

Concerned Products:	Customer Notification	Date: June 17 th , 2002
μPD780824B μPD780826B μPD780828B μPD78F0828B		NEC-Electronics (Europe) GmbH LSI & Discrete Business Unit Technical Product Support
	Injected Current Specification	
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This document is an addendum to the standard electrical specification with respect to the injected current. The injected currents are defined as follows:

Absolute Maximum Ratings (Ta = 25°C)

Parameter	Test Condition		Rating	Unit
$V_{IN} > V_{DD}$	Per pin	Input port pins	5	mA
		Port 1n/ANIn ^{*1} (n=0 to 4)	3	mA
	Total	Input port pins	40	mA
		Port 1n/ANIn ^{*2} (n=0 to 4)	5	mA
$V_{IN} < V_{SS}$	Per pin	Input port pins	-0.5	mA
		Port 1n/ANIn ^{*1} (n=0 to 4)	-0.05	mA
	Total	Input port pins	-4	mA
		Port 1n/ANIn ^{*2} (n=0 to 4)	-0.05	mA

DC Characteristics (Ta = -40 ~ +85°C, V_{DD} = 4.0 ~ 5.5V)

Parameter	Test Condition		Rating	Unit
$V_{IN} > V_{DD}$	Per pin	Input port pins	0.5	mA
		Port 1n/ANIn ^{*1} (n=0 to 4)	0.3	mA
	Total	Input port pins	4	mA
		Port 1n/ANIn ^{*2} (n=0 to 4)	0.5	mA
$V_{IN} < V_{SS}$	Per pin	Input port pins	-0.05	mA
		Port 1n/ANIn ^{*1} (n=0 to 4)	-0.02	mA
	Total	Input port pins	-0.4	mA
		Port 1n/ANIn ^{*2} (n=0 to 4)	-0.02	mA

Note(s):

1. Injected currents generated due to the over-voltage applied to an analog input pin would affect the A/D conversion result. The affected A/D conversion result is the sum of the A/D conversion result without injected current and ± 2 LSB.
2. The total injected current generated due to the over-voltage applied to all analog input pins would affect the A/D conversion result. The affected A/D conversion result is the sum of the A/D conversion result without injected currents and ± 4 LSB.