



3.13

DC Performance Specifications

Table 3-17. VMEbus Signals AS*, DS1*, DS0*, DTACK*

Parameter	Description	Test Conditions	Comm.	Industrial	Military	Units
V_{IH}	Minimum High-Level Input Voltage		2.0	2.0	2.0	V
V_{IL}	Maximum Low-Level Input Voltage		0.8	0.8	0.8	V
V_{OH}	Minimum High-Level Output Voltage	$V_{CC} = \text{Min.},$ $I_{OH} =$	2.4 –16 mA	2.4 –10 mA	2.4 –9 mA	V
V_{OL}	Maximum Low-Level Output Voltage	$V_{CC} = \text{Min.},$ $I_{OL} =$	0.6 64 mA	0.6 60 mA	0.6 52 mA	V
I_L	Maximum Input Leakage Current	$V_{CC} = \text{Max.},$ $\text{GND} < V_{IN} < V_{CC}$	± 5	± 5	± 5	μA
V_{IK}	Input Clamp Voltage	$V_{CC} = \text{Min.}, I_{IN} = -18 \text{ mA}$	–1.2	–1.2	–1.2	V
I_{OZ}	Maximum Output Leakage Current	$V_{CC} = \text{Max.},$ $\text{GND} \leq V_{OUT} \leq V_{CC}$ Outputs Disabled	± 10	± 10	± 10	μA

Table 3-18. VMEbus Signals AM5, AM4, AM3, AM2, AM1, AM0, IRQ*, BERR*^[1]

Parameter	Description	Test Conditions	Comm.	Industrial	Military	Units
V_{IH}	Minimum High-Level Input Voltage		2.0	2.0	2.0	V
V_{IL}	Maximum Low-Level Input Voltage		0.8	0.8	0.8	V
V_{OH}	Minimum High-Level Output Voltage	$V_{CC} = \text{Min.},$ $I_{OH} =$	2.4 –16 mA	2.4 –10 mA	2.4 –9 mA	V
V_{OL}	Minimum Low-Level Output Voltage	$V_{CC} = \text{Min.},$ $I_{OL} =$	0.6 48 mA	0.6 44 mA	0.6 38 mA	V
I_L	Maximum Input Leakage Current	$V_{CC} = \text{Max.},$ $GND < V_{IN} < V_{CC}$	±5	±5	±5	μA
V_{IK}	Input Clamp Voltage	$V_{CC} = \text{Min.}, I_{IN} = -18 \text{ mA}$	–1.2	–1.2	–1.2	V
I_{OZ}	Maximum Output Leakage Current	$V_{CC} = \text{Max.},$ $GND < V_{OUT} < V_{CC}$ Outputs Disabled	±5	±5	±10	μA

Note:

1. The BERR* signal has an on-chip pull-up resistor. For this signal the I_{OZ} value is modified by *Table 3-21*.

Table 3-19. All Other Output Signals^[2]

Parameter	Description	Test Conditions	Comm.	Industrial	Military	Units
V_{IH}	Minimum High-Level Input Voltage		2.0	2.0	2.0	V
V_{IL}	Maximum Low-Level Input Voltage		0.8	0.8	0.8	V
V_{OH}	Minimum High-Level Output Voltage	$V_{CC} = \text{Min.}, I_{OH} =$	2.4 –16 mA	2.4 –10 mA	2.4 –9 mA	V
V_{OL}	Minimum Low-Level Output Voltage	$V_{CC} = \text{Min.}, I_{OL} =$	0.6 20 mA	0.6 18 mA	0.6 16 mA	V
I_L	Maximum Input Leakage Current	$V_{CC} = \text{Max.}, GND < V_{IN} < V_{CC}$	±5	±5	±5	μA
V_{IK}	Input Clamp Voltage	$V_{CC} = \text{Min.}, I_{IN} = -18 \text{ mA}$	–1.2	–1.2	–1.2	V
I_{OZ}	Maximum Output Leakage Current	$V_{CC} = \text{Max.}, GND < V_{OUT} < V_{CC}$ Outputs Disabled	±5	±5	±10	μA

Note:

- Some signals have an on-chip pull-up or pull-down resistors. For these signals I_{OZ} value is modified.

Table 3-20. Capacitance - All Signals

Parameters	Description	Test Conditions	Max.	Units
C_{IN}	Input Capacitance	$T_A = 25^\circ\text{C}, f = 1 \text{ MHz}, V_{CC} = 5.0\text{V}$	10	pF
C_{OUT}	Output Capacitance		10	pF

Table 3-21. Pullup/Pulldown Current - All Signals

Parameters	Description	Test Conditions	Typ.	Max.
I_{PU}	Input Pullup Current	$T_A = -55^\circ\text{C}, V_{CC} = 5.5\text{V}$ $V_{IN} = GND$	100 mA	250 μA
I_{PD}	Input Pulldown Current	$T_A = -55^\circ\text{C}, V_{CC} = 5.5\text{V}$ $V_{IN} = V_{CC}$	–100 mA	–250 μA

Table 3-22. Operating Current (CY7C960/CY7C961)

Parameters	Description	Test Conditions	Max.	Units
I_{DD}	Maximum Operating Current	No external DC load	100	mA