

Operating Temperature.....	-55°C to +125°C
Storage Temperature .....	-65°C to +150°C
Voltage on any Pin except $\overline{\text{RESET}}$ with respect to Ground .....	-0.5V to $V_{CC}+0.5V$
Voltage on $\overline{\text{RESET}}$ with respect to Ground.....	-0.5V to +13.0V
Maximum Operating Voltage .....	6.0V
DC Current per I/O Pin .....	40.0mA
DC Current $V_{CC}$ and GND Pins .....	200.0mA

**\*NOTICE:** Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or other conditions beyond those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

### 31.1 DC Characteristics

$T_A = -40^\circ\text{C}$  to  $85^\circ\text{C}$ ,  $V_{CC} = 1.8V$  to  $5.5V$  (unless otherwise noted)

Symbol	Parameter	Condition	Min.	Typ.	Max.	Units
$V_{IL}$	Input Low Voltage, Except XTAL1 and Reset pin	$V_{CC} = 1.8V - 2.4V$ $V_{CC} = 2.4V - 5.5V$	-0.5 -0.5		$0.2V_{CC}^{(1)}$ $0.3V_{CC}^{(1)}$	V
$V_{IL1}$	Input Low Voltage, XTAL1 pin	$V_{CC} = 1.8V - 5.5V$	-0.5		$0.1V_{CC}^{(1)}$	
$V_{IL2}$	Input Low Voltage, RESET pin	$V_{CC} = 1.8V - 5.5V$	-0.5		$0.1V_{CC}^{(1)}$	
$V_{IH}$	Input High Voltage, Except XTAL1 and RESET pins	$V_{CC} = 1.8V - 2.4V$ $V_{CC} = 2.4V - 5.5V$	$0.7V_{CC}^{(2)}$ $0.6V_{CC}^{(2)}$		$V_{CC} + 0.5$ $V_{CC} + 0.5$	
$V_{IH1}$	Input High Voltage, XTAL1 pin	$V_{CC} = 1.8V - 2.4V$ $V_{CC} = 2.4V - 5.5V$	$0.8V_{CC}^{(2)}$ $0.7V_{CC}^{(2)}$		$V_{CC} + 0.5$ $V_{CC} + 0.5$	
$V_{IH2}$	Input High Voltage, RESET pin	$V_{CC} = 1.8V - 5.5V$	$0.9V_{CC}^{(2)}$		$V_{CC} + 0.5$	
$V_{OL}$	Output Low Voltage <sup>(3)</sup> , Except RESET pin	$I_{OL} = 20mA$ , $V_{CC} = 5V$ $I_{OL} = 10mA$ , $V_{CC} = 3V$			0.9 0.6	