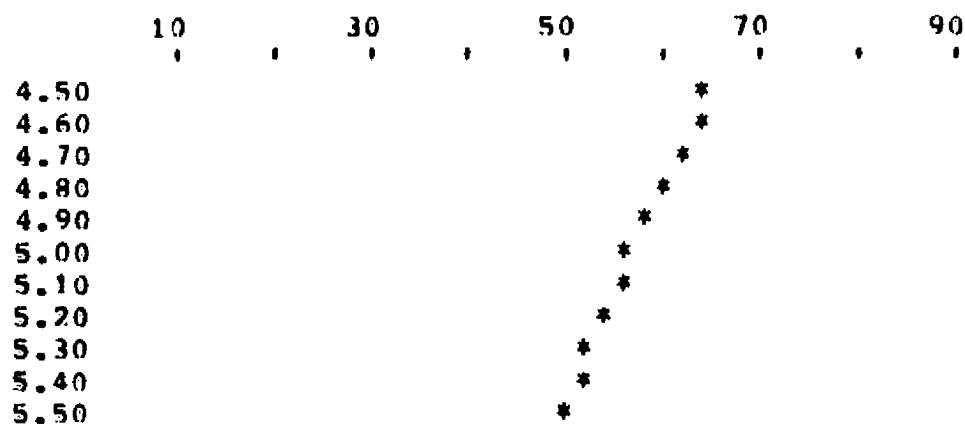
VCC VS. ADDRESS SETUP TIME



VCC VS. ADDRESS HOLD TIME



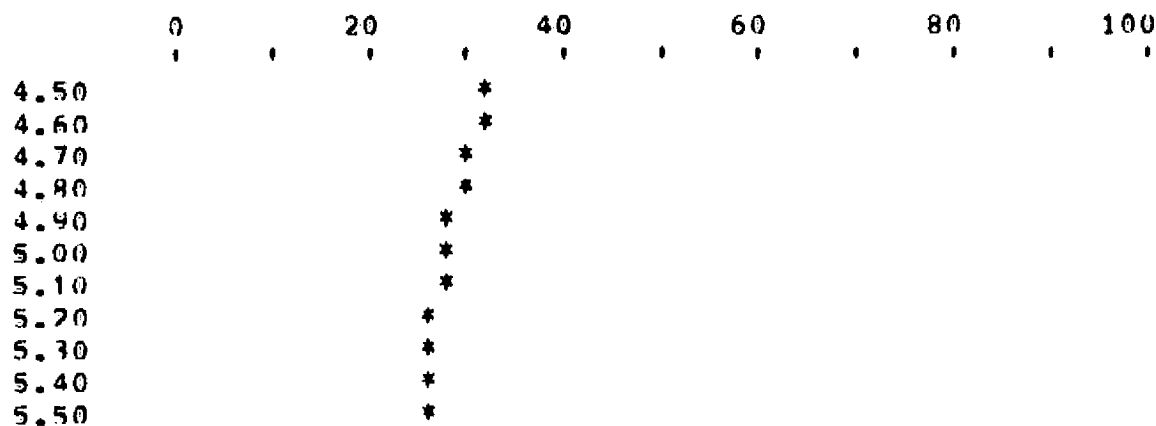
VCC VS. CE TO WRITE TIME



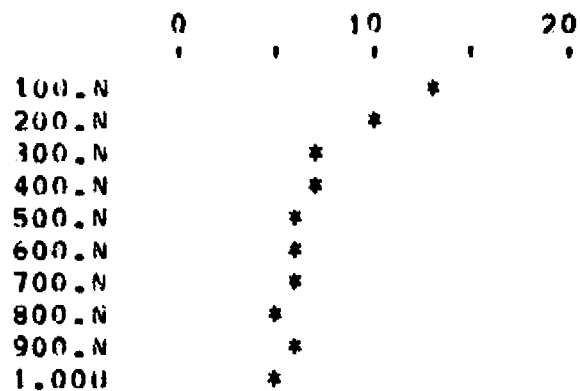
VCC VS. MIN READ CYCLE TIME



VCC VS. OUTPUT ENABLE TIME



ICC VS. CYCLE TIME



PASSED GALPAT (WIDE LIMITS)

VCC VS. ADDRESS ACCESS TIME

	50	150	250	350	450	550
4.50		*				
4.60		*				
4.70		*				
4.80		*				
4.90		*				
5.00		*				
5.10		*				
5.20		*				
5.30		*				
5.40		*				
5.50		*				

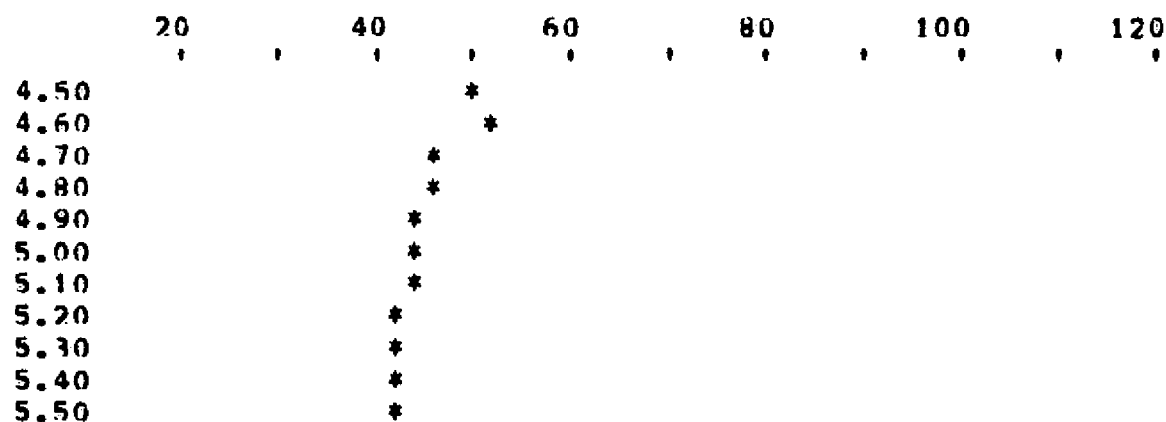
VCC VS. DATA SETUP TIME

	0	20	40
4.50		*	
4.60		*	
4.70		*	
4.80		*	
4.90		*	
5.00		*	
5.10		*	
5.20		*	
5.30		*	
5.40		*	
5.50		*	

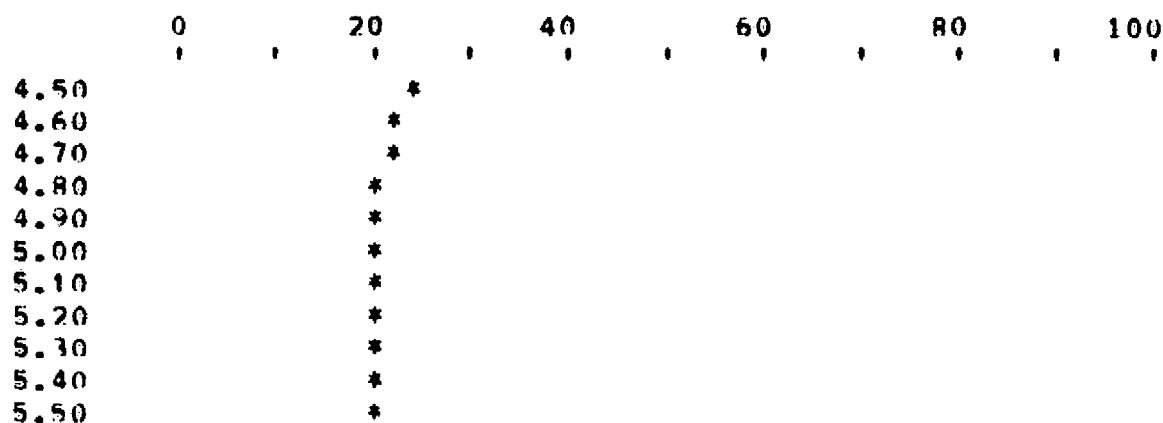
VCC VS. DATA HOLD TIME

	0	20	40
4.50		*	
4.60		*	
4.70		*	
4.80		*	
4.90		*	
5.00		*	
5.10		*	
5.20		*	
5.30		*	
5.40		*	
5.50		*	

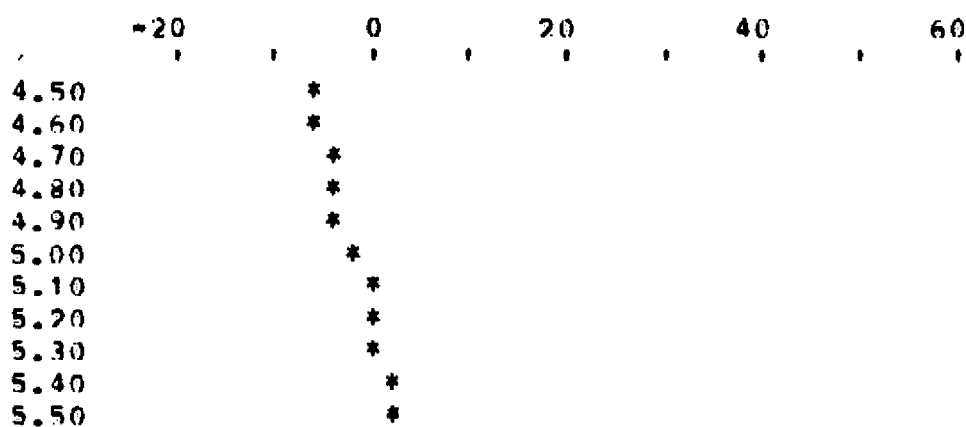
VCC VS. WRITE PULSE WIDTH



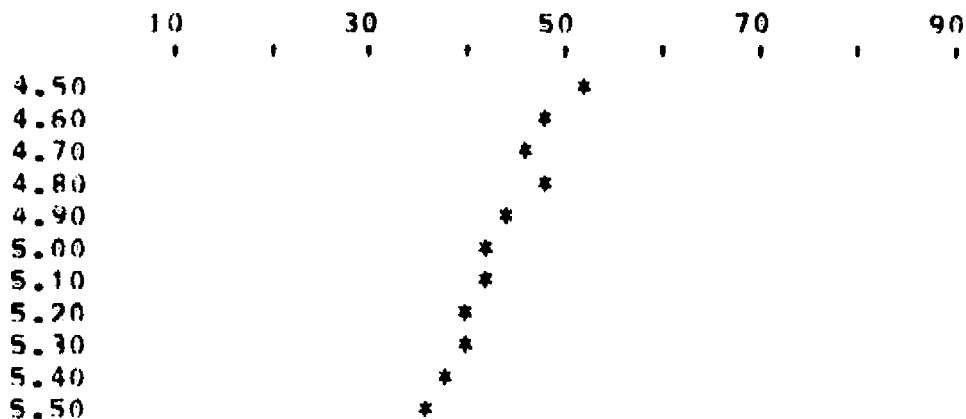
VCC VS. ADDRESS SETUP TIME



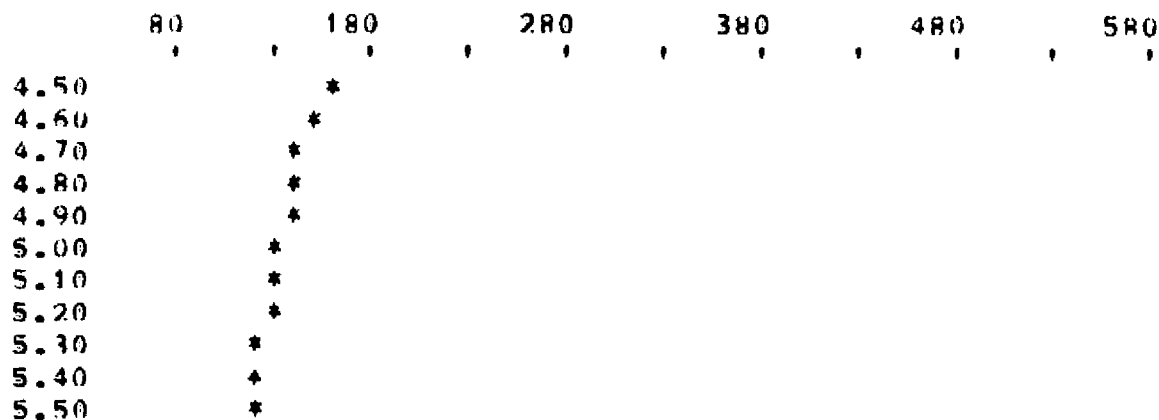
VCC VS. ADDRESS HOLD TIME



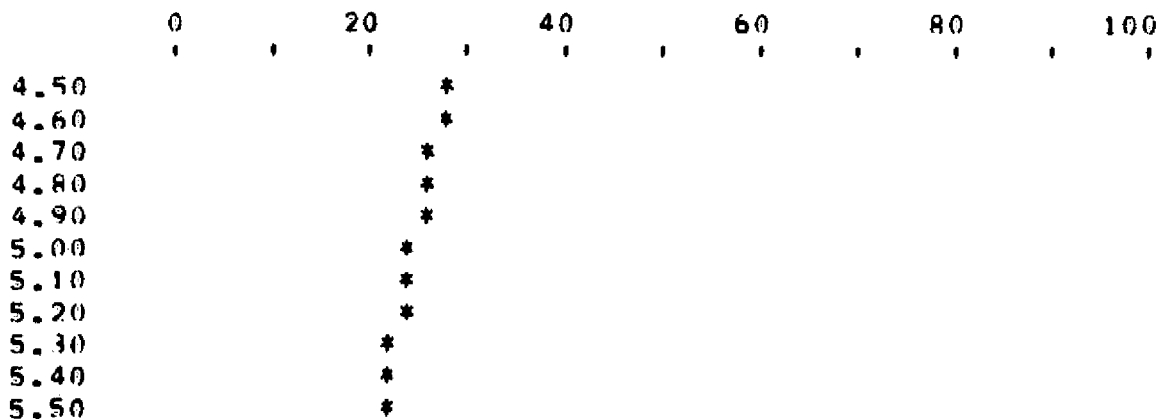
VCC VS. CE TO WRITE TIME



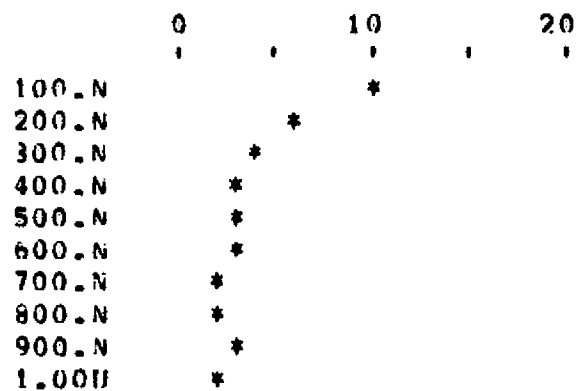
VCC VS. MIN READ CYCLE TIME



VCC VS. OUTPUT ENABLE TIME

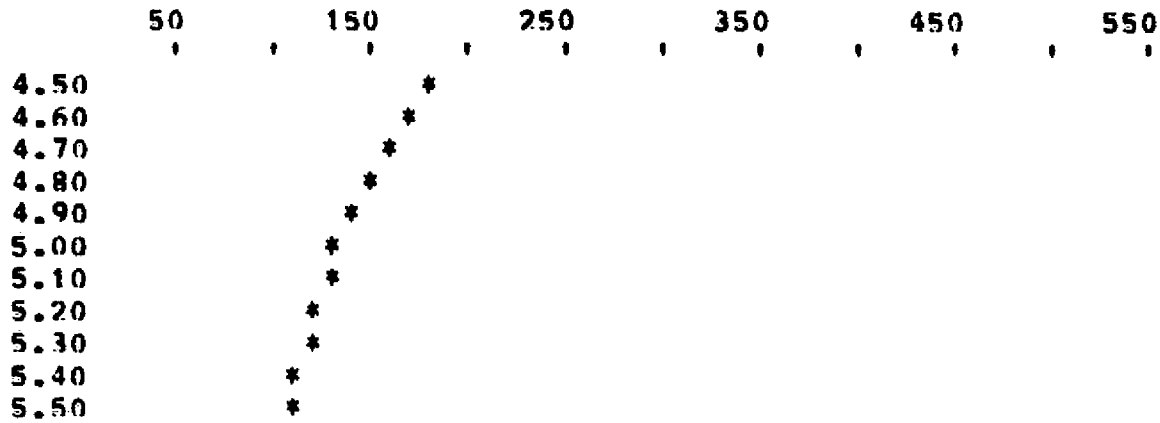


ICC VS. CYCLE TIME

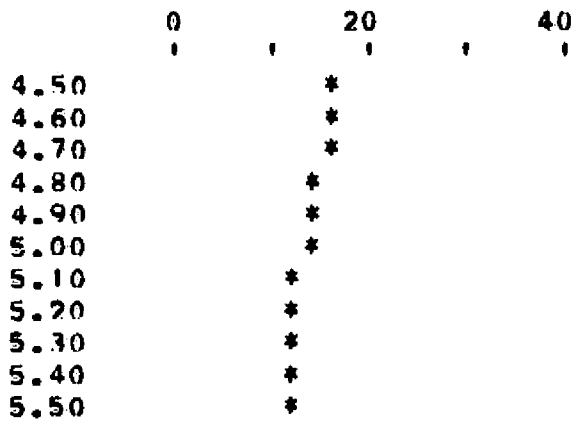


PASSED GALPAT (WIDE LIMITS)

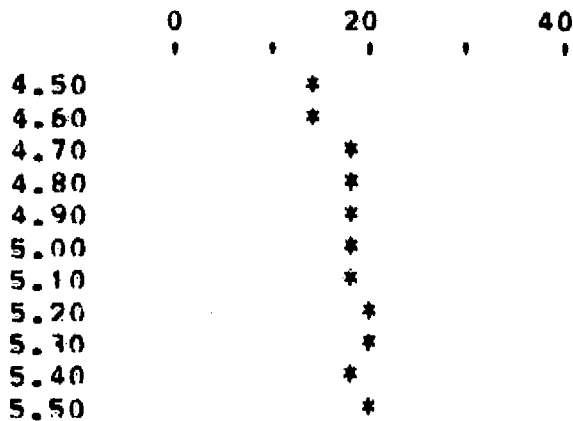
VCC VS. ADDRESS ACCESS TIME



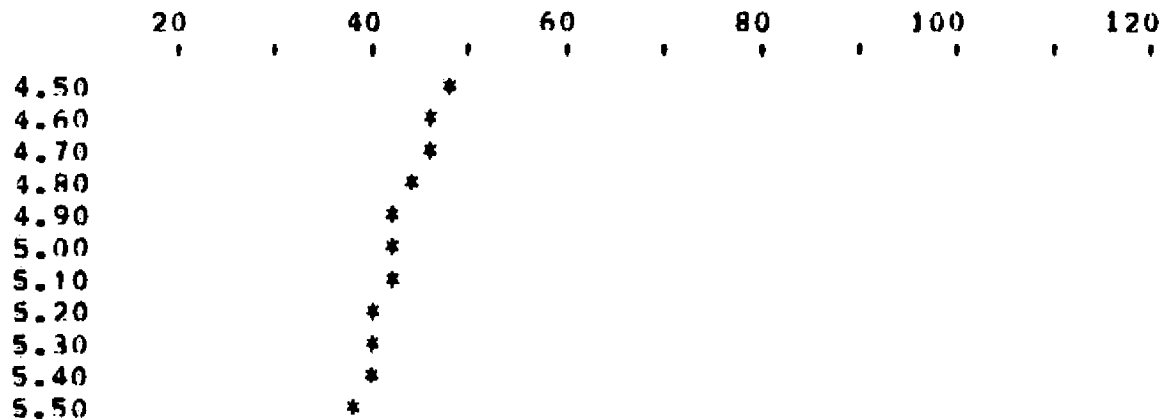
VCC VS. DATA SETUP TIME



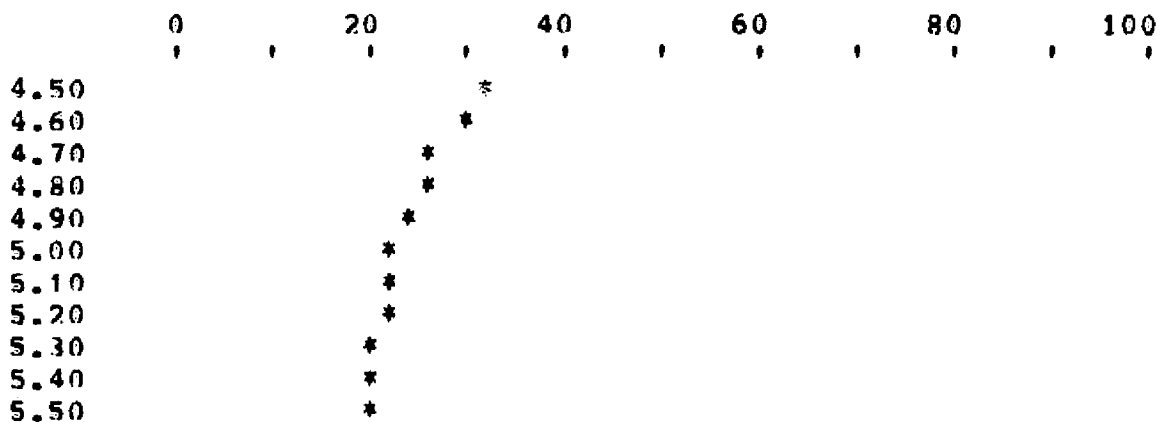
VCC VS. DATA HOLD TIME



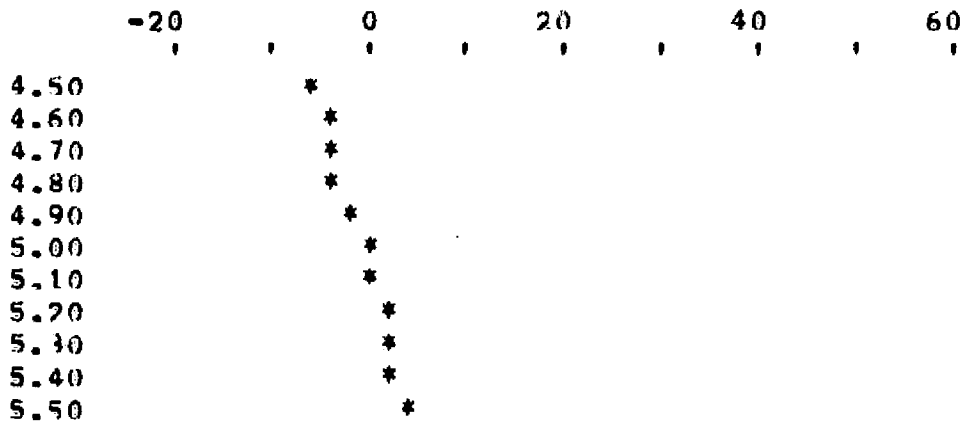
VCC VS. WRITE PULSE WIDTH



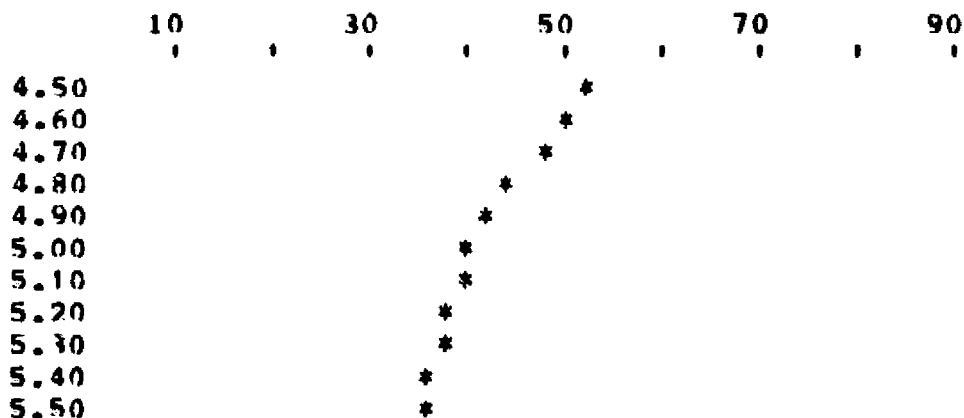
VCC VS. ADDRESS SETUP TIME



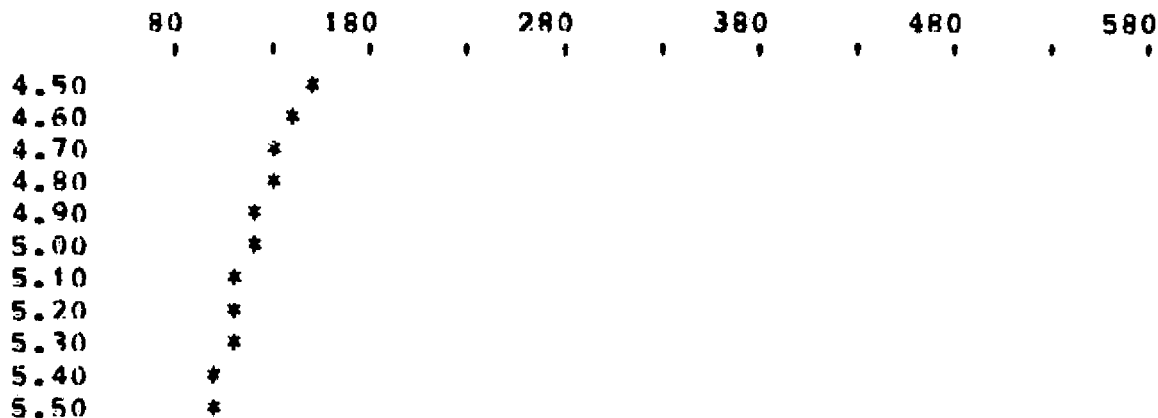
VCC VS. ADDRESS HOLD TIME



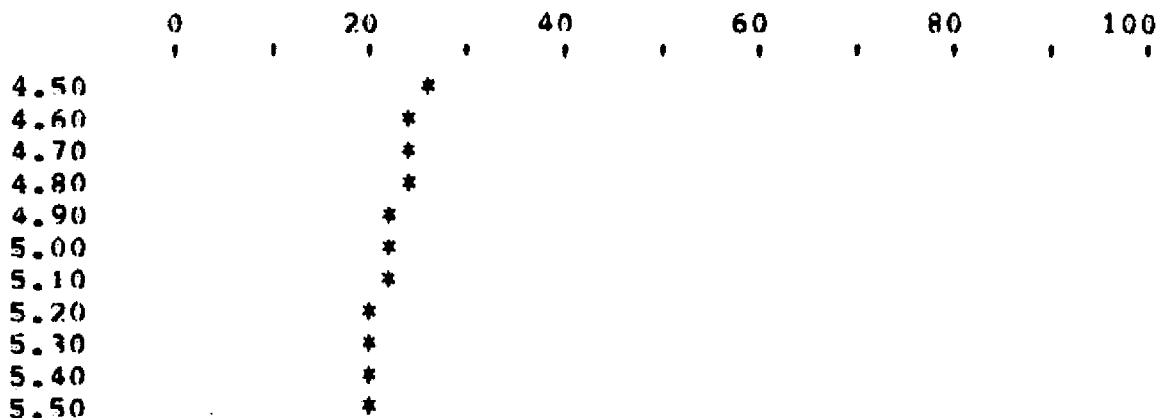
VCC VS. CE TO WRITE TIME



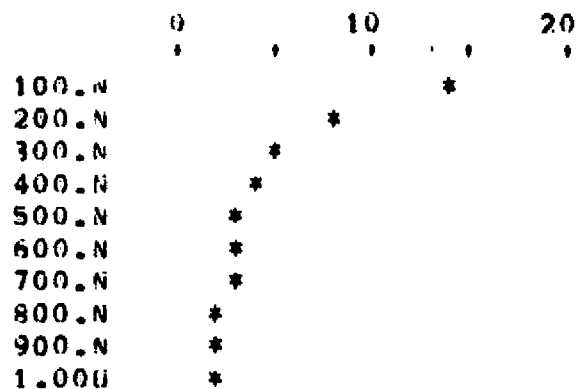
VCC VS. MIN READ CYCLE TIME



VCC VS. OUTPUT ENABLE TIME



ICC VS. CYCLE TIME



PASSED GALPAT (WIDE LIMITS)

VCC VS. ADDRESS ACCESS TIME

	50	150	250	350	450	550
4.50						*
4.60			*			
4.70			*			
4.80		*				
4.90		*				
5.00		*				
5.10		*				
5.20		*				
5.30		*				
5.40		*				
5.50		*				

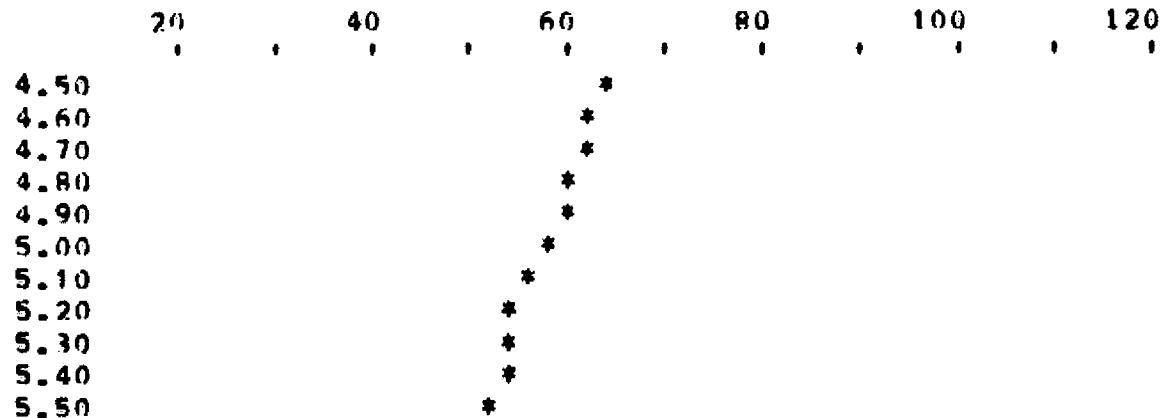
VCC VS. DATA SETUP TIME

	0	20	40
4.50		*	
4.60		*	
4.70		*	
4.80		*	
4.90		*	
5.00		*	
5.10		*	
5.20		*	
5.30		*	
5.40		*	
5.50		*	

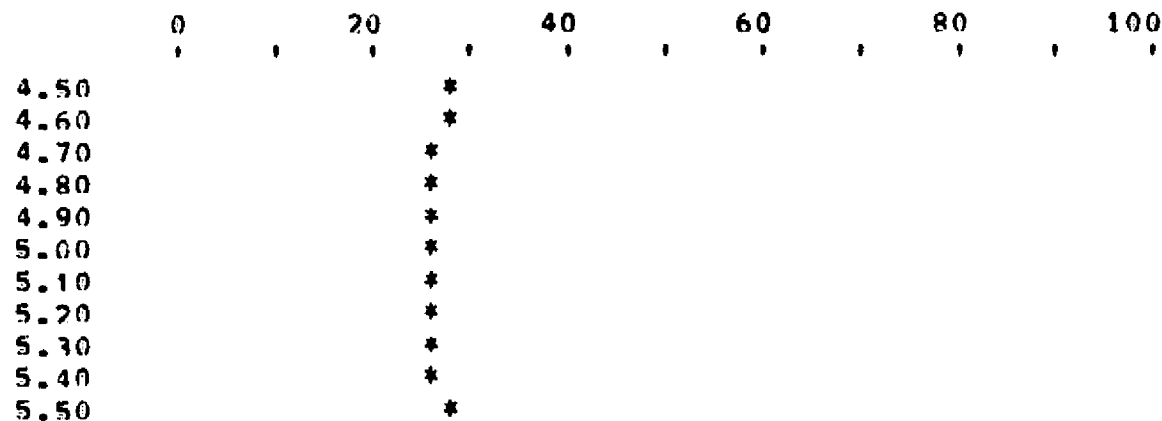
VCC VS. DATA HOLD TIME

	0	20	40
4.50		*	
4.60		*	
4.70		*	
4.80		*	
4.90		*	
5.00		*	
5.10		*	
5.20		*	
5.30		*	
5.40		*	
5.50		*	

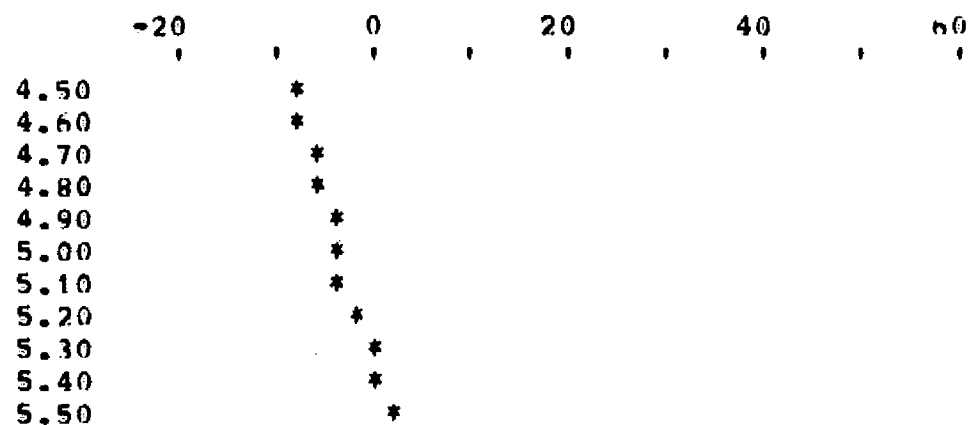
VCC VS. WRITE PULSE WIDTH



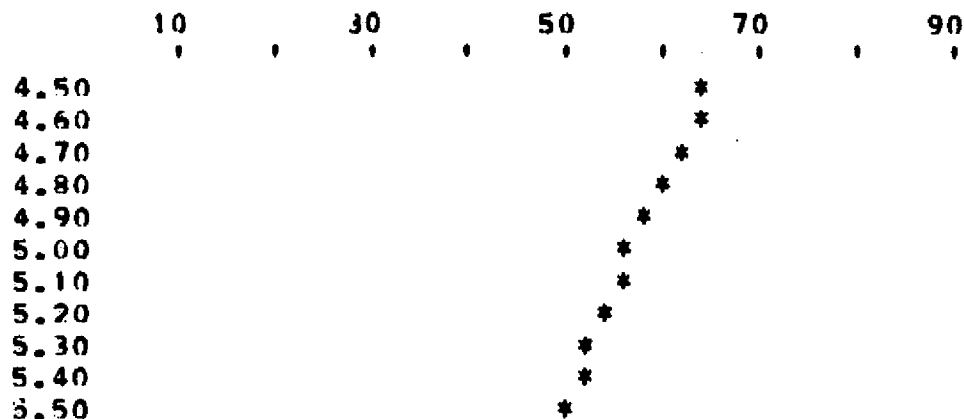
VCC VS. ADDRESS SETUP TIME



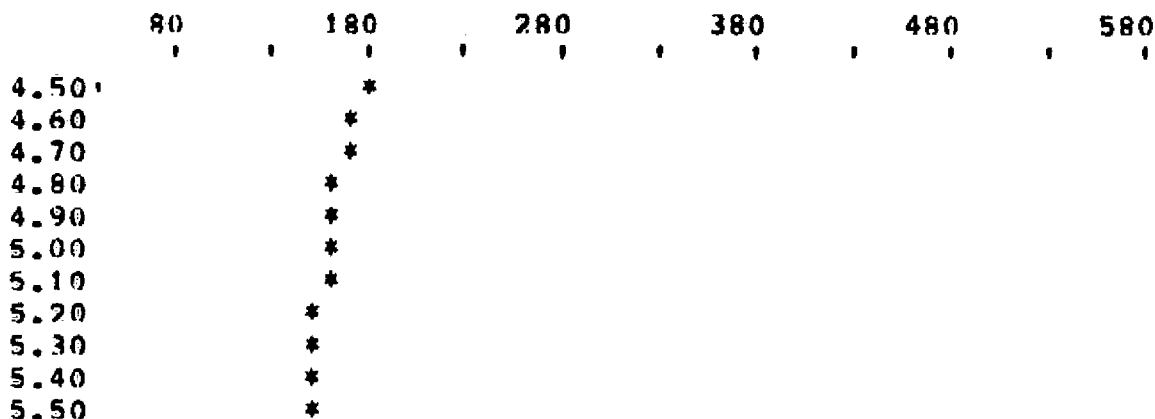
VCC VS. ADDRESS HOLD TIME



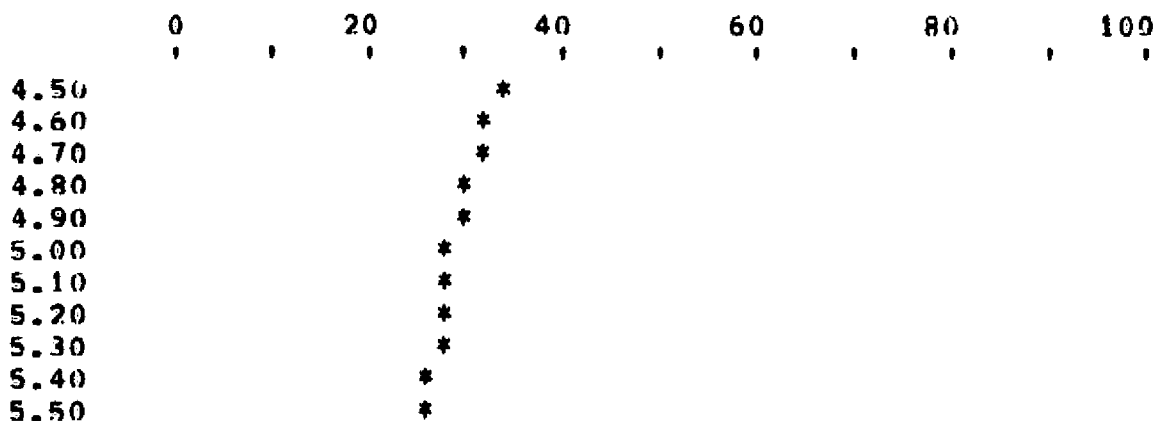
VCC VS. CE TO WRITE TIME



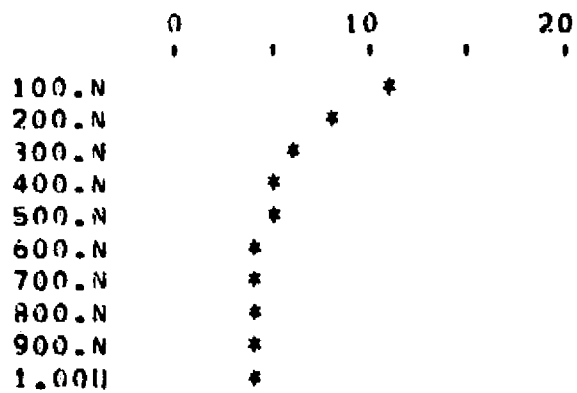
VCC VS. MIN READ CYCLE TIME



VCC VS. OUTPUT ENABLE TIME



ICC VS. CYCLE TIME



AC PARAMETER VERSUS TEMPERATURE

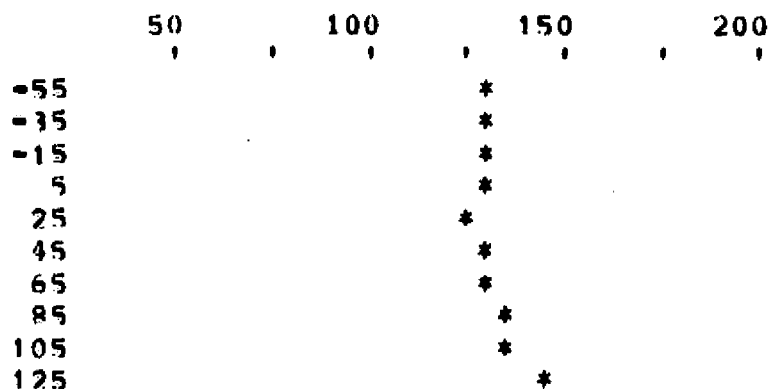
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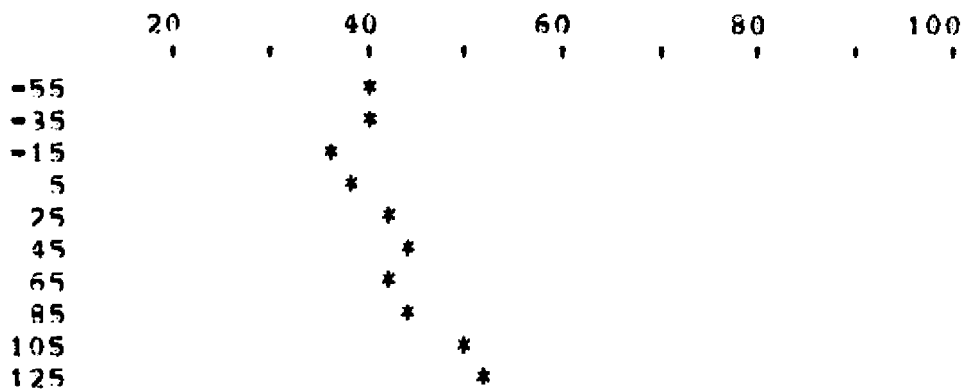
VCC = 5.00 V

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PASSED GALPAT (WIDE LIMITS)
ADDRESS ACCESS TIME VS. TEMPERATURE



WRITE PULSE WIDTH VS. TEMPERATURE



VCC = 5.00 V

PAGE 2 OF 5

DATA SETUP TIME VS. TEMPERATURE

	-20		0		20		40		60
	,	,	,	,	,	,	,	,	,
-55				*					
-35				*					
-15				*					
5				*					
25				*					
45				*					
65				*					
85				*					
105				*					
125				*					

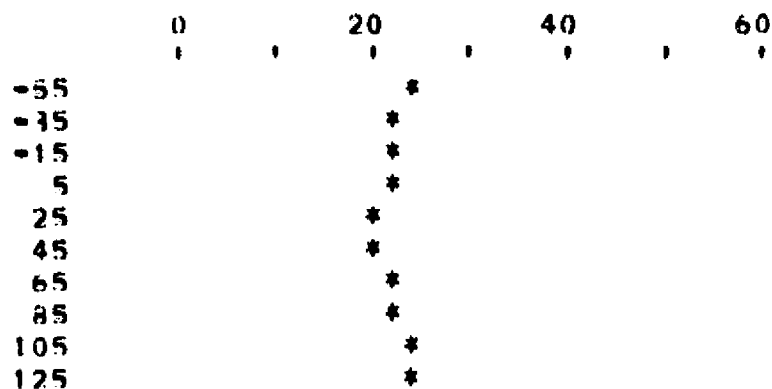
DATA HOLD TIME VS. TEMPERATURE

	0		20		40
	,	,	,	,	,
-55			*		
-35			*		
-15			*		
5			*		
25			*		
45			*		
65			*		
85			*		
105			*		
125			*		

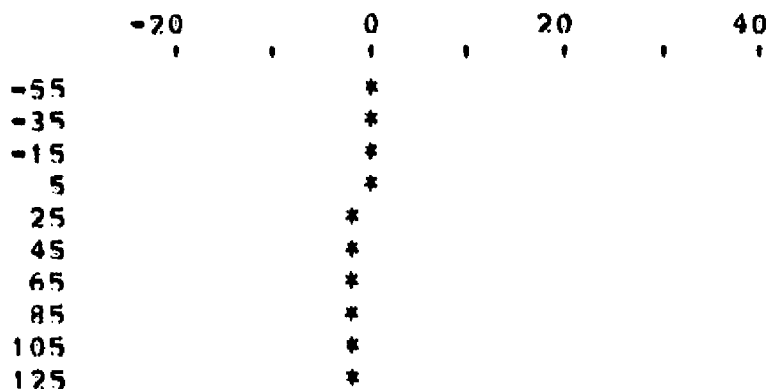
VCC = 5.00 V

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ADDRESS SETUP TIME VS. TEMPERATURE



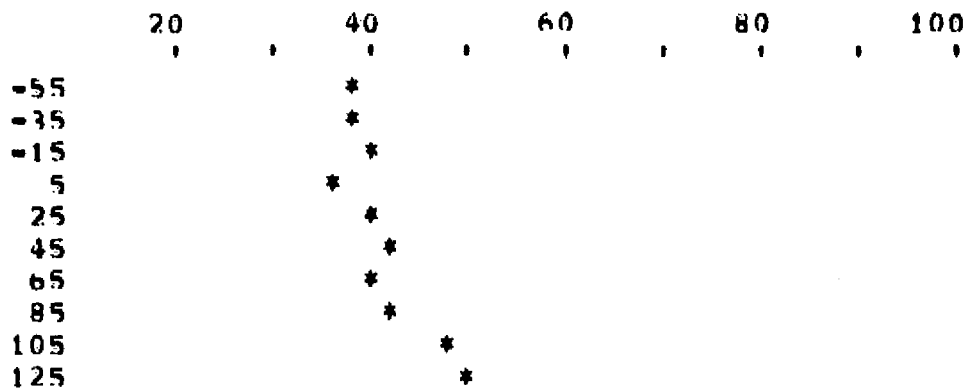
ADDRESS HOLD TIME VS. TEMPERATURE



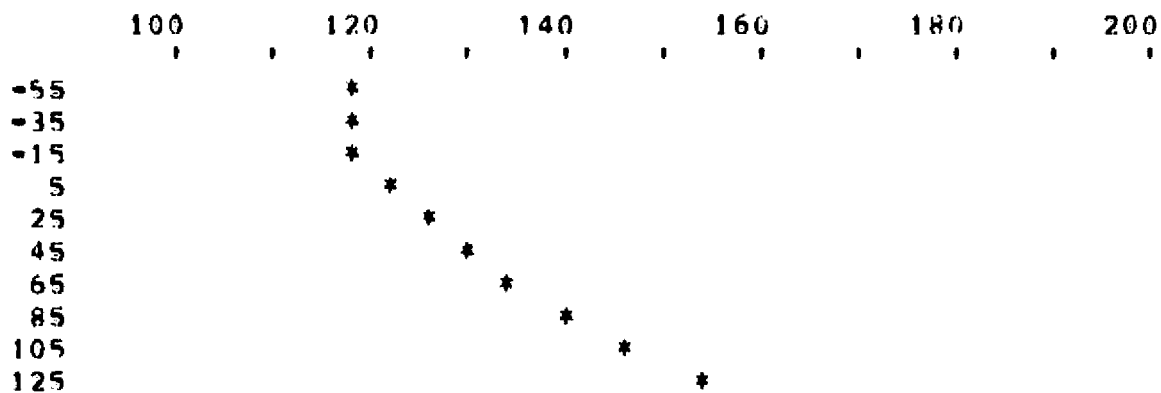
VCC = 5.00 V

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CHIP ENABLE TO WRITE TIME VS. TEMPERATURE



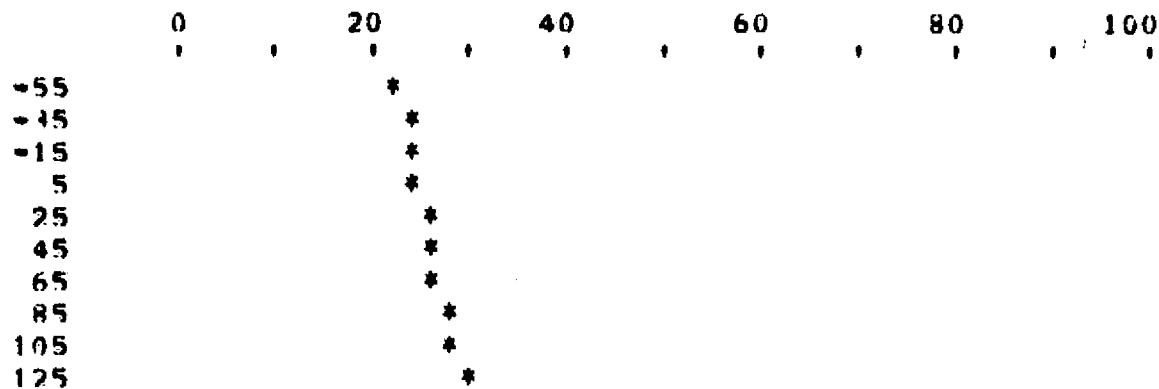
MIN READ CYCLE TIME VS. TEMPERATURE



VCC = 5.00 V

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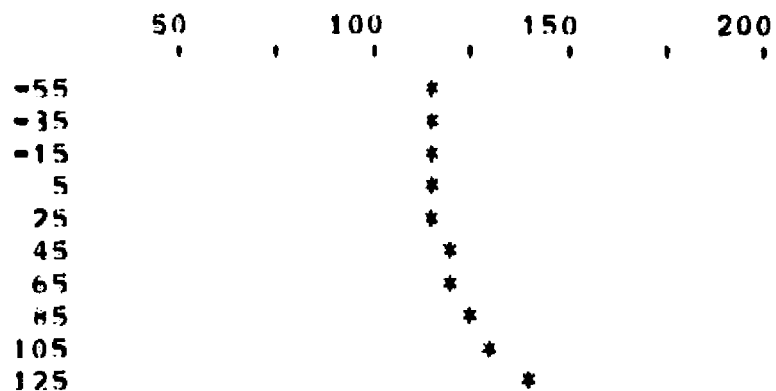
OUTPUT ENABLE TIME VS. TEMPERATURE



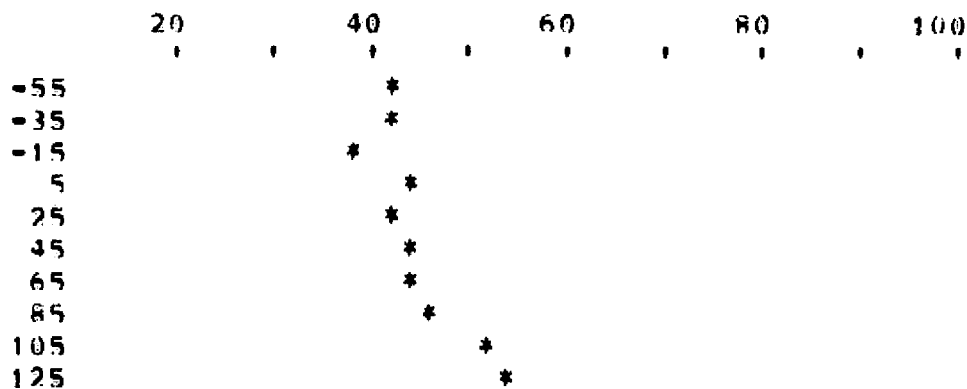
VCC = 5.00 V

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PASSED GALPAT (WIDE LIMITS)
ADDRESS ACCESS TIME VS. TEMPERATURE

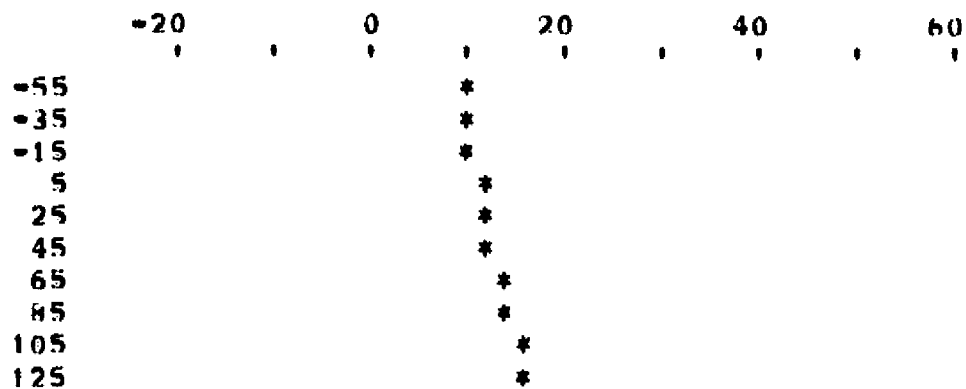


WRITE PULSE WIDTH VS. TEMPERATURE

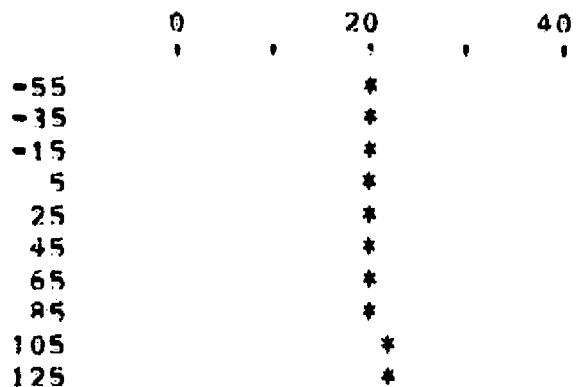


VCC = 5.00 V

DATA SETUP TIME VS. TEMPERATURE



DATA HOLD TIME VS. TEMPERATURE



VCC = 5.00 V

ADDRESS SETUP TIME VS. TEMPERATURE

	0	20	40	60
-55	*			
-35	*			
-15	*			
5	*			
25	*			
45	*			
65	*			
85	*			
105	*			
125	*			

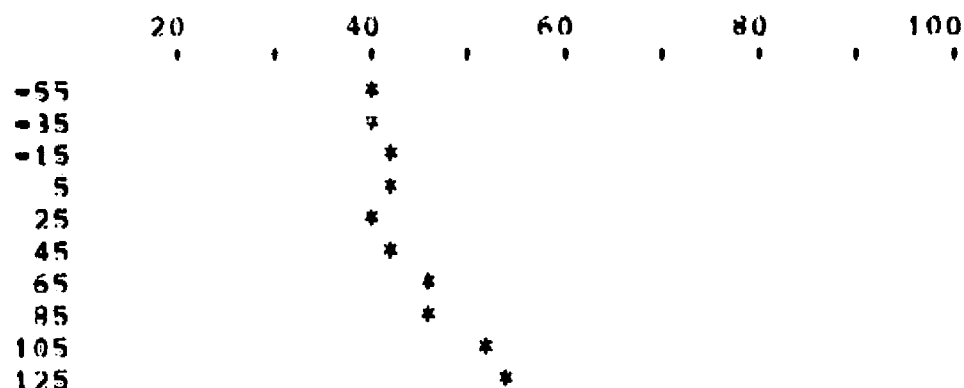
ADDRESS HOLD TIME VS. TEMPERATURE

	-20	0	20	40
-55	*			
-35	*			
-15	*			
5	*			
25	*			
45	*			
65	*			
85	*			
105	*			
125	*			

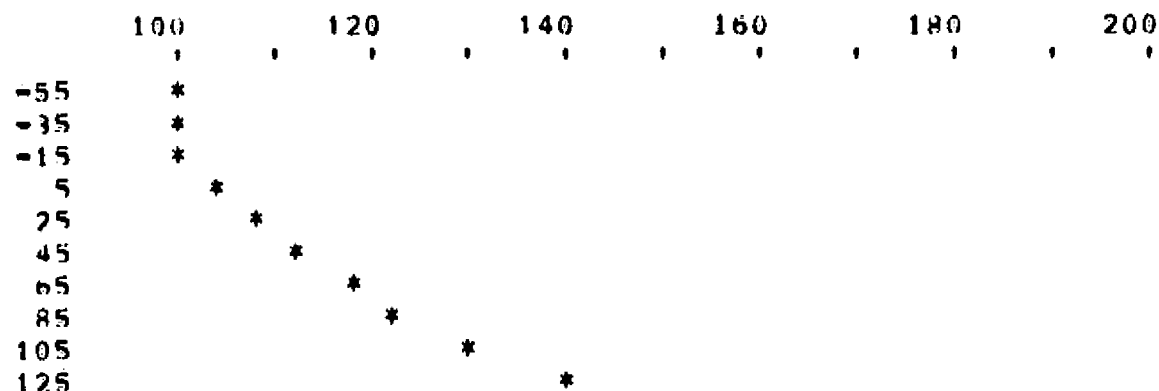
VCC = 5.00 V

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CHIP ENABLE TO WRITE TIME VS. TEMPERATURE



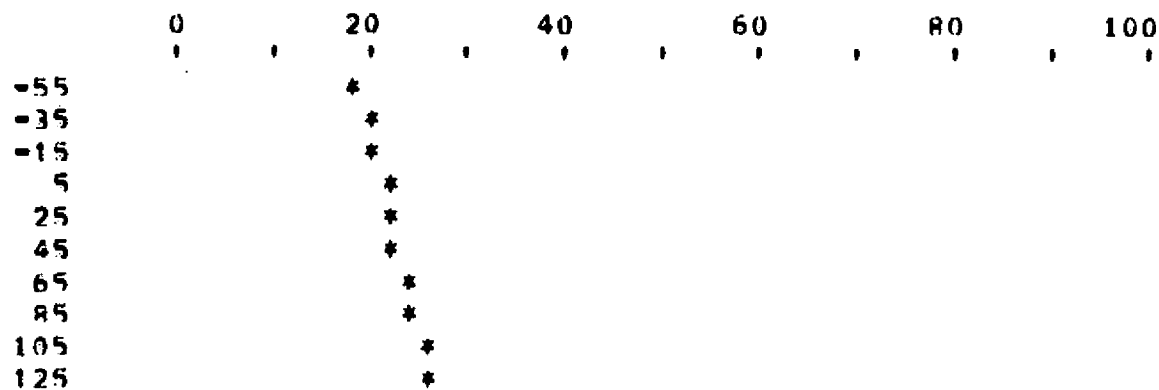
MIN READ CYCLE TIME VS. TEMPERATURE



VCC = 5.00 V

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OUTPUT ENABLE TIME VS. TEMPERATURE



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VCC = 5.00 V

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PASSED GALPAT (WIDE LIMITS)
ADDRESS ACCESS TIME VS. TEMPERATURE

	50	100	150	200
-55				
-35				
-15				
5				
25				
45				
65				
85				
105				
125				

WRITE PULSE WIDTH VS. TEMPERATURE

	20	40	60	80	100
-55			*		
-35		*			
-15		*			
5			*		
25		*			
45			*		
65			*		
85				*	
105				*	
125					*

VCC = 5.00 V

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DATA SETUP TIME VS. TEMPERATURE

	-20		0		20		40		60
-55					*				
-35					*				
-15					*				
5					*				
25					*				
45					*				
65					*				
85					*				
105					*				
125					*				

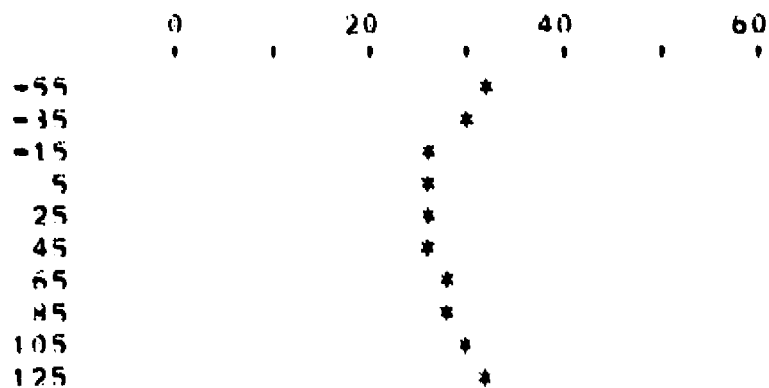
DATA HOLD TIME VS. TEMPERATURE

	0		20		40
-55			*		
-35			*		
-15			*		
5			*		
25			*		
45			*		
65			*		
85			*		
105			*		
125			*		

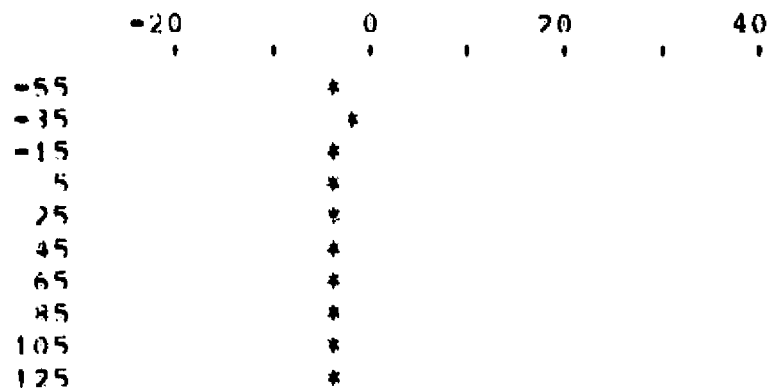
VCC = 5.00 V

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ADDRESS SETUP TIME VS. TEMPERATURE



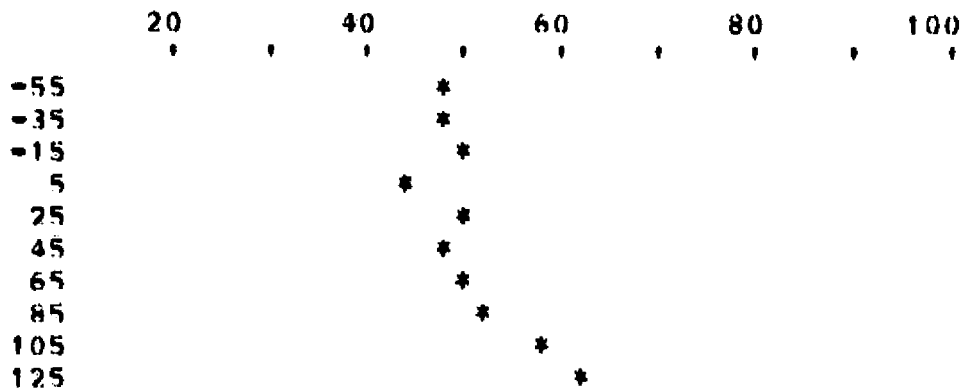
ADDRESS HOLD TIME VS. TEMPERATURE



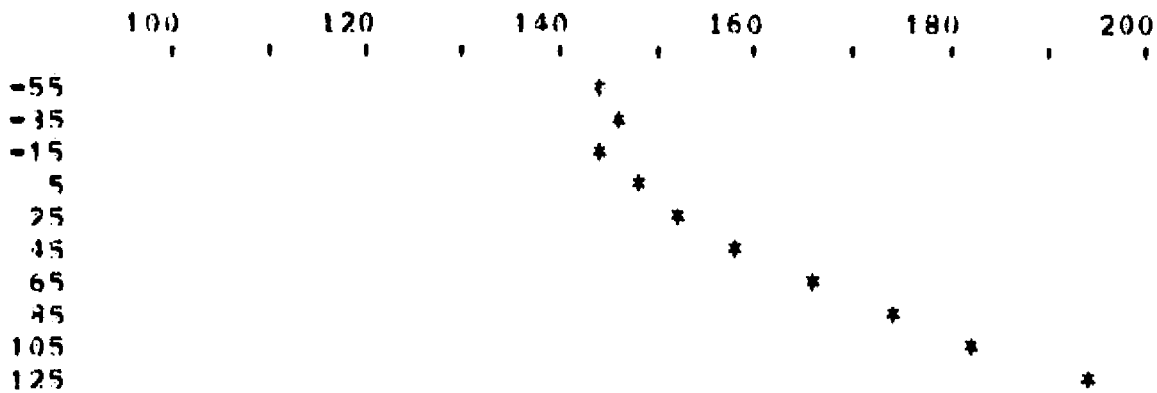
VCC = 5.00 V

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CHIP ENABLE TO WRITE TIME VS. TEMPERATURE



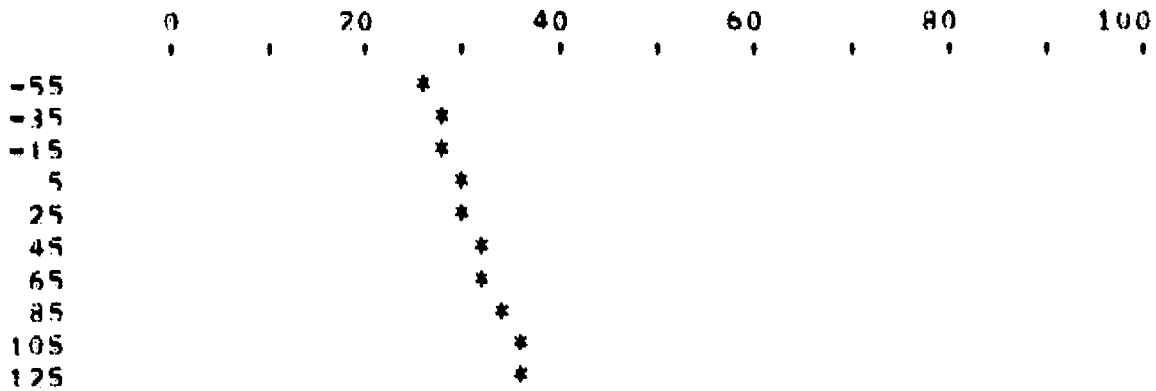
MIN READ CYCLE TIME VS. TEMPERATURE



VCC = 5.00 V

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OUTPUT ENABLE TIME VS. TEMPERATURE



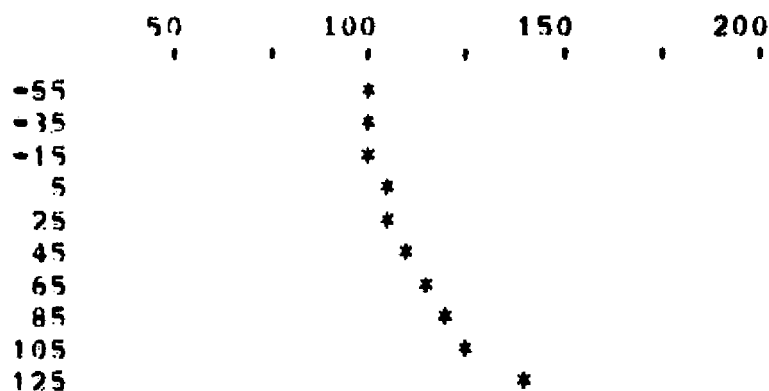
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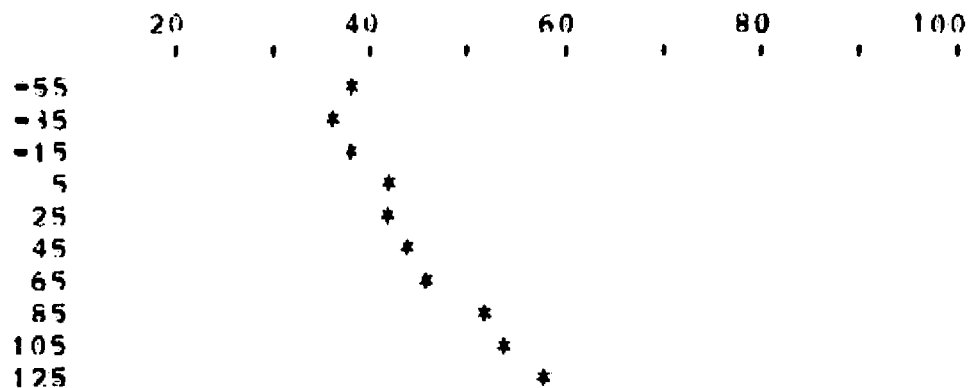
VCC = 5.00 V

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PASSED GALPAT (WIDE LIMITS)
ADDRESS ACCESS TIME VS. TEMPERATURE



WRITE PULSE WIDTH VS. TEMPERATURE



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VCC = 5.00 V

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DATA SETUP TIME VS. TEMPERATURE

	-20	0	20	40	60
-55			*		
-35			*		
-15			*		
5			*		
25			*		
45			*		
65			*		
85			*		
105			*		
125			*		

DATA HOLD TIME VS. TEMPERATURE

	0	20	40
-55	*		
-35	*		
-15	*		
5	*		
25	*		
45	*		
65	*		
85	*		
105	*		
125	*		

VCC = 5.00 V

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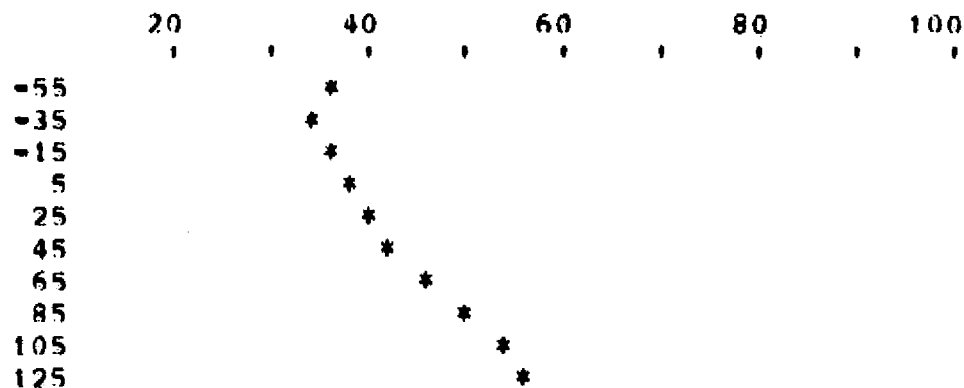
ADDRESS SETUP TIME VS. TEMPERATURE

	0	20	40	60
-55		*		
-35		*		
-15		*		
5		*		
25		*		
45		*		
65		*		
85		*		
105		*		
125		*		

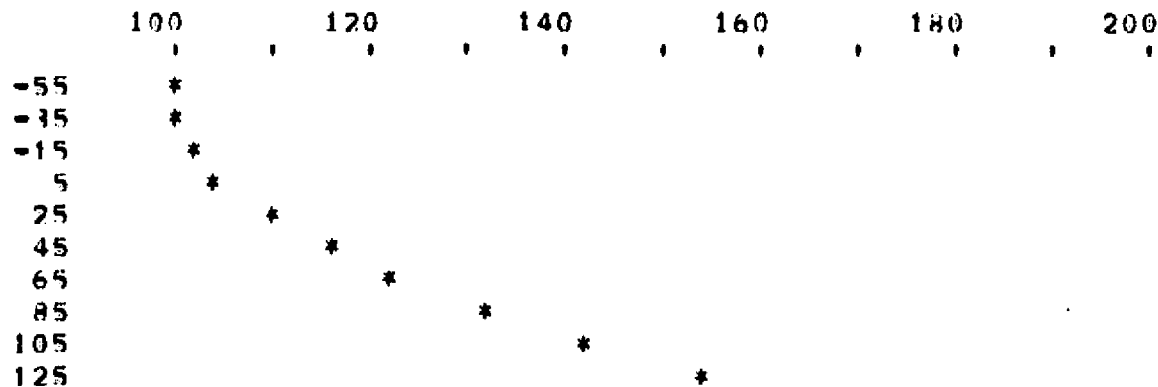
ADDRESS HOLD TIME VS. TEMPERATURE

	-20	0	20	40
-55		*		
-35		*		
-15		*		
5		*		
25		*		
45		*		
65		*		
85		*		
105		*		
125		*		

CHIP ENABLE TO WRITE TIME VS. TEMPERATURE



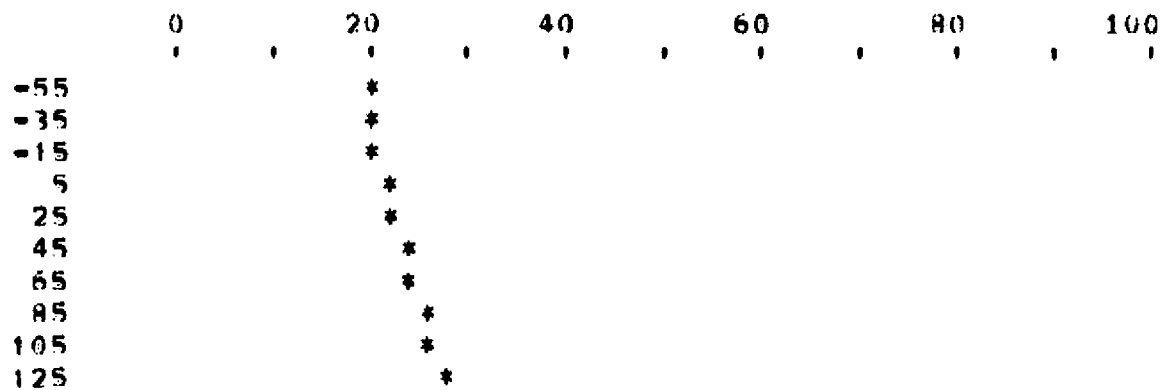
MIN READ CYCLE TIME VS. TEMPERATURE



VCC = 5.00 V

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OUTPUT ENABLE TIME VS. TEMPERATURE



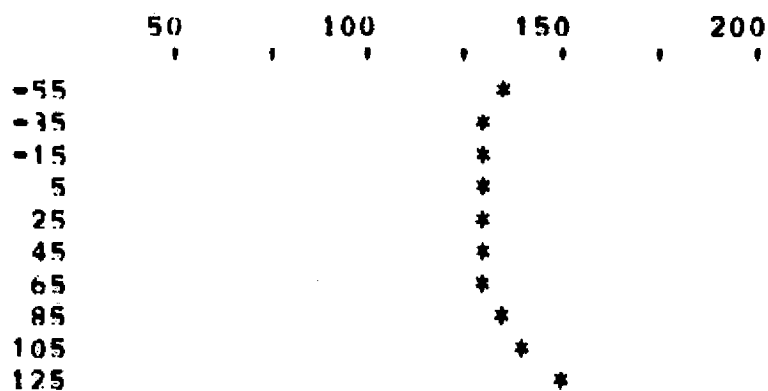
RCA MWS5001 1K CMOS STATIC RAM 10 OCT 77

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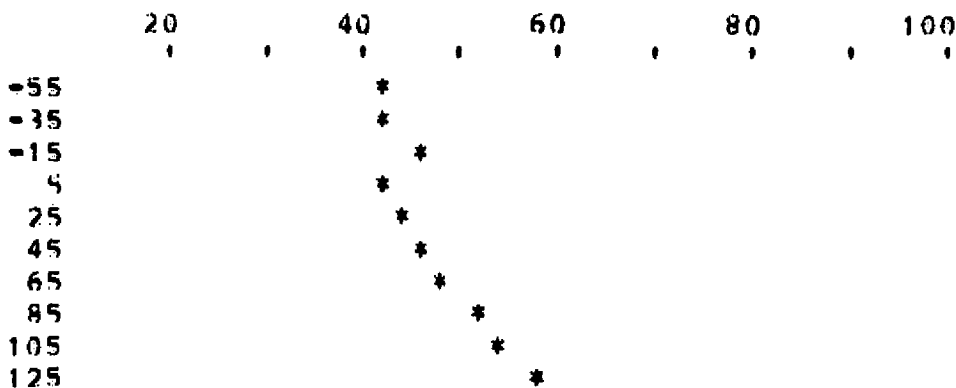
VCC = 5.00 V

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PASSED GALPAT (WIDE LIMITS)
ADDRESS ACCESS TIME VS. TEMPERATURE



WRITE PULSE WIDTH VS. TEMPERATURE



VCC = 5.00 V

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DATA SETUP TIME VS. TEMPERATURE

	-20		0		20		40		60
	1	1	1	1	1	1	1	1	1
-55				*					
-35				*					
-15				*					
5				*					
25				*					
45				*					
65				*					
85				*					
105				*					
125				*					

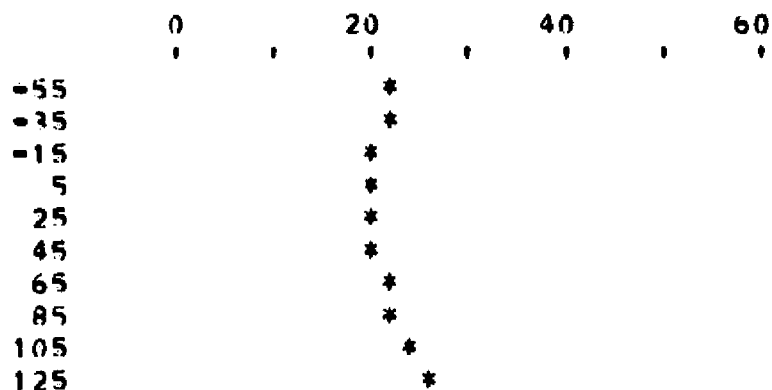
DATA HOLD TIME VS. TEMPERATURE

	0		20		40
	1	1	1	1	1
-55			*		
-35			*		
-15			*		
5			*		
25			*		
45			*		
65			*		
85			*		
105			*		
125			*		

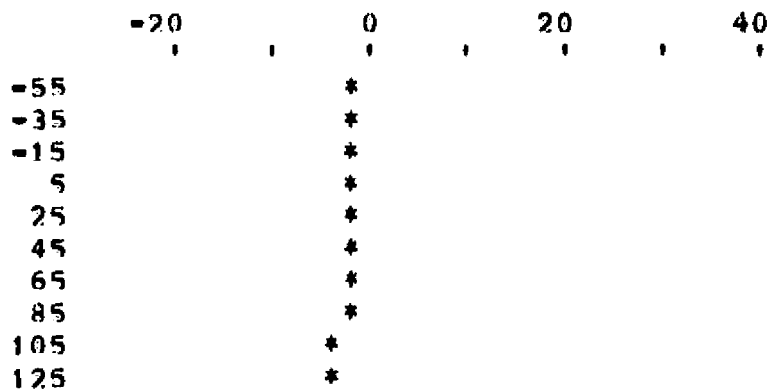
VCC = 5.00 V

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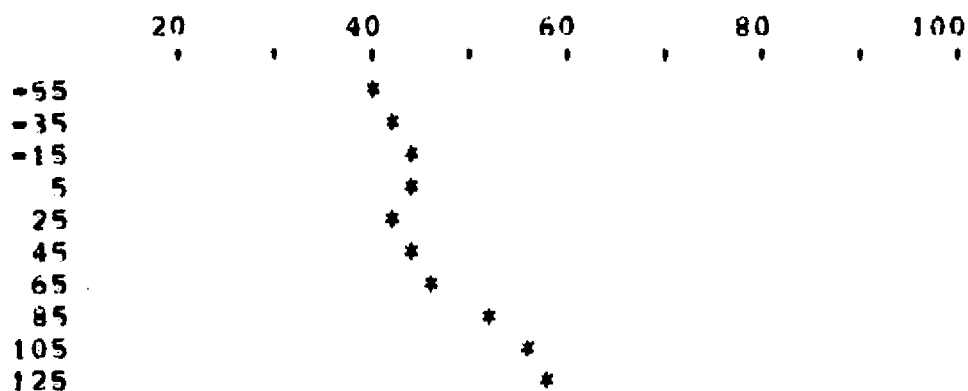
ADDRESS SETUP TIME VS. TEMPERATURE



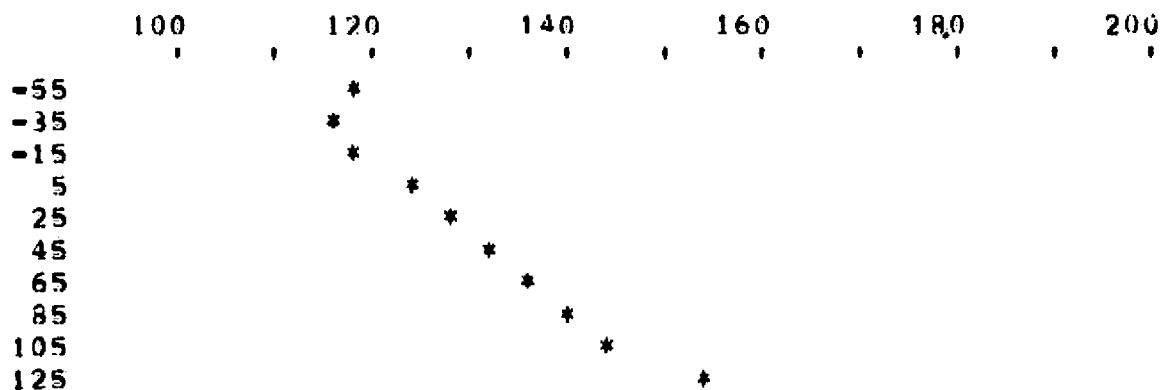
ADDRESS HOLD TIME VS. TEMPERATURE



CHIP ENABLE TO WRITE TIME VS. TEMPERATURE



MIN READ CYCLE TIME VS. TEMPERATURE



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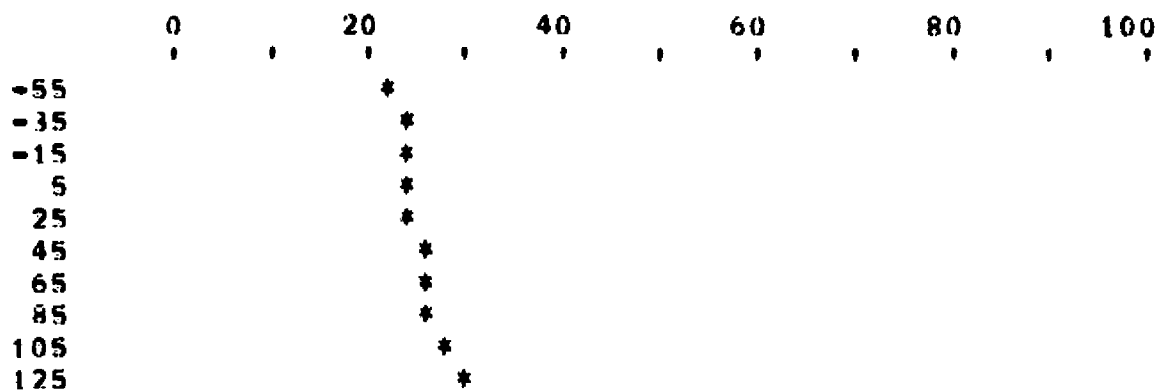
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VCC = 5.00 V

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OUTPUT ENABLE TIME VS. TEMPERATURE



SCHMOO PLOTS

(DATA SETUP TIME VERSUS WRITE PULSE WIDTH AND
DATA HOLD TIME VERSUS WRITE PULSE WIDTH)

TEMP = 25 C VCC = 4.50 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

0 , 20 , 40

30
35
40
45
50
55
60
65
70
75
80*****

DATA HOLD VS. WE PULSE WIDTH

0 , 20 , 40

30
35
40
45
50
55
60
65
70
75
80*****

*****ORIGINAL PAGE IS
OF POOR QUALITY

PRECEDING PAGE BLANK NOT FILMED

TEMP = 25 C VCC = 5.00 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

0 20 40
/ / / / /30
35
40
45
50
55
60
65
70
75
80*****

DATA HOLD VS. WE PULSE WIDTH

0 20 40
/ / / / /30
35
40
45
50
55
60
65
70
75
80*****

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TEMP = 25 C VCC = 5.50 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

	0	20	40
30			
35		*****	
40		*****	
45		*****	
50		*****	
55		*****	
60		*****	
65		*****	
70		*****	
75		*****	
80		*****	

DATA HOLD VS. WE PULSE WIDTH

	0	20	40
30			
35			
40		*****	
45		*****	
50		*****	
55		*****	
60		*****	
65		*****	
70		*****	
75		*****	
80		*****	

TEMP = -55 C VCC = 4.50 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

0 20 40
.
.
.
.
.30
35
40
45
50
55
60
65
70
75
80* * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *

DATA HOLD VS. WE PULSE WIDTH

0 20 40
.
.
.
.
.30
35
40
45
50
55
60
65
70
75
80* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *

TEMP = -55 C VCC = 5.00 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

0 , 20 , 40

30	
35	★ ★★ ★★ ★ ★★
40	★ ★★★★★★★★★★
45	★★★★★★★★★★★★
50	★★★★★★★★★★★★
55	★★★★★★★★★★★★
60	★★★★★★★★★★★★
65	★★★★★★★★★★★★
70	★★★★★★★★★★★★
75	★★★★★★★★★★★★
80	★★★★★★★★★★★★

DATA HOLD VS. WE PULSE WIDTH

0 , 20 , 40

30	
35	★★★★★ ★★★★★ ★★★★★
40	★★★★★★★★★★★★★★★★
45	★★★★★★★★★★★★★★★★
50	★★★★★★★★★★★★★★★★
55	★★★★★★★★★★★★★★★★
60	★★★★★★★★★★★★★★★★
65	★★★★★★★★★★★★★★★★
70	★★★★★★★★★★★★★★★★
75	★★★★★★★★★★★★★★★★
80	★★★★★★★★★★★★★★★★

TEMP = -55 C VCC = 5.50 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

	0	20	40
30	*****	*****	*****
35	*****	*****	*****
40	*****	*****	*****
45	*****	*****	*****
50	*****	*****	*****
55	*****	*****	*****
60	*****	*****	*****
65	*****	*****	*****
70	*****	*****	*****
75	*****	*****	*****
80	*****	*****	*****

DATA HOLD VS. WE PULSE WIDTH

	0	20	40
30	*****	*****	*****
35	*****	*****	*****
40	*****	*****	*****
45	*****	*****	*****
50	*****	*****	*****
55	*****	*****	*****
60	*****	*****	*****
65	*****	*****	*****
70	*****	*****	*****
75	*****	*****	*****
80	*****	*****	*****

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OF POOR QUALITY

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TEMP = 125 C VCC = 4.50 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

0 , 20 , 40

30
35
40
45
50
55
60
65
70
75
80

DATA HOLD VS. WE PULSE WIDTH

0 , 20 , 40

30
35
40
45
50
55
60
65
70
75
80

TEMP = 125 C VCC = 5.00 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

0 20 40
., ., ., ., .,30
35
40
45
50
55
60
65
70
75
80*****

DATA HOLD VS. WE PULSE WIDTH

0 20 40
., ., ., ., .,30
35
40
45
50
55
60
65
70
75
80*****

TEMP = 125 C VCC = 5.50 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

0 20 40

30
 35
 40
 45
 50
 55
 60
 65
 70
 75
 80

DATA HOLD VS. WE PULSE WIDTH

0 20 40

30
 35
 40
 45
 50
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TEMP = 25 C VCC = 4.50 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

0 20 40
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DATA HOLD VS. WE PULSE WIDTH

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TEMP = 25 C VCC = 5.00 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

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DATA HOLD VS. WE PULSE WIDTH

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TEMP = 25 C VCC = 5.50 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

0 20 40
/ / / / /30
35
40
45
50
55
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65
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75
80*****

DATA HOLD VS. WE PULSE WIDTH

0 20 40
/ / / / /30
35
40
45
50
55
60
65
70
75
80*****

TEMP = -55 C VCC = 4.50 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

0 20 40

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DATA HOLD VS. WE PULSE WIDTH

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TEMP = -55 C VCC = 5.00 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

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DATA HOLD VS. WE PULSE WIDTH

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TEMP = -55 C VCC = 5.50 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

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DATA HOLD VS. WE PULSE WIDTH

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TEMP = 125 C VCC = 4.50 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

0 20 40
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DATA HOLD VS. WE PULSE WIDTH

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RCA MWS5001 1K CMOS STATIC RAM 16 MAR 78

SN: 5

TEMP = 125 C VCC = 5.00 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

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DATA HOLD VS. WE PULSE WIDTH

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TEMP = 125 C VCC = 5.50 V

PASSED GALPAT (WIDE LIMITS)

DATA SETUP VS. WE PULSE WIDTH

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DATA HOLD VS. WE PULSE WIDTH

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