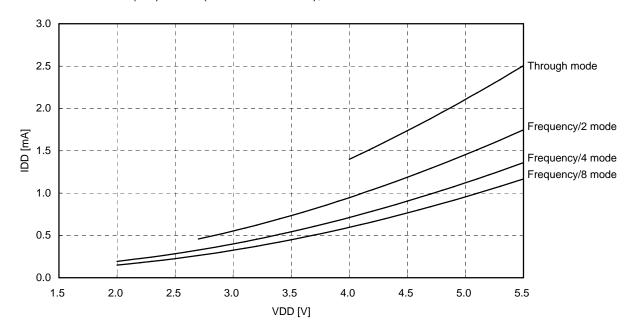


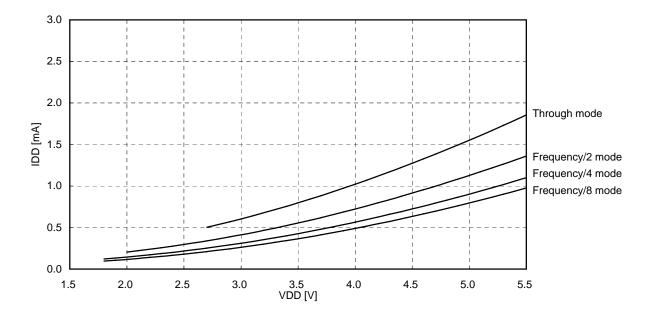
1-1. VDD-IDD characteristics

conditions: f(Xin)=6MHz(ceramic resonator), Ta=25°C



1-2. VDD-IDD characteristics

conditions: f(Xin)=4MHz(ceramic resonator), Ta=25°C



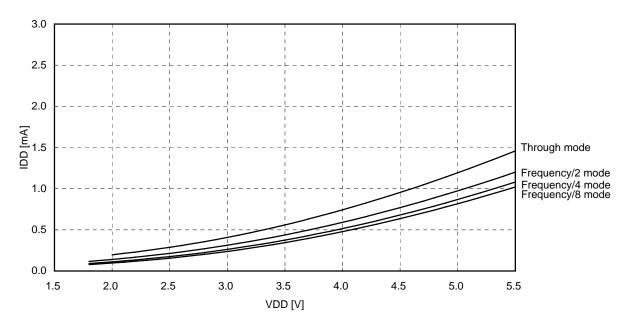
Standard characteristics are just examples and are not guaranteed. For each parameter's limits, refer to electrical characteristics of Datasheet.

These MCUs have the equal characteristics as the above expression.



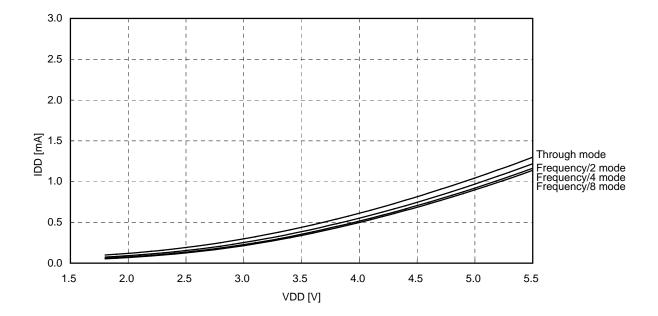
1-3. VDD-IDD characteristics

conditions: f(Xin)=2MHz(ceramic resonator), Ta=25°C



1-4. VDD-IDD characteristics

conditions: f(Xin)=1MHz(ceramic resonator), Ta=25°C



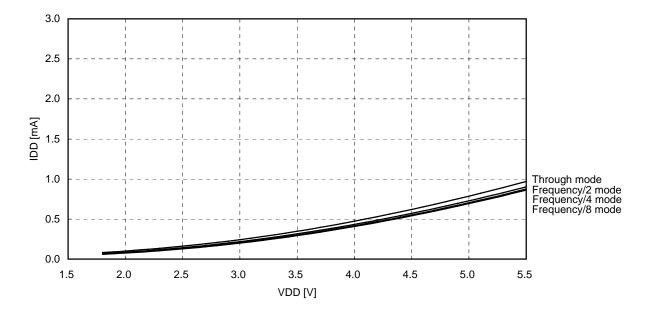
Standard characteristics are just examples and are not guaranteed. For each parameter's limits, refer to electrical characteristics of Datasheet. These MCUs have the equal characteristics as the above expression.

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1-5. VDD-IDD characteristics

conditions: f(Xin)=500kHz(ceramic resonator), Ta=25°C

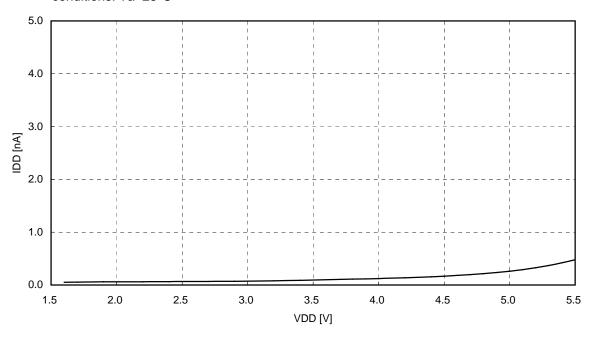


Standard characteristics are just examples and are not guaranteed. For each parameter's limits, refer to electrical characteristics of Datasheet. These MCUs have the equal characteristics as the above expression.



1-6. VDD-IDD(RAM back-up) characteristics

conditions: Ta=25°C

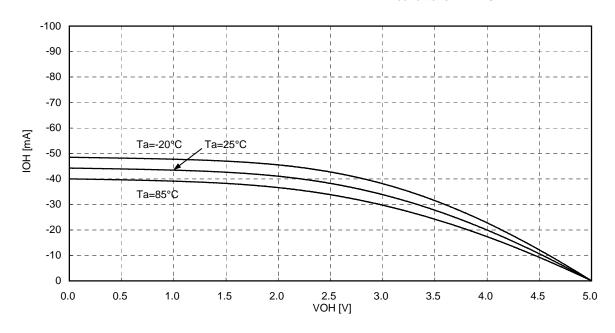


Standard characteristics are just examples and are not guaranteed. For each parameter's limits, refer to electrical characteristics of Datasheet. These MCUs have the equal characteristics as the above expression.



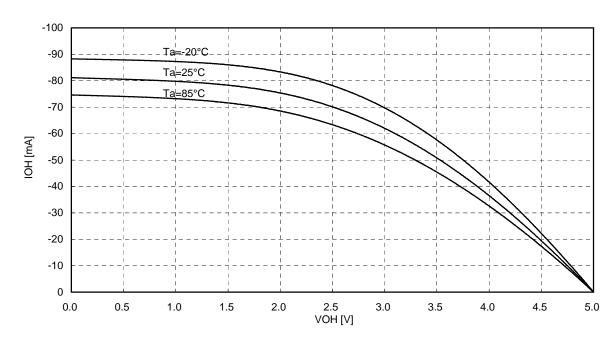
2-1. "H" output current (VOH-IOH) characteristics P3,D0-D3 pins

conditions: VDD=5V



2-2. "H" output current (VOH-IOH) characteristics C pin

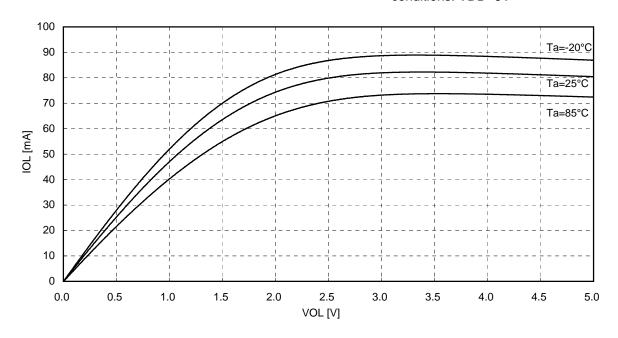
conditions: VDD=5V



Standard characteristics are just examples and are not guaranteed. For each parameter's limits, refer to electrical characteristics of Datasheet. These MCUs have the equal characteristics as the above expression.



2-3. "L" output current (VOL-IOL) characteristics P0,P1,P2,P3,D0-D4,C,RESET pins conditions: VDD=5V

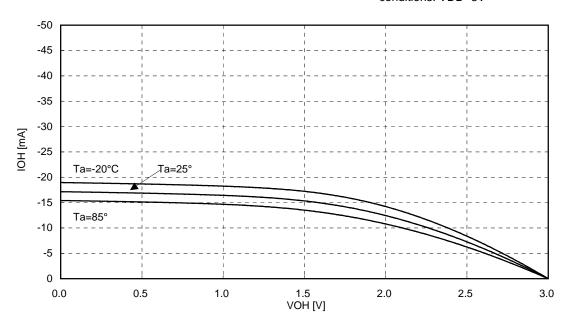


Standard characteristics are just examples and are not guaranteed. For each parameter's limits, refer to electrical characteristics of Datasheet. These MCUs have the equal characteristics as the above expression.



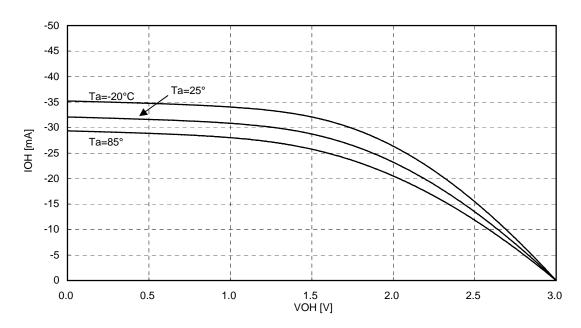
2-4. "H" output current (VOH-IOH) characteristics P3,D0-D3 pins

conditions: VDD=3V



2-5. "H" output current (VOH-IOH) characteristics C pin

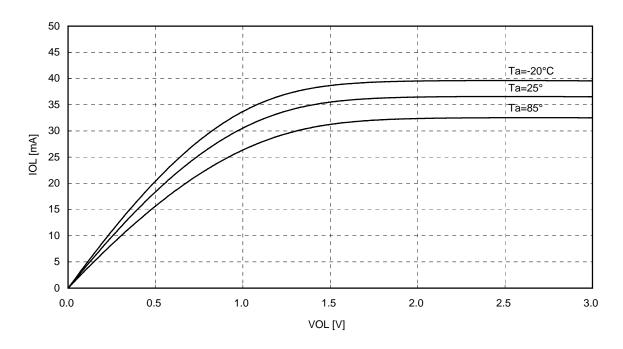
conditions: VDD=3V



Standard characteristics are just examples and are not guaranteed. For each parameter's limits, refer to electrical characteristics of Datasheet. These MCUs have the equal characteristics as the above expression.



2-6. "L" output current (VOL-IOL) characteristics P0,P1,P2,P3,D0-D4,C,RESET pins conditions: VDD=3V

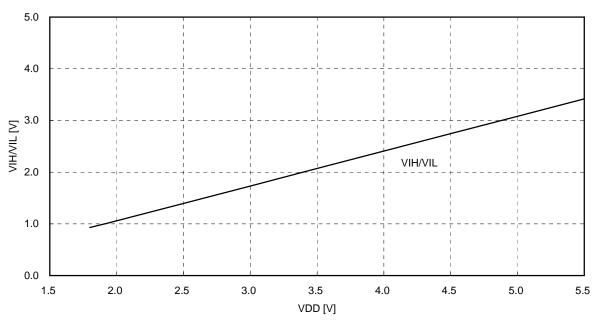


Standard characteristics are just examples and are not guaranteed. For each parameter's limits, refer to electrical characteristics of Datasheet. These MCUs have the equal characteristics as the above expression.



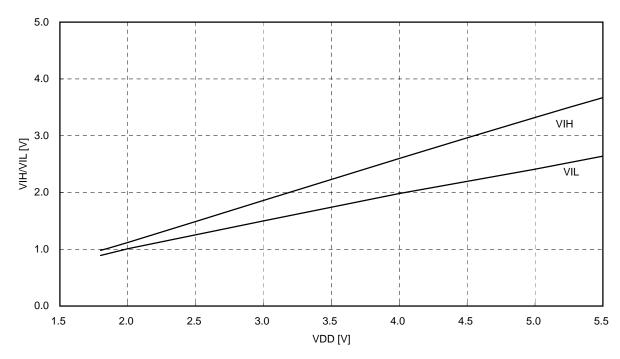
3-1. Input threshold value (VIH/VIL) characteristics P0,P1,P2,P3,D0-D4,K pins

conditions: Ta=25°C



3-2. Input threshold value (VIH/VIL) characteristics RESET pin

conditions: Ta=25°C



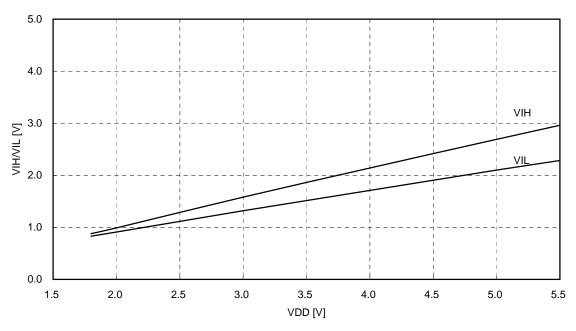
Standard characteristics are just examples and are not guaranteed. For each parameter's limits, refer to electrical characteristics of Datasheet.

These MCUs have the equal characteristics as the above expression.



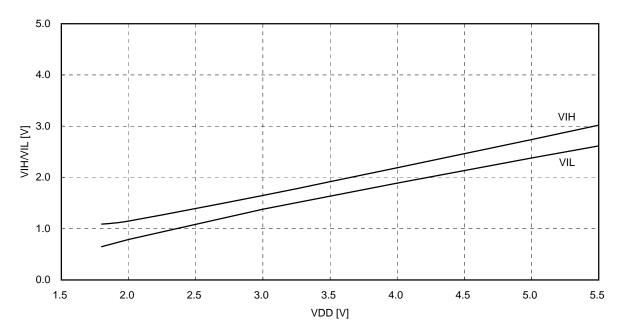
3-3. Input threshold value (VIH/VIL) characteristics INT0,INT1 pins

conditions: Ta=25°C



3-4. Input threshold value (VIH/VIL) characteristics CNTR0 pin

conditions: Ta=25°C



Standard characteristics are just examples and are not guaranteed. For each parameter's limits, refer to electrical characteristics of Datasheet. These MCUs have the equal characteristics as the above expression.

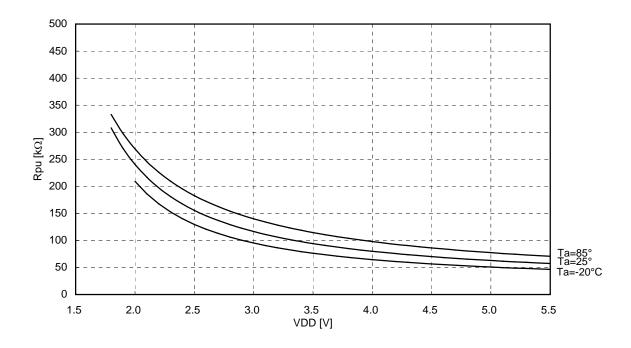
These MCUs have the equal characteristics as the above expl

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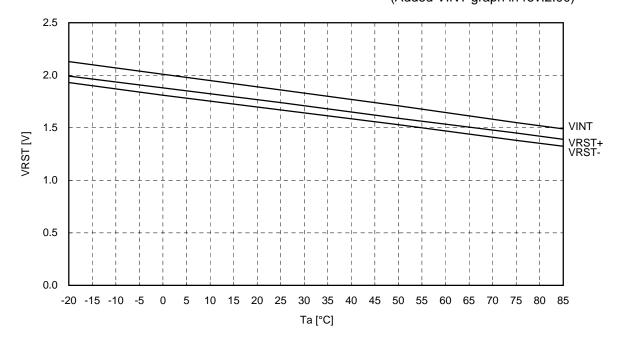
4. Pull-up resistor (VDD-RPU) characteristics P0, P1,P2, RESET pins



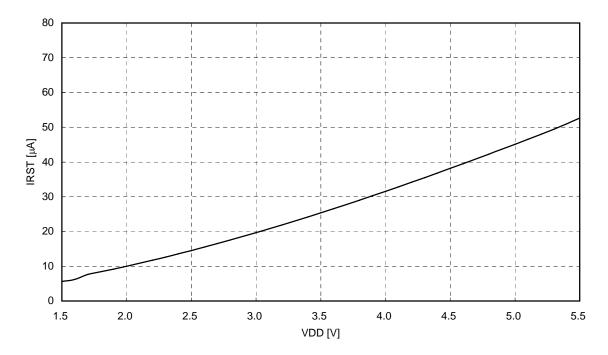
Standard characteristics are just examples and are not guaranteed. For each parameter's limits, refer to electrical characteristics of Datasheet. These MCUs have the equal characteristics as the above expression.



5-1. Voltage drop detection circuit detection voltage (Ta-VRST) characteristics (Added VINT graph in rev.2.00)



5-2. Voltage drop detection circuit operation current (VDD-IRST) characteristics conditions: Ta=25°C



Standard characteristics are just examples and are not guaranteed. For each parameter's limits, refer to electrical characteristics of Datasheet. These MCUs have the equal characteristics as the above expression.

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Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: http://www.renesas.com

April 1st, 2010 Renesas Electronics Corporation

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