



TN07001

Replacement of NXP industry standard PCF8574 or PCF8575

Rev. 01 – 1 March 2007

Technical note

1. Abstract

The objective of this technical note is to show the specifics of the PCA8574 or PCA8575, when replacing the NXP industry standard PCF8574 or PCF8575.

2. Direct replacement

The PCA8574(A) can replace the NXP industry standard PCF8574(A) without modifying the software or hardware and will behave exactly the same. Both the PCA8574(A) and PCF8574(A) are recommended for new designs (for example to reduce inventory and reduce the number of qualifications or as a second source).

The PCA8575 can replace the NXP industry standard PCF8575 without modifying the software or hardware and will behave exactly the same. Both the PCA8575 and PCF8575 are recommended for new designs (for example to reduce inventory and reduce the number of qualifications or as a second source).

3. Comparison

Parameter	PCA8574	PCA8574A	PCF8574	PCF8574A
8-bits	Yes	Yes	Yes	Yes
Interrupt	Yes	Yes	Yes	Yes
Quasi Output	Yes	Yes	Yes	Yes
25mA Sink	Yes	Yes	Yes	Yes
Bi-directional	Yes	Yes	Yes	Yes
8 addresses	Yes		Yes	
8 alternative addresses		Yes		Yes

Parameter	PCA8575	PCF8575
16-bits	Yes	Yes
Interrupt	Yes	Yes
Quasi Output	Yes	Yes
25mA Sink	Yes	Yes
Bi-directional	Yes	Yes
8 addresses	Yes	Yes

Package	Part Number		Part Number	
SO16	PCA8574D	PCA8574AD	PCF8574T	PCF8574AT
DIP16	PCA8574N	PCA8574AN	PCF8574P	PCF8574AP
TSSOP20	PCA8574PW	PCA8574APW		
SSOP20	PCA8574TS	PCA8574ATS	PCF8574TS	PCF8574ATS
SO24	PCA8575D			
QSOP24	PCA8575DK			
SSOP24	PCA8575DB		PCF8575TS/CTS	
TSSOP24	PCA8575PW			
DHVQFN24	PCA8575BQ			
HVQFN24	PCA8575BS			

4. Noticeable Differences

The PCA8574(A) can work with I²C-bus speeds over 100kHz (increased to up to 400kHz) and can sink more than 100 mA (increased to up to 200 mA, V_{cc} lowered to 2.3 to 5.5V). These extended operating ranges can not be benefited from in direct pin-to-pin replacement (only in new designs or by changing the software and/or hardware).

The PCA8575 can sink more than 100 mA (increased to up to 400 mA). This extended operating range can not be benefited from in direct pin-to-pin replacement (only in new designs or by changing the software and/or hardware).

5. Legal information

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Date of release: 1 March 2007