

**Electrical Characteristics (continued)**(DQ = 1.8V, T<sub>A</sub> = 25°C, min/max are from T<sub>A</sub> = 0°C to +70°C, unless otherwise noted ([Note 1](#)))

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Standby Current		DQ = 1.8V, T <sub>A</sub> = +25°C		0.6	1.0	µA
		DQ = 1.8V, T <sub>A</sub> = +70°C ( <a href="#">Note 6</a> )		2.2	4	
1-Wire / DQ Pin General Data						
1-Wire Pullup Voltage	V <sub>PUP</sub>	( <a href="#">Note 3,Note 4</a> )	1.7		3.6	V
1-Wire Pullup Resistance	R <sub>PUP</sub>	( <a href="#">Note 3,Note 5</a> )	300		1000	Ω
Input Capacitance	C <sub>DQ</sub>	( <a href="#">Note 6</a> )		100		pF
High-to-Low Switching Threshold	V <sub>TL</sub>	( <a href="#">Note 7,Note 8,Note 9</a> )		0.65 x V <sub>PUP</sub>		V
Input Low Voltage	V <sub>IL</sub>	( <a href="#">Note 3,Note 10</a> )			0.15 x V <sub>PUP</sub>	V
Low-to-High Switching Threshold	V <sub>TH</sub>	( <a href="#">Note 7,Note 8,Note 11</a> )		0.75 x V <sub>PUP</sub>		V
Switching Hysteresis	V <sub>HY</sub>	( <a href="#">Note 7,Note 8,Note 12</a> )		0.3		V
Output Low Voltage	V <sub>OL</sub>	At 4mA current load ( <a href="#">Note 13</a> )			0.4	V
Recovery Time	t <sub>REC</sub>	R <sub>PUP</sub> = 750Ω and single device attached to a 1-wire line ( <a href="#">Note 4,Note 14</a> )	5			µs
Time Slot Duration		( <a href="#">Note 3,Note 15</a> )		t <sub>W0L</sub> + t <sub>REC</sub>		µs
1-Wire / DQ Pin 1-Wire RESET, PRESENCE DETECT CYCLE						
Reset Low Time (Note 3)	t <sub>RSTL</sub>	Standard Speed	480		640	µs
		Overdrive Speed	48		80	
Reset High Time (Note 3,16)	t <sub>RSTH</sub>	Standard Speed	480			µs
		Overdrive Speed	48			
Presence Detect High Time	t <sub>PDH</sub>	Standard Speed	15		60	µs
		Overdrive Speed	2		6	
Presence Detect Low Time	t <sub>PDL</sub>	Standard Speed	60		240	µs
		Overdrive Speed	8		24	
Presence Detect Sample Time (Note 3,17)	t <sub>MSP</sub>	Standard Speed	60		75	µs
		Overdrive Speed	6		10	
1-Wire / DQ Pin 1-Wire WRITE						
Write-Zero Low Time (Note 3,18)	t <sub>W0L</sub>	Standard Speed	60		120	µs
		Overdrive Speed	6		15.5	
Write-One Low Time (Note 3,18)	t <sub>W1L</sub>	Standard Speed	0.25		15	µs
		Overdrive Speed	0.25		2	
1-Wire / DQ Pin 1-Wire READ						
Read Low Time (Note 3,19)	t <sub>RL</sub>	Standard Speed	0.25		15 - δ	µs
		Overdrive Speed	0.25		2 - δ	
Read Sample Time (Note 3,19)	t <sub>MSR</sub>	Standard Speed	t <sub>RL</sub> + δ		15	µs
		Overdrive Speed	t <sub>RL</sub> + δ		2	