

**NXP Semiconductors**

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**PRODUCT BULLETIN**  
Customer Copy

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**ISSUE DATE:** 08-Jan-2016  
**ATTN:** DIGI-KEY CORPORATION  
**NOTIFICATION:** 16990  
**TITLE:** Release QMAN Erratum A-009473. Impacted Family Devices: T4x, B4x, T208x, T104x, T1024/23, P4x, P5x, P3041 & P2040  
**EFFECTIVE DATE:** 09-Jan-2016  
**SALES CONTACT:** Scott Johnson  
Email Address: B37427@freescale.com  
Phone Number: 512-660-8291

**CUSTOMER(S)**

DIGI-KEY CORP.  
(DIGIK)  
701 BROOKS AV SOUTH  
  
THIEF RIVER FALLS MN  
56701 USA

**DEVICE(S)**

<b>CPN</b>	<b>MPN</b>
P2041NXE7PNC	P2041NXE7PNC
T1040NSN7PQB	T1040NSN7PQB
P2040NSN7MMC	P2040NSN7MMC
T4160NXE7PQB	T4160NXE7PQB
P4040NXE1MMB	P4040NXE1MMB
P3041NXE1MMB	P3041NXE1MMB
P3041NXN1NNB	P3041NXN1NNB
P4080NXE1MMB	P4080NXE1MMB
P4080NSN1PNB	P4080NSN1PNB

P4080NSE1NNB	P4080NSE1NNB
P4080NSE1MMB	P4080NSE1MMB
P4040NSN1PNB	P4040NSN1PNB
P2041NSN1NNB	P2041NSN1NNB
P4080NSE1PNB	P4080NSE1PNB
P3041NXN1MMB	P3041NXN1MMB
P2041NXN1MMB	P2041NXN1MMB
P2040NSN1MMB	P2040NSN1MMB
P4080NXN7MMC	P4080NXN7MMC
T1022NXE7MQB	T1022NXE7MQB
P5020NXE1TNB	P5020NXE1TNB
P3041NXE1PNB	P3041NXE1PNB
P4081NSN7KKC	P4081NSN7KKC

**CUSTOMER(S)**

DIGI-KEY CORPORATION  
(RSGJF)  
701 BROOKS AV SOUTH

THIEF RIVER FLS MN  
56701 USA

**DEVICE(S)**

<b>CPN</b>	<b>MPN</b>
T4160NXE7PQB	T4160NXE7PQB
P2040NSN1MMB	P2040NSN1MMB
T1022NXE7MQB	T1022NXE7MQB
P3041NXE1MMB	P3041NXE1MMB
P4040NXE1MMB	P4040NXE1MMB
T1040NSN7PQB	T1040NSN7PQB
P3041NXE1PNB	P3041NXE1PNB
P2041NSN1NNB	P2041NSN1NNB
P4080NSN1PNB	P4080NSN1PNB

P3041NXN1NNB	P3041NXN1NNB
P2041NXN1MMB	P2041NXN1MMB
P3041NXN1MMB	P3041NXN1MMB
P4080NXE1MMB	P4080NXE1MMB
P4080NSE1NNB	P4080NSE1NNB
P4080NSE1MMB	P4080NSE1MMB
P4040NSN1PNB	P4040NSN1PNB
P5020NXE1TNB	P5020NXE1TNB
P4081NSN7KKC	P4081NSN7KKC
P2041NXE7PNC	P2041NXE7PNC
P2040NSN7MMC	P2040NSN7MMC

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**AFFECTED CHANGE CATEGORIES**

- ERRATA

**DESCRIPTION OF CHANGE**

Notice for release of erratum **A-0009473** for QMan block

**A-009473:** PFDR reserved by order restoration lists (ORL) and notification message queues not accounted for in PFDR free pool count and low watermark threshold

**Description:** When QMan adds deferred enqueues to an order restoration list (ORL), or adds enqueue rejection notification (ERN) messages or FQ state change notification messages (FQRN, FQRNI, FQRL, FQPN) to an ERN queue destined to the message ring of a software portal, each item added to the list or queue causes a PFDR to be reserved, but not yet used. These reserved PFDRs are in addition to any PFDRs that may be used by the lists or queues themselves. These reservations are tracked by an internal counter, and the number of reserved PFDRs is used to determine PFDR depletion, which triggers an interrupt (PEBI) and blocks enqueues when PFDR\_FPC[FPC] is less than or equal to (PFDR\_CFG[K] + number of reserved PFDRs).

However the number of internally reserved PFDRs is not visible to the user, and is not reflected in the free pool count PFDR\_FPC[FPC], nor is it used in generating the PFDR low watermark interrupt (PLWI). Therefore a user who encounters PFDR depletion (PEBI interrupt and blocked enqueues) caused in whole or in part by a large number of internally reserved PFDRs may not

realize this because reading the PFDR free pool count will show that sufficient PFDR are still available, since the free pool count does not reflect the internally reserved PFDRs.

**Impact:** A user may not realize that internally reserved PFDRs are the cause of PFDR depletion

**Workaround:** To get an accurate value of PFDR free pool count and low watermark threshold. Drain the order restoration points (ORPs) and software portal message rings which contain deferred enqueues or messages, and the internal PFDR reservation count will drop to 0.

### **REASON FOR CHANGE**

Inform customers of new erratum release for QMan block

### **ANTICIPATED IMPACT OF PRODUCT CHANGE(FORM, FIT, FUNCTION, OR RELIABILITY)**

No change to form, fit, function or reliability

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#### **NOTE:**

THE CHANGE(S) SPECIFIED IN THIS NOTIFICATION WILL BE IMPLEMENTED ON THE EFFECTIVE DATE LISTED ABOVE. To request further data or inquire about the notification, please enter a Support Case. Be aware that after you select this link to enter your request, you must choose the topic "Product Change Notification" once on the Salesforce page.

For sample inquiries - please go to [www.nxp.com](http://www.nxp.com)

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**QUALIFICATION STATUS:** N/A

**QUALIFICATION PLAN:**

N/A

**RELIABILITY DATA SUMMARY:**

N/A

**ELECTRICAL CHARACTERISTIC SUMMARY:**

N/A

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**CHANGED PART IDENTIFICATION:**

N/A

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**ATTACHMENT(S):**

External attachment(s) FOR this notification can be viewed AT:  
16990\_Erratum\_A-009473\_Errata.pdf

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