


<b>PCN Number:</b>	20151210000		<b>PCN Date:</b>	12/10/2015
<b>Title:</b>	AMC7834 Die Revision Change			
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>		<b>Dept:</b>	Quality Services
<b>Proposed 1<sup>st</sup> Ship Date:</b>	3/10/2016	<b>Estimated Sample Availability:</b>	Date provided at sample request.	
<b>Change Type:</b>				
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Design	<input checked="" type="checkbox"/>	Electrical Specification	<input type="checkbox"/>
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material	<input type="checkbox"/>
<input type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials	<input type="checkbox"/>
		<input type="checkbox"/>	Part number change	
<b>PCN Details</b>				
<b>Description of Change:</b>				
This notification is to inform of a die revision change to select devices. The Design changes are summarized below:				
<ul style="list-style-type: none"> <li>1) Addition of AVDD collapse detector feature</li> <li>2) Addition of ADC Direct Mode feature</li> </ul>				
The Die Revision and the datasheet will be changing:				
<b>Current</b>		<b>New</b>		
Die Revision	Datasheet Number	<b>Die Revision</b>	<b>Datasheet Number</b>	
A	SLAS972A	<b>B</b>	<b>SLAS972B</b>	
The product datasheet(s) is updated as seen in the change revision history below:				
		<b>AMC7834</b>		
<small>SLAS972B – NOVEMBER 2014 – REVISED SEPTEMBER 2015</small>				

## 4 Revision History

### Changes from Original (April 2015) to Revision B

Page

• deleted text from the Description of pin 1 in the <i>Pin Functions</i> table " If unused the pin requires a 10 kΩ pullup resistor to the IOV <sub>DD</sub> pin.".....	5
• Added: Bipolar DACs in AV <sub>SS</sub> clamp mode To the Clamp Output Mode section of <i>Electrical Characteristics—DAC Specifications</i> .....	10
• Deleted text from the Accuracy Test Conditions: "32 Samples Average" in <i>Electrical Characteristics—ADC, Current and Temperature Sensor Specifications</i> .....	11
• Added: AV <sub>DD</sub> alarm threshold to <i>Electrical Characteristics—General Specifications</i> .....	12
• Changed text in paragraph 1 of <i>ADC Sequencing</i> From: "The AMC7834 supports autonomous ADC conversion" To: The AMC7834 supports autonomous and direct-mode conversion supported. ....	31
• Deleted text from paragraph 3 of <i>ADC Sequencing</i> : "The first conversion sequence is reserved for calibration and the corresponding ADC results should be ignored.".....	31
• Added text to paragraph 3 of <i>Drain Switch Control</i> : The PA_ON signal state is also triggered by the AV <sub>DD</sub> monitoring circuit.....	39
• Added section: <i>AV<sub>DD</sub> Detection Alarm</i> .....	42
• Changed 0x06 Default value From: 0000 To: 0001 in <i>Memory Map</i> .....	52
• Changed R-00h To: R-01h in Bits 7:0 of <i>Figure 68</i> .....	54
• Changed the Reset value From: 0000h To: 0001h in <i>Table 12</i> .....	54
• Changed Bit 12 of <i>Table 14</i> From: Reserved To: CMODE.....	55
• Changed Bit 10 of <i>Table 17</i> From: 000: Invalid To: 000: 1.....	56
• Changed Bit 5-4 of <i>Table 17</i> From: 00: Invalid To: 00: 1.....	56
• Changed Bit 3-2 of <i>Table 17</i> From: 00: Invalid To: 00: 1.....	57
• Changed Bit 1-0 of <i>Table 17</i> From: 00: Invalid To: 00: 1.....	57
• Changed <i>General Status Register (address = 0x1F) [reset = 0x0000]</i> .....	67
• Added text to item 2 of <i>Initialization Procedure</i> : "A minimum of 4.5 V is required.".....	82

### Reason for Change:

Improved product performance

### Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

None

### Changes to product identification resulting from this PCN:

Die Rev designator will change as shown in the table and sample label below:

Current	New
Die Rev [2P]	Die Rev [2P]
A	B

Sample product shipping label to indicate die rev location (not actual product label)

### Product Affected:

AMC7834IRTQR	AMC7834IRTQT
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**Qualification Report**  
**AMC7834BIRTQ (DMOS5)**  
 Approve Date 12-Nov-2015

**Product Attributes**

Attributes	Qual Device: AMC7834BIRTQ	QBS Process Reference: AMC7812SPAP	QBS Process Reference: BUF08630AIRGW	QBS Process Reference: BUF08832AIPWP	QBS Process Reference: OPA300AID	QBS Package Reference: AMC7834IRTQR
Assembly Site	UTAC	TIPI	CLARK	TIIL	CRS	UTAC
Package Family	VQFN	HTQFP	VQFN	TSSOP	SOIC	VQFN
Wafer Fab Supplier	DM0S5	DMOS 5	DMOS5	DM5	DMOS5	AIZU
Wafer Process	50HPA07	50HPA07	50HPA07	50HPA07	50HPA07	HPA07

- QBS: Qual By Similarity  
 - Qual Device AMC7834BIRTQ is qualified at LEVEL3-260C

**Qualification Results**

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: AMC7834BIRTQ	QBS Process Reference: AMC7812SPAP	QBS Process Reference: BUF08630AIRGW	QBS Process Reference: BUF08832AIPWP	QBS Process Reference: OPA300AID	QBS Package Reference: AMC7834IRTQR
AC	Autoclave 121C	96 Hours	-	-	1/77/0	-	3/231/0	-
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	-	Pass	Pass	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	3/231/0	3/231/0
HBM	ESD - HBM	1000 V	1/3/0	-	1/3/0	1/3/0	-	-
CDM	ESD - CDM	750 V	1/3/0	-	1/3/0	1/3/0	-	1/3/0
HTOL	Life Test, 150C	300 Hours	-	1/77/0	3/196/0	-	3/231/0	3/231/0
HTSL	High Temp. StorageBake, 150C	1000 Hours	-	-	-	-	3/135/0	-
HTSL	High Temp. StorageBake, 170C	420 Hours	-	-	-	-	-	3/135/0
LU	Latch-up (per JESD78)	(per JESD78)	1/6/0	-	1/12/0	2/12/0	1/12/0	1/6/0
TC	Temperature Cycle, -65/150C	500 Cycles	-	-	1/77/0	-	3/231/0	3/231/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	-	-	-	-	3/231/0

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV: 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours  
 - The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1k Hours, and 170C/420 Hours  
 - The following are equivalent Temp Cycle options per JESD47: -55C/125C/700 Cycles and -65C/150C/500 Cycles  
 Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

Green/Pb-free Status:  
 Qualified Pb-Free (SMT) and Green

**Qualification Report**

**AMC7834BIRTQ (Aizu)**  
 Approve Date 12-Nov-2015

**Product Attributes**

Attributes	Qual Device: AMC7834BIRTQ	QBS Process Reference: AMC7836IPAP	QBS Process Reference: OPA2333AIDGK	QBS Process Reference: TMP431ADGK	QBS Package Reference: AMC7834IRTQR
Assembly Site	UTAC	TIPI	ASESH	HNT	UTAC
Package Family	VQFN	TQFP	VSSOP	VSSOP	VQFN
Wafer Fab Supplier	AIZU	AIZU	AIZU	AIZU	AIZU
Wafer Process	50HPA07	50HPA07	50HPA07	50HPA07	HPA07

- QBS: Qual By Similarity  
 - Qual Device AMC7834BIRTQ is qualified at LEVEL3-260C

**Qualification Results**

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: AMC7834BIRTQ	QBS Process Reference: AMC7836IPAP	QBS Process Reference: OPA2333AIDGK	QBS Process Reference: TMP431ADGK	QBS Package Reference: AMC7834IRTQR
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	Pass	Pass	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	1/77/0	2/154/0	3/231/0
HBM	ESD - HBM	750V	1/3/0	-	-	-	-
HBM	ESD - HBM	1000 V	-	1/3/0	1/3/0	1/3/0	-
CDM	ESD - CDM	750 V	1/3/0	1/3/0	1/3/0	1/3/0	1/3/0
HTOL	Life Test, 150C	300 Hours	-	1/77/0	1/77/0	2/154/0	3/231/0
HTSL	High Temp. StorageBake, 170C	420 Hours	-	-	-	-	3/135/0
LU	Latch-up (per JESD78)	(per JESD78)	1/6/0	1/6/0	1/6/0	1/6/0	1/6/0
TC	Temperature Cycle, -65/150C	500 Cycles	-	-	1/77/0	2/154/0	3/231/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	-	1/77/0	2/154/0	3/231/0

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV: 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours  
 - The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1k Hours, and 170C/420 Hours  
 - The following are equivalent Temp Cycle options per JESD47: -55C/125C/700 Cycles and -65C/150C/500 Cycles  
 Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

Green/Pb-free Status:  
 Qualified Pb-Free (SMT) and Green

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