

To our customers,

---

## Old Company Name in Catalogs and Other Documents

---

On April 1<sup>st</sup>, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

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

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

Send any inquiries to <http://www.renesas.com/inquiry>.

# RENESAS TECHNICAL UPDATE

Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan  
Renesas Technology Corp.

Product Category	MPU&MCU	Document No.	TN-H8*-A312A/E	Rev.	1.00
Title	Spec change in electrical characteristics for H8SX/1582		Information Category	Technical Notification	
Applicable Product	H8SX/1582	Lot No.	Reference Document	H8SX/1582 Hardware Manual (REJ09B0199-0100Z Rev. 1.00)	
		All lots			

Thank you for your consistent patronage of Renesas semiconductor products.

We would like to inform you of the changes to temperature condition and current consumption in Electrical Characteristics in the H8SX/1582 Hardware Manual, Rev.1.00 (REJ09B0199-0100Z).

## 1. Temperature conditions

[Before change]  $T_a = -20^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$  (regular specifications),  
 $T_a = -40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  (wide-range specifications)

[After change]  $T_a = -20^{\circ}\text{C}$  to  **$+85^{\circ}\text{C}$**

## 2. Current consumption

[Before change]

Table 21.2 DC Characteristics (2)

Conditions:  $V_{CC} = 4.5\text{ V}$  to  $5.5\text{ V}$ ,  $AV_{CC0} = 4.5\text{ V}$  to  $5.5\text{ V}$ ,  $AV_{CC1} = 4.5\text{ V}$  to  $5.5\text{ V}$ ,

$V_{SS} = AV_{SS} = 0\text{ V}^{*1}$ ,  $T_a = -20^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$  (regular specifications),

$T_a = -40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  (wide-range specifications)

	Item	Symbol	Min.	Typ.	Max.	Unit	Test Conditions	
Current consumption*2	Normal operation	$I_{CC}^{*4}$	—	62	95	mA	$f = 48\text{ MHz}$	
	Sleep mode		—	52	85			
	Standby mode*3			—	30	50	$\mu\text{A}$	$T_a \leq 50^{\circ}\text{C}$
				—	—	200		$50^{\circ}\text{C} < T_a$
	All-module-clock-stop mode*5		—	42	55	mA		

Notes: 4.  $I_{CC}$  depends on  $V_{CC}$  and  $f$  as follows:  
 $I_{CCmax} = 12\text{ (mA)} + 0.32\text{ (mA/(MHz} \times \text{V))} \times V_{CC} \times f$  (normal operation)  
 $I_{CCmax} = 12\text{ (mA)} + 0.28\text{ (mA/(MHz} \times \text{V))} \times V_{CC} \times f$  (sleep mode)

[After change]

Table 21.2 DC Characteristics (2)

Conditions:  $V_{CC} = 4.5\text{ V to }5.5\text{ V}$ ,  $AV_{CC0} = 4.5\text{ V to }5.5\text{ V}$ ,  $AV_{CC1} = 4.5\text{ V to }5.5\text{ V}$ ,  
 $V_{SS} = AV_{SS} = 0\text{ V}^{*1}$ ,  $T_a = -20^{\circ}\text{C to }+85^{\circ}\text{C}$ ,

	Item	Symbol	Min.	Typ.	Max.	Unit	Test Conditions	
Current consumption*2	Normal operation	$I_{CC}^{*4}$	—	<b>95</b>	<b>107</b>	mA	$f = 48\text{ MHz}$	
	Sleep mode		—	<b>75</b>	70			
	Standby mode* 3			—	<b>50</b>	<b>300</b>	$\mu\text{A}$	$T_a \leq 50^{\circ}\text{C}$
				—	—	<b>1</b>	mA	$50^{\circ}\text{C} < T_a$
	All-module-clock-stop mode*5		—	42	55	mA		

Notes: 4.  $I_{CC}$  depends on  $V_{CC}$  and  $f$  as follows:  
 $I_{CCmax} = 12\text{ (mA)} + 0.35\text{ (mA/(MHz} \times \text{V))} \times V_{CC} \times f$  (normal operation)  
 $I_{CCmax} = 12\text{ (mA)} + 0.28\text{ (mA/(MHz} \times \text{V))} \times V_{CC} \times f$  (sleep mode)