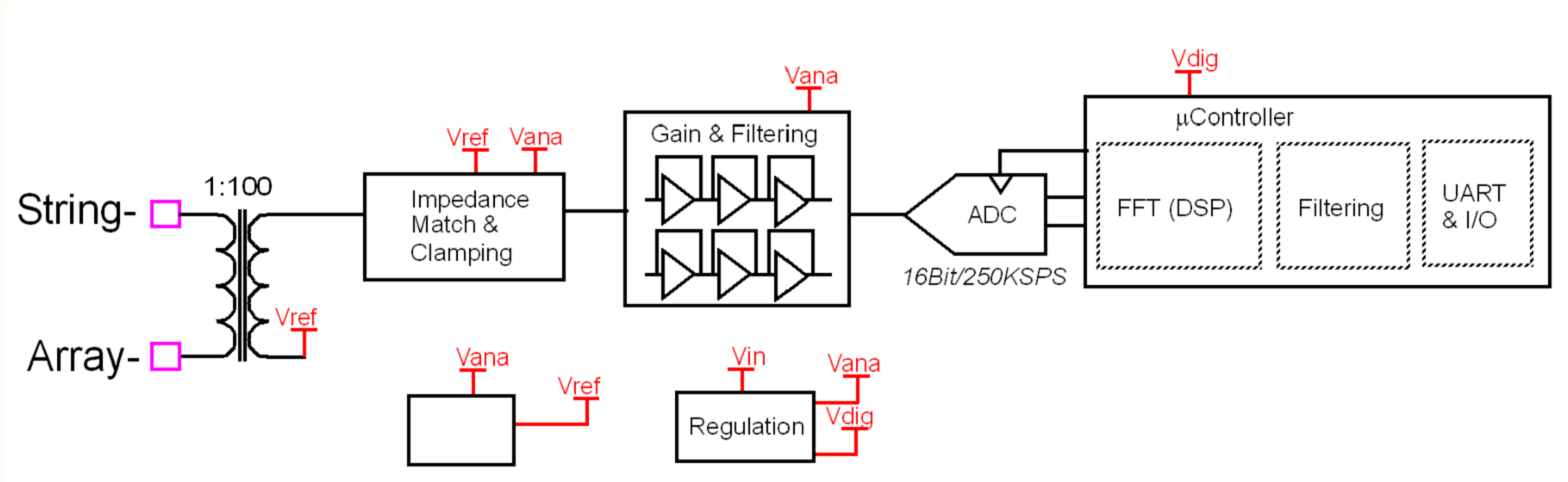


Revision History	
Revision	Notes

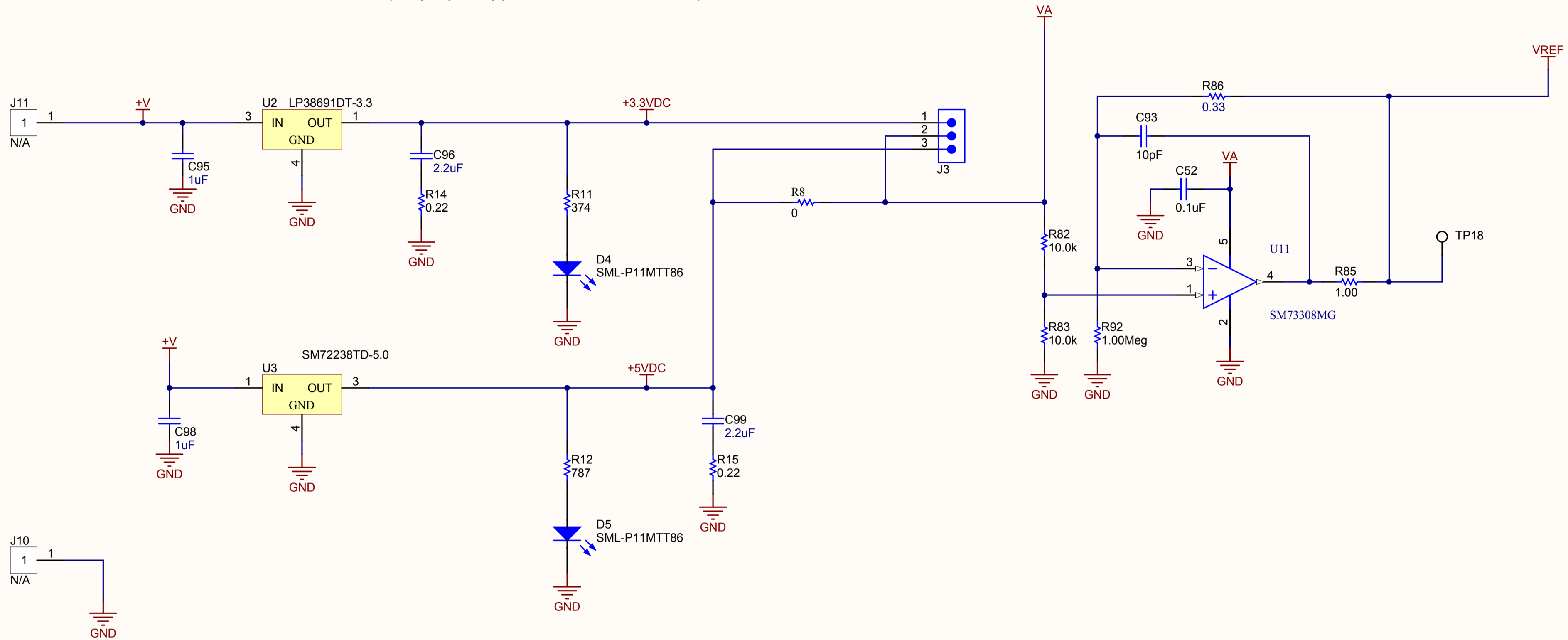


National Semiconductor and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. National and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. National and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Designed for: [National Semiconductor](#) | Mod. Date: 4/19/2012  
 Project: [SM73201 - ARCTest](#)  
 Sheet Title: [Arcturus Block Diagram Sheet](#) | Sheet: 1 of 7  
 Size: B | Schematic: 870600620 | Rev: 005  
 Assembly Variant: [\[No Variations\]](#)  
 File: [SM73201-ARC QFN-56 Block Diag.SchDoc](#)  
 Contact: <http://www.national.com/support>



+V should be between 8 and 12 Volts (for proper operation of noise circuit)



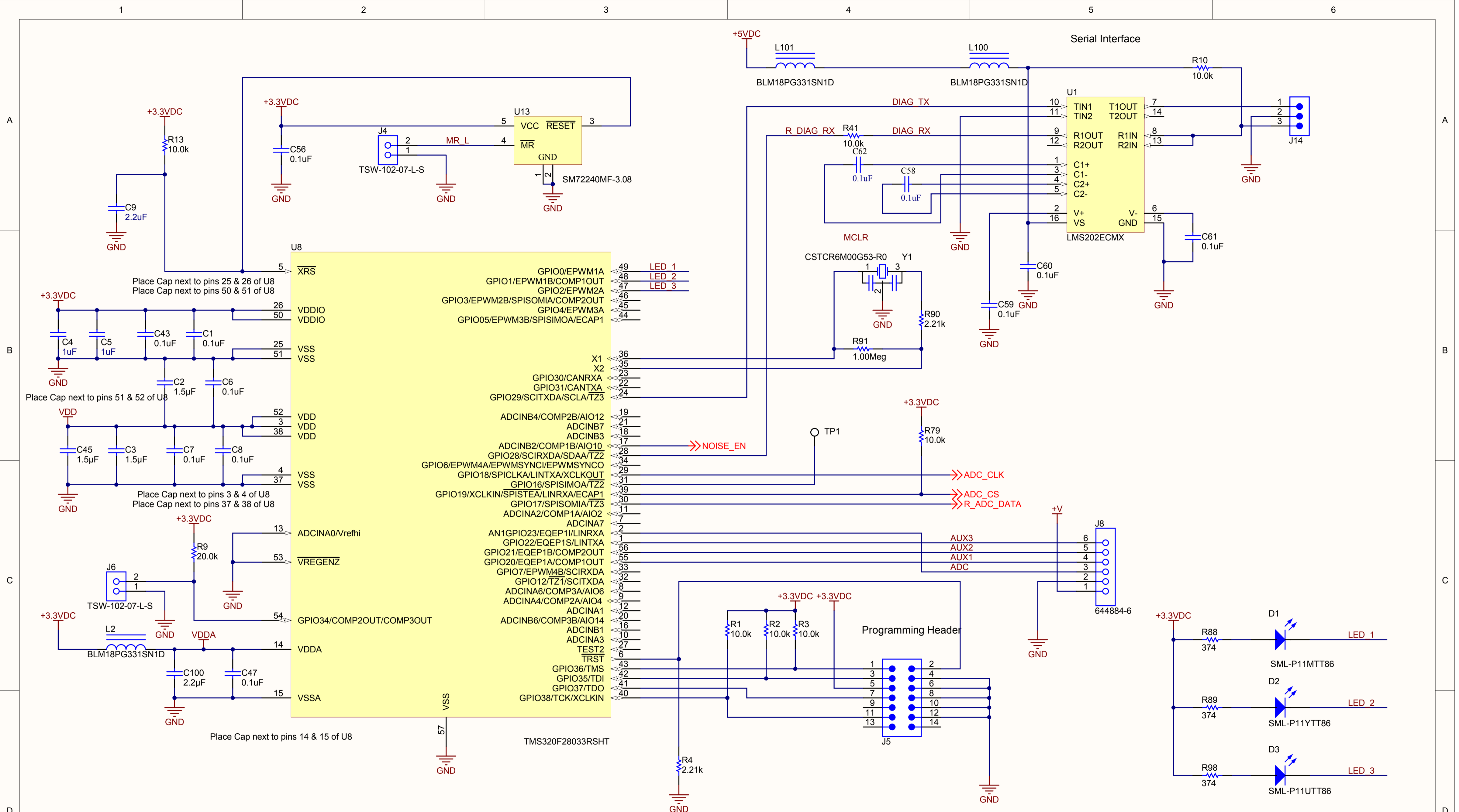
National Semiconductor and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. National and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. National and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Designed for: National Semiconductor	Mod. Date: 6/18/2012
Project: SM73201 - ARCTest	
Sheet Title: Arcturus Power Management	Sheet: 2 of 7
Size: B	Schematic: 870600620
Assembly Variant: [No Variations]	Rev: 005
File: SM73201-ARC QFN-56 Power Mgmt.SchDoc	
Contact: <a href="http://www.national.com/support">http://www.national.com/support</a>	



<http://www.national.com>

© Copyright, National Semiconductor, 2010

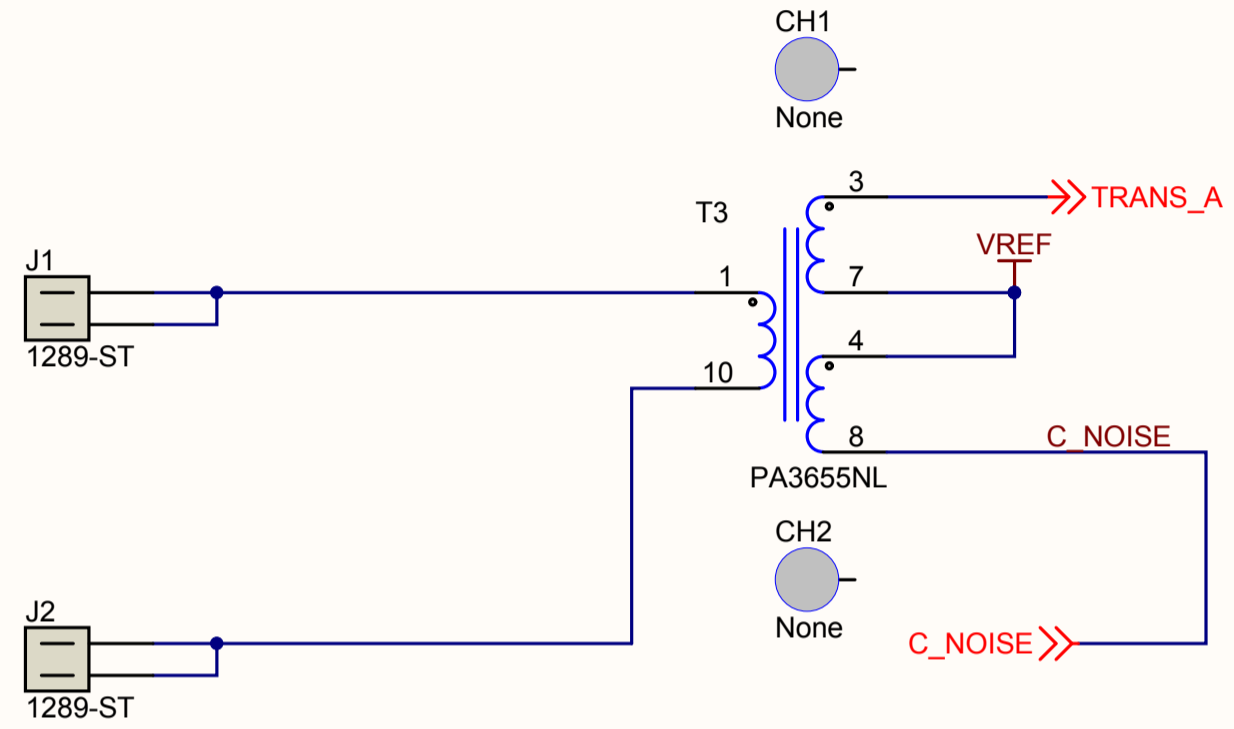
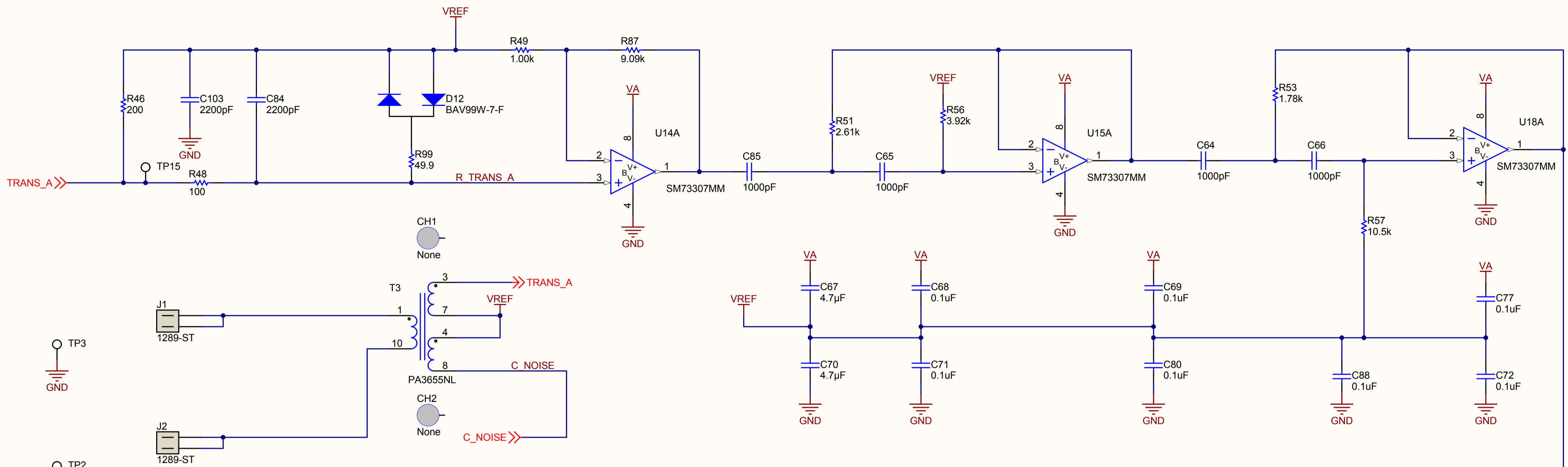


Plug holes in thermal pad under U8 to prevent solder problems

National Semiconductor and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. National and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. National and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

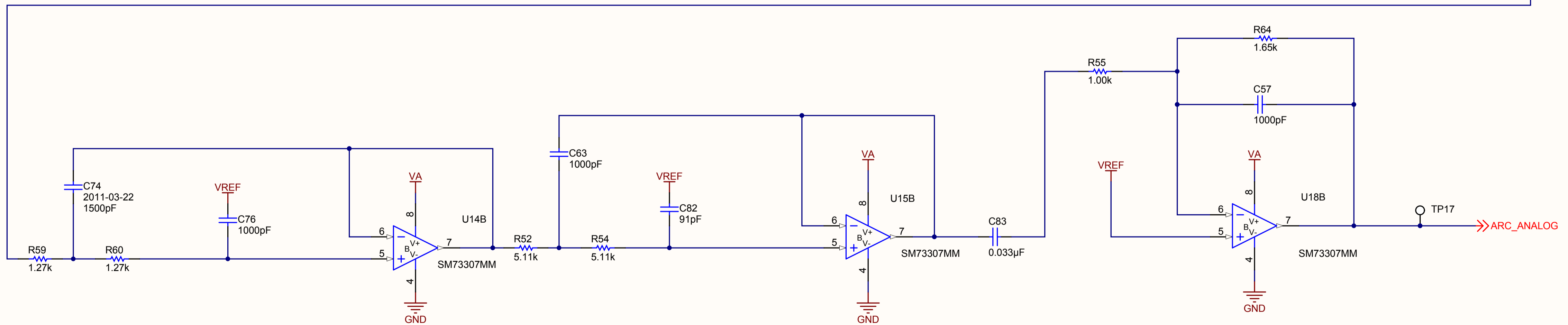
Designed for: National Semiconductor	Mod. Date: 6/18/2012
Project: SM73201 - ARCTest	
Sheet Title: Arcturus DSP	Sheet: 3 of 7
Size: B	Schematic: 870600620
Assembly Variant: [No Variations]	Rev: 005
File: SM73201-ARC QFN-56 MCU.SchDoc	
Contact: <a href="http://www.national.com/support">http://www.national.com/support</a>	





CH1 and CH2 are slots to increase the creepage distance between the primary and secondary transformer pins that may be needed for safety certification (the creepage requirement is voltage dependent)

12.5mm creepage on reference board design



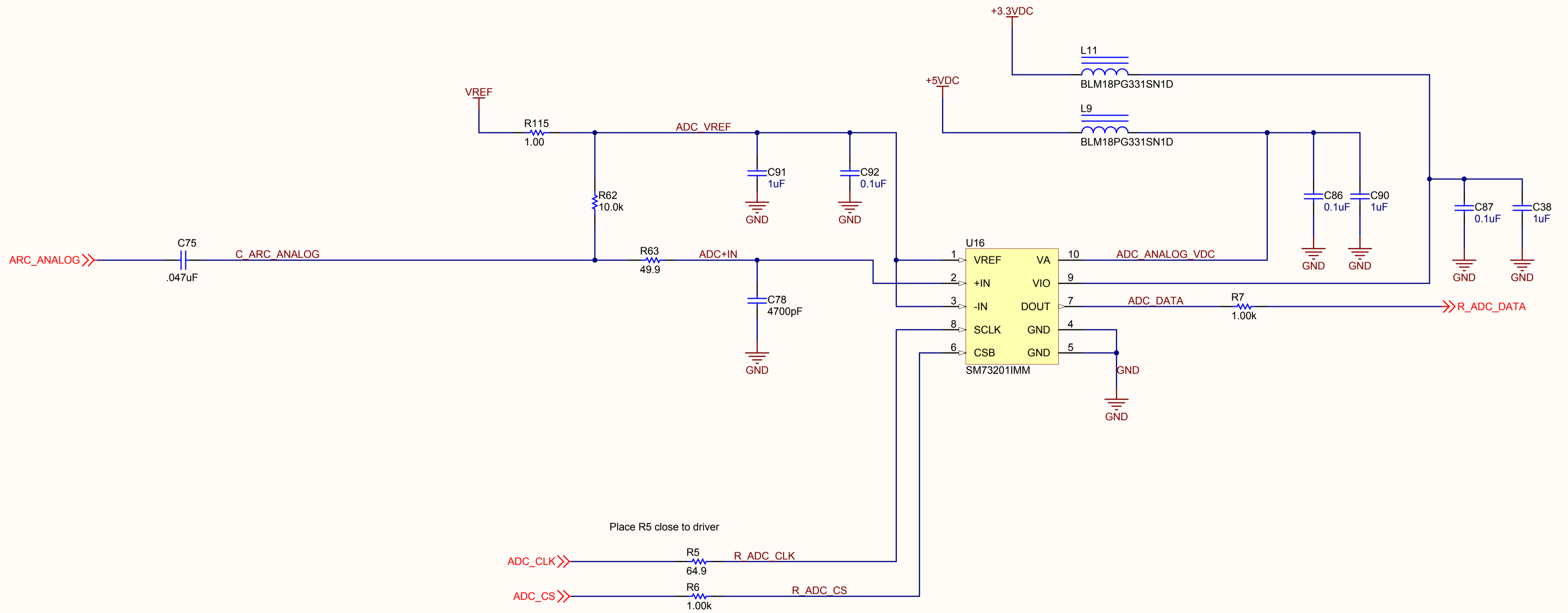
National Semiconductor and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. National and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. National and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Designed for: [National Semiconductor](#) Mod. Date: 6/18/2012  
 Project: [SM73201 - ARCTest](#)  
 Sheet Title: [Arc Detect Analog Front End](#) Sheet: 4 of 7  
 Size: B Schematic: 870600620 Rev: 005  
 Assembly Variant: [No Variations]  
 File: [SM73201-ARC QFN-56 Detect AFE.SchDoc](#)  
 Contact: <http://www.national.com/support>



<http://www.national.com>

© Copyright, National Semiconductor, 2010



National Semiconductor and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. National and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. National and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Designed for: National Semiconductor | Mod. Date: 6/18/2012  
 Project: SM73201 - ARCTest  
 Sheet Title: Arc Detect ADC | Sheet: 5 of 7  
 Size: B | Schematic: 870600620 | Rev: 005  
 Assembly Variant: [No Variations]  
 File: SM73201-ARC QFN-56 Arc Detect ADC.SchDoc  
 Contact: <http://www.national.com/support>



<http://www.national.com>

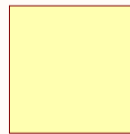
© Copyright, National Semiconductor, 2010

PCB Part Number: 551600620 -005 REV A

### Board Mounting Hardware

- H1  
⊕  
4N37PF@S
- H2  
⊕  
4N37PF@S
- H3  
⊕  
29311
- H4  
⊕  
29311

- FID1  
●
- FID2  
●
- FID3  
●
- FID4  
●
- FID5  
●
- FID6  
●

T2  
  
 Board outline template

National Semiconductor and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. National and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. National and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

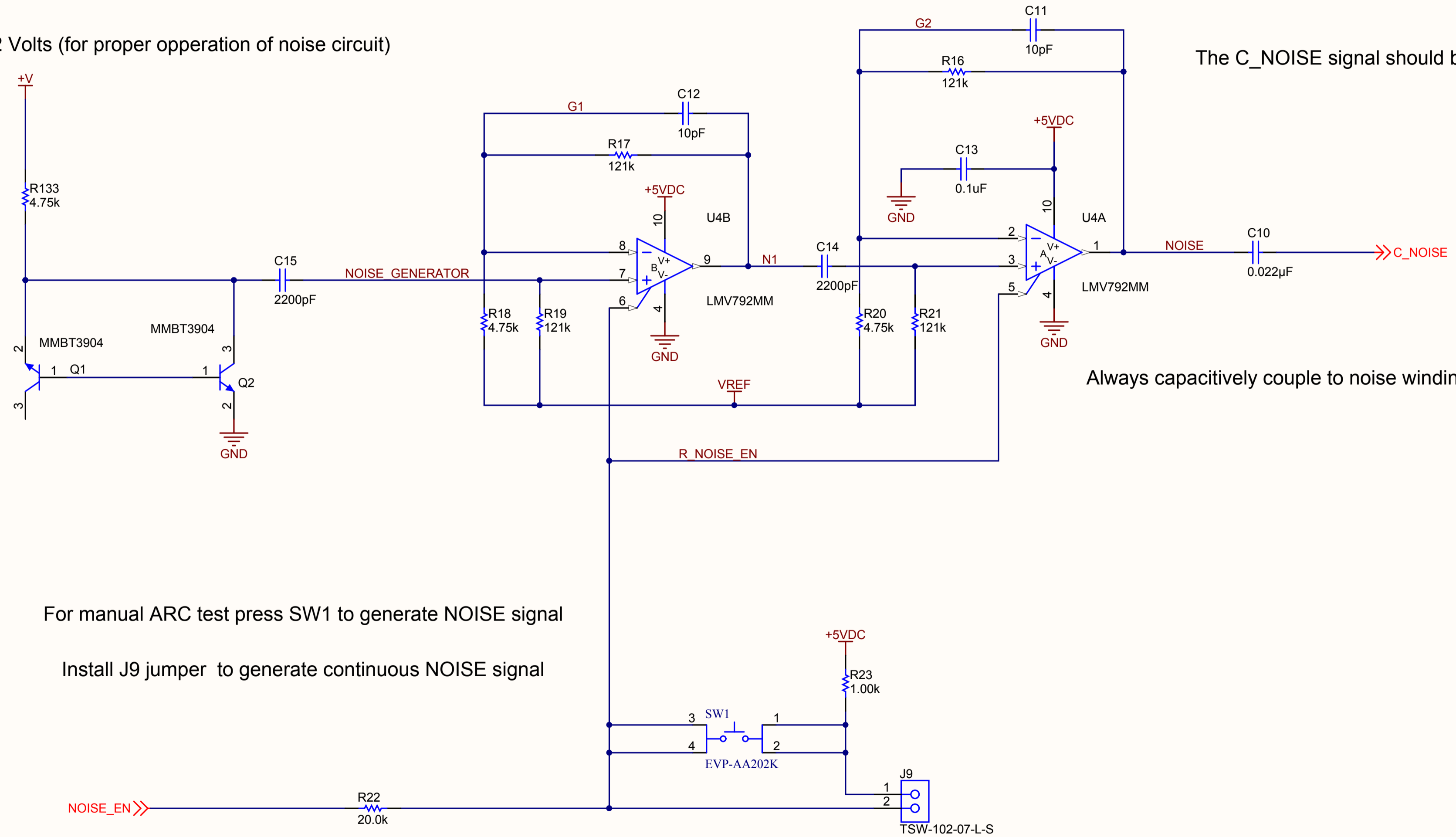
Designed for: <a href="#">National Semiconductor</a>	Mod. Date: 4/16/2012
Project: <a href="#">SM73201 - ARCTest</a>	
Sheet Title: <a href="#">Arcturus Hardware</a>	Sheet: 6 of 7
Size: B	Schematic: <a href="#">870600620</a>
Assembly Variant: <a href="#">[No Variations]</a>	Rev: 005
File: <a href="#">SM73201-ARC QFN-56 Hardware.SchDoc</a>	
Contact: <a href="http://www.national.com/support">http://www.national.com/support</a>	



When using the PA3655NL transformer the NOISE signal should be at least 300 mV p-p for reliable operation

+V should be between 8 and 12 Volts (for proper operation of noise circuit)

The C\_NOISE signal should be about 100 mV p-p



Always capacitively couple to noise winding on transformer

For manual ARC test press SW1 to generate NOISE signal

Install J9 jumper to generate continuous NOISE signal

For CPU ARC test J9 must not be installed then drive NOISE\_EN signal (GPIO6) high to generate NOISE signal

National Semiconductor and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. National and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. National and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Designed for: [National Semiconductor](#) | Mod. Date: 6/18/2012  
 Project: [SM73201 - ARCTest](#)  
 Sheet Title: [Arc Detect Filter](#) | Sheet: 7 of 7  
 Size: B | Schematic: [870600620](#) | Rev: 005  
 Assembly Variant: [\[No Variations\]](#)  
 File: [SM73201 - ARC QFN-56 Test.SchDoc](#)  
 Contact: <http://www.national.com/support>



<http://www.national.com>

© Copyright, National Semiconductor, 2010