



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min	Max	Unit
Operating Temperature	T _A	-55	+125	°C
Storage Temperature	T _{STG}	-65	+150	°C
Signal Voltage Relative to GND	V _G	-0.5	V _{CC} + 0.5	V
Junction Temperature	T _J		150	°C
Supply Voltage	V _{CC}	-0.5	7.0	V

RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Min	Max	Unit
Supply Voltage	V _{CC}	4.5	5.5	V
Input High Voltage	V _{IH}	2.2	V _{CC} + 0.3	V
Input Low Voltage	V _{IL}	-0.5	+0.8	V
Operating Temp (Mil)	T _A	-55	+125	°C
Operating Temp (Ind.)	T _A	-40	+85	°C

CAPACITANCE

(T_A = +25°C)

Parameter	Symbol	Conditions	Max	Unit
$\overline{OE}$ 1-4 capacitance	C _{OE}	V _{IN} = 0 V, f = 1.0 MHz	30	pF
$\overline{WE}$ 1-4 capacitance	C _{WE}	V _{IN} = 0 V, f = 1.0 MHz	30	pF
$\overline{CS}$ 1-2 capacitance	C _{CS}	V _{IN} = 0 V, f = 1.0 MHz	30	pF
Data I/O capacitance	C _{I/O}	V _{I/O} = 0 V, f = 1.0 MHz	30	pF
Address input capacitance	C _{AD}	V _{IN} = 0 V, f = 1.0 MHz	100	pF

This parameter is guaranteed by design but not tested.

TRUTH TABLE

$\overline{CS}$ 1	$\overline{CS}$ 2	$\overline{OE}$	$\overline{WE}$	Mode	Data I/O	Power
H	H	X	X	Standby	High Z	Standby
L	H	L	H	Read	Data Out	Active
L	H	H	H	Out Disable	High Z	Active
L	H	X	L	Write	Data In	Active
H	L	L	H	Read	Data Out	Active
H	L	H	H	Out Disable	High Z	Active
H	L	X	L	Write	Data In	Active
L	L	X	X	Invalid State	Invalid State	Invalid State

DC CHARACTERISTICS

(V_{CC} = 5.0V, GND = 0V, T_A = -55°C to +125°C)

Parameter	Symbol	Conditions	Min	Max	Units
Input Leakage Current	I _{LI}	V _{CC} = 5.5, V _{IN} = GND to V _{CC}		10	μA
Output Leakage Current	I _{LO}	$\overline{CS}$ = V _{IH} , $\overline{OE}$ = V _{IH} , V _{OUT} = GND to V _{CC}		10	μA
Operating Supply Current x 32 Mode	I _{CC} x 32	$\overline{CS}$ = V _{IL} , $\overline{OE}$ = V _{IH} , f = 5MHz, V _{CC} = 5.5		600	mA
Standby Current	I _{SB}	$\overline{CS}$ = V _{IH} , $\overline{OE}$ = V _{IH} , f = 5MHz, V _{CC} = 5.5		120	mA
Output Low Voltage	V _{OL}	I _{OL} = 8mA, V _{CC} = 4.5		0.4	V
Output High Voltage	V _{OH}	I _{OH} = -4.0mA, V _{CC} = 4.5	2.4		V

NOTE: DC test conditions: V_{IH} = V_{CC} - 0.3V, V_{IL} = 0.3V



AC CHARACTERISTICS

(V_{CC} = 5.0V, GND = 0V, T_A = -55°C to +125°C)

Parameter Read Cycle	Symbol	-17		-20		-25		Units
		Min	Max	Min	Max	Min	Max	
Read Cycle Time	t _{RC}	17		20		25		ns
Address Access Time	t _{AA}		17		20		25	ns
Output Hold from Address Change	t _{OH}	0		0		0		ns
Chip Select Access Time	t _{ACS}		17		20		25	ns
Output Enable to Output Valid	t _{OE}		10		10		12	ns
Chip Select to Output in Low Z	t _{CLZ} ¹	2		2		2		ns
Output Enable to Output in Low Z	t _{OLZ} ¹	0		0		0		ns
Chip Disable to Output in High Z	t _{CHZ} ¹		12		12		12	ns
Output Disable to Output in High Z	t _{OHZ} ¹		12		12		12	ns

1. This parameter is guaranteed by design but not tested.

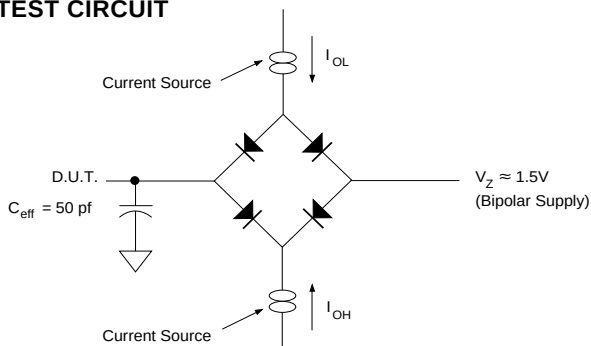
AC CHARACTERISTICS

(V_{CC} = 5.0V, GND = 0V, T_A = -55°C to +125°C)

Parameter Write Cycle	Symbol	-17		-20		-25		Units
		Min	Max	Min	Max	Min	Max	
Write Cycle Time	t _{WC}	17		20		25		ns
Chip Select to End of Write	t _{CW}	15		15		17		ns
Address Valid to End of Write	t _{AW}	15		15		17		ns
Data Valid to End of Write	t _{DW}	11		12		13		ns
Write Pulse Width	t _{WP}	15		15		17		ns
Address Setup Time	t _{AS}	2		2		2		ns
Address Hold Time	t _{AH}	0		0		0		ns
Output Active from End of Write	t _{OW} ¹	2		3		4		ns
Write Enable to Output in High Z	t _{WHZ} ¹		9		11		13	ns
Data Hold Time	t _{DH}	0		0		0		ns

1. This parameter is guaranteed by design but not tested.

AC TEST CIRCUIT



AC TEST CONDITIONS

Parameter	Typ	Unit
Input Pulse Levels	$V_{IL} = 0, V_{IH} = 3.0$	V
Input Rise and Fall	5	ns
Input and Output Reference Level	1.5	V
Output Timing Reference Level	1.5	V

NOTES:

V_Z is programmable from -2V to +7V.

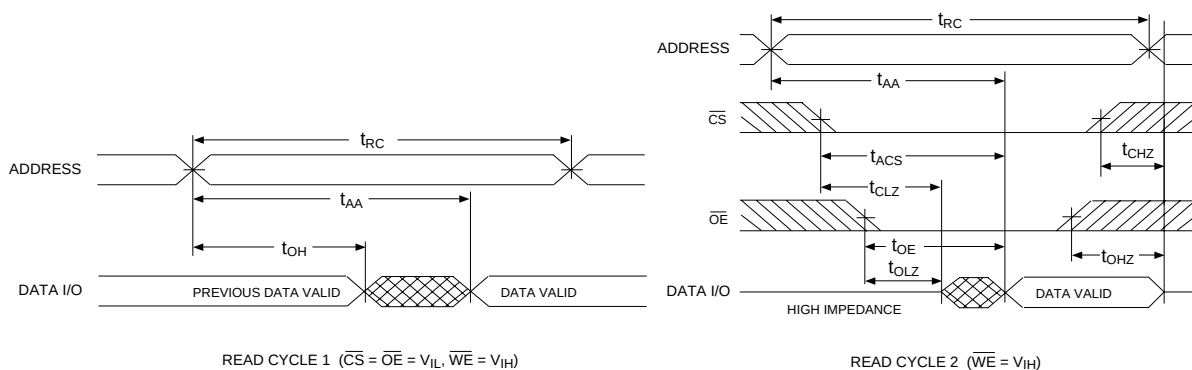
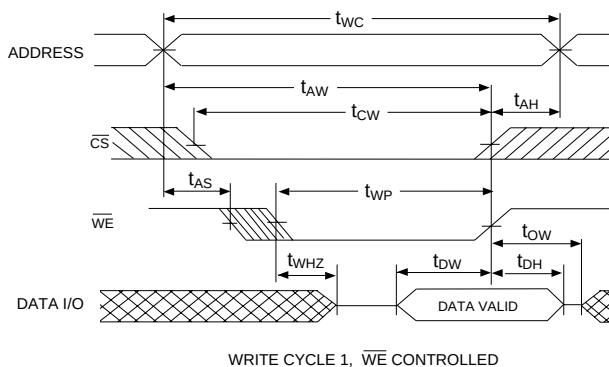
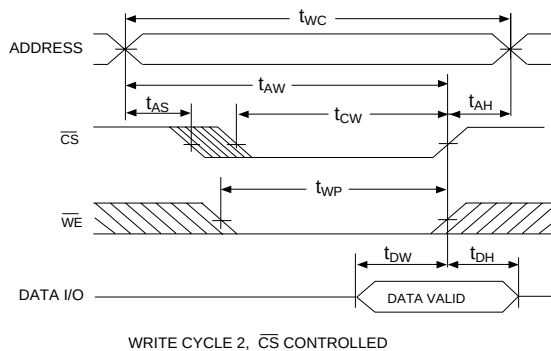
I_{OL} & I_{OH} programmable from 0 to 16mA.

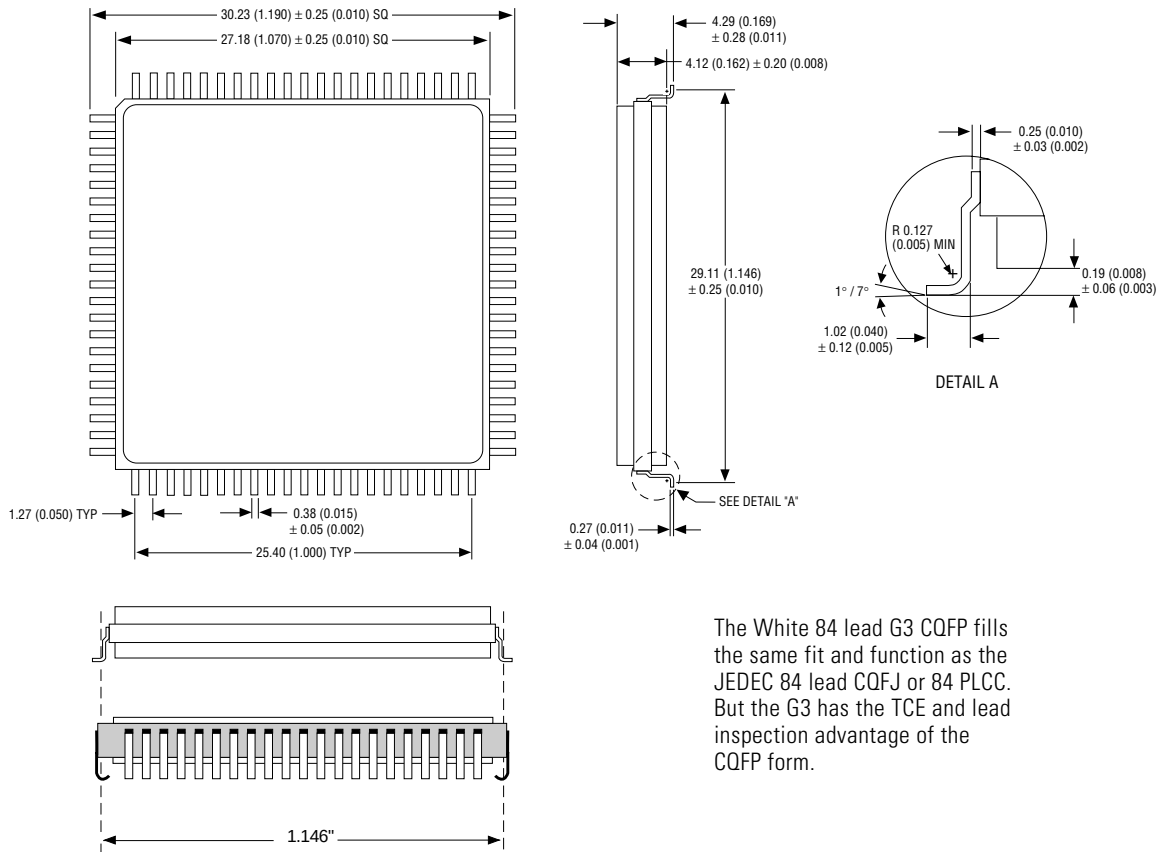
Tester Impedance Z₀ = 75 Ω.

V_Z is typically the midpoint of V_{OH} and V_{OL}.

I_{OL} & I_{OH} are adjusted to simulate a typical resistive load circuit.

ATE tester includes jig capacitance.

**TIMING WAVEFORM - READ CYCLE****WRITE CYCLE - $\overline{WE}$ CONTROLLED****WRITE CYCLE - $\overline{CS}$ CONTROLLED**

**PACKAGE 511: 84 LEAD, CERAMIC QUAD FLAT PACK (G3)**

The White 84 lead G3 CQFP fills the same fit and function as the JEDEC 84 lead CQFJ or 84 PLCC. But the G3 has the TCE and lead inspection advantage of the CQFP form.

ALL LINEAR DIMENSIONS ARE MILLIMETERS AND PARENTHETICALLY IN INCHES



ORDERING INFORMATION

