

To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 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 1st, 2010
Renesas Electronics Corporation

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

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

RENESAS TECHNICAL NEWS

No.4500-05-0304

Correction of 4518/4519 Group Datasheets

Classification

- ▼ Corrections and supplementary explanation of document
- Notes
- Knowhow
- Others

Concerned Products

- M34518E8FP
- M34518E8SP
- M34519E8FP

The following errors exist in “4518 Group Datasheet Rev.1.0” and “4519 Group Datasheet Rev.1.0”. Please refer to the following corrected information.

(1) RECOMMENDED OPERATING CONDITIONS 1

4518Group:P145

4519Group:P149

Error

Symbol	Parameter	Conditions	Limits			Unit
			Max.	Min.	Typ.	
V _{DD}	Supply voltage (when quartz-crystal oscillator is used)	$f(X_{IN}) \leq 50 \text{ kHz}$	2.0		5.5	V
V _{RAM}	RAM back-up voltage	at RAM back-up mode	1.6			V

Correction

Symbol	Parameter	Conditions	Limits			Unit
			Max.	Min.	Typ.	
V _{DD}	Supply voltage (when quartz-crystal oscillator is used)	Mask ROM version $f(X_{IN}) \leq 50 \text{ kHz}$	2.0		5.5	V
		One Time PROM version $f(X_{IN}) \leq 50 \text{ kHz}$	2.5		5.5	
V _{RAM}	RAM back-up voltage (at RAM back-up mode)	Mask ROM version	1.6			V
		One Time PROM version	2.0			

(2) RECOMMENDED OPERATING CONDITIONS 3

4518Group:P147

4519Group:P151

Error

Symbol	Parameter	Conditions	Limits			Unit
			Max.	Min.	Typ.	
f(X _{IN})	Oscillation frequency (with a quartz-crystal oscillator)	V _{DD} = 2.0 to 5.5 V			50	kHz

Correction

Symbol	Parameter	Conditions		Limits			Unit
				Max.	Min.	Typ.	
f(X _{IN})	Oscillation frequency (with a quartz-crystal oscillator)	Mask ROM version	V _{DD} = 2.0 to 5.5 V			50	kHz
		One Time PROM version	V _{DD} = 2.5 to 5.5 V				

(3) A-D CONVERTER RECOMMENDED OPERATING CONDITIONS

4518Group:P150

4519Group:P154

Error

Symbol	Parameter	Conditions		Limits			Unit
				Max.	Min.	Typ.	
V _{DD}	Supply voltage	One Time PROM version		2.5		5.5	V
f(ADCK)	A-D conversion clock Frequency (Note)	One Time PROM version	V _{DD} = 4.0 to 5.5 V	0.8		334	kHz
			V _{DD} = 2.7 to 5.5 V	0.8		245	
			V _{DD} = 2.5 to 5.5 V	0.8		15.3	

Correction

Symbol	Parameter	Conditions		Limits			Unit
				Max.	Min.	Typ.	
V _{DD}	Supply voltage	One Time PROM version		3.0		5.5	V
f(ADCK)	A-D conversion clock Frequency (Note)	One Time PROM version	V _{DD} = 4.0 to 5.5 V	0.8		334	kHz
			V _{DD} = 3.0 to 5.5 V	0.8		123	

(4) A-D CONVERTER CHARACTERISTICS

4518Group:P151

4519Group:P155

Error

Symbol	Parameter	Conditions	Limits			Unit	
			Min.	Typ.	Max.		
-	Linearity error	2.7 V ≤ V _{DD} ≤ 5.5 V				±2	LSB
		2.2 (2.5) V ≤ V _{DD} < 2.7 V ((): One Time PROM version)				±4	
-	Differential non-linearity error	2.2 (2.5) V ≤ V _{DD} ≤ 5.5 V ((): One Time PROM version)				±0.9	LSB
V _{0T}	Zero transition voltage	One Time PROM version	V _{DD} = 5.12V	TBD	TBD	TBD	mV
			V _{DD} = 3.072V	TBD	TBD	TBD	
			V _{DD} = 2.56V	TBD	TBD	TBD	
V _{FST}	Full-scale transition voltage	One Time PROM version	V _{DD} = 5.12V	TBD	TBD	TBD	mV
			V _{DD} = 3.072V	TBD	TBD	TBD	
			V _{DD} = 2.56V	TBD	TBD	TBD	
-	Comparator error (Note 2)	One Time PROM version	V _{DD} = 5.12V			TBD	mV
			V _{DD} = 3.072V			TBD	
			V _{DD} = 2.56V			TBD	

Correction

Symbol	Parameter	Conditions	Limits			Unit	
			Min.	Typ.	Max.		
-	Linearity error	2.7(3.0) V ≤ V _{DD} ≤ 5.5 V ((): One Time PROM version)				±2	LSB
		Mask ROM version	2.2 V ≤ V _{DD} < 2.7 V			±4	
-	Differential non-linearity error	2.2 (3.0) V ≤ V _{DD} ≤ 5.5 V ((): One Time PROM version)				±0.9	LSB
V _{0T}	Zero transition voltage	One Time PROM version	V _{DD} = 5.12V	0	15	30	mV
			V _{DD} = 3.072V	3	13	23	
V _{FST}	Full-scale transition voltage	One Time PROM version	V _{DD} = 5.12V	5100	5115	5130	mV
			V _{DD} = 3.072V	3065	3075	3085	
-	Comparator error (Note 2)	One Time PROM version	V _{DD} = 5.12V			±30	mV
			V _{DD} = 3.072V			±23	

(5) VOLTAGE DROP DETECTION CIRCUIT CHARACTERISTICS

4518Group:P152

4519Group:P156

Error

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
VRST-	Detection voltage (reset occurs) (Note 1)	Ta = 25 °C	3.3	3.5	3.7	V
			2.7		4.2	
VRST+	Detection voltage (reset release) (Note 2)	Ta = 25 °C	3.5	3.7	3.9	V
			2.9		4.4	

Correction

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
VRST-	Detection voltage (reset occurs) (Note 1)	Ta = 25 °C	3.3	3.5	3.7	V
		Mask ROM version	2.7		4.2	
		One Time PROM version	2.6		4.2	
VRST+	Detection voltage (reset release) (Note 2)	Ta = 25 °C	3.5	3.7	3.9	V
		Mask ROM version	2.9		4.4	
		One Time PROM version	2.8		4.4	