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| Revision History |             |                                                                                                                                                |
|------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Rev. Code        | Date        | Description                                                                                                                                    |
| A                | 07/JUL/2021 | First Draft, Based on 47816 (Replace Y1 from NDK - NX3225GD-8MHz-STD-CRA-3 to FY0800057Q / Added 10k pull up at PTA7 / L1, L2 and L3 removed ) |
|                  |             |                                                                                                                                                |

# UCANS32K1SIC



**Automotive Product Group**  
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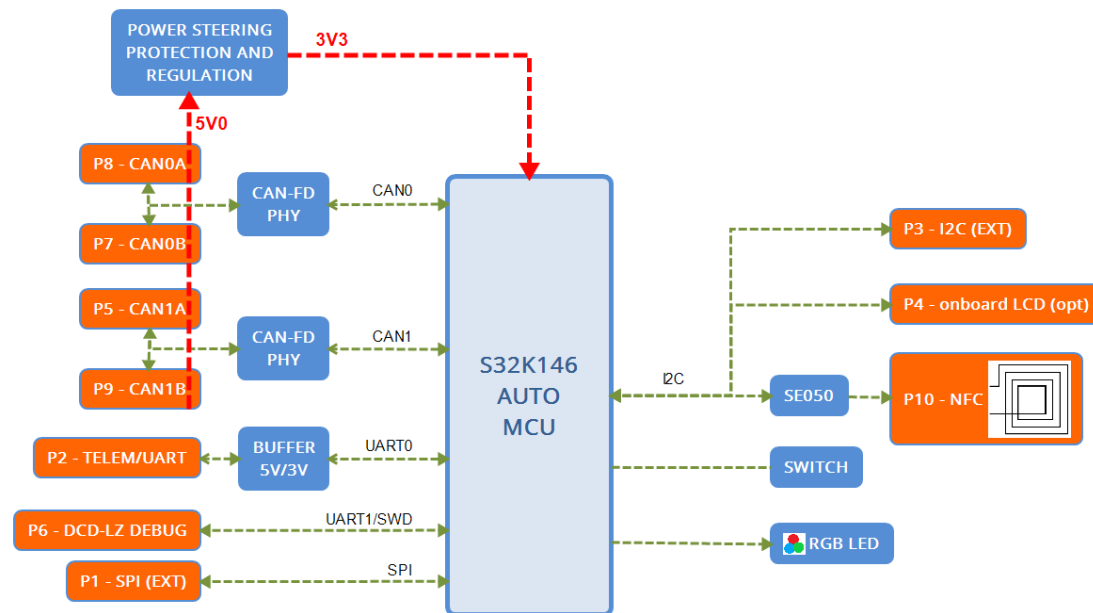
|                                       |                                                  |                                                     |          |
|---------------------------------------|--------------------------------------------------|-----------------------------------------------------|----------|
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| Designer:<br>Iain Galloway            | Drawing Title:<br><b>UCANS32K1SIC</b>            |                                                     |          |
| Drawn by:<br>Ana Sanez                | Page Title:<br><b>Title, ToC and Rev History</b> |                                                     |          |
| Approved:<br>Iain Galloway            | Size<br>C                                        | Document Number<br>SCH-50592 PDF-SPF-50592          | Rev<br>A |
| Date: <b>Wednesday, July 07, 2021</b> |                                                  | Sheet <b>1</b> of <b>4</b>                          |          |

Table 1. Do not populate component list

| REF DES                                                                                   | ASSY OPT | PAGE NAME          |
|-------------------------------------------------------------------------------------------|----------|--------------------|
| JP1                                                                                       | DNP      | 03 - S32K          |
| C71,P3,R87,R89,R96,R98,C70,<br>R91,R42,R23,P4,R88,R4,C72,<br>R44,R3,R82,C69,R24,R97,P1,P2 | DNP      | 04 - HS CAN / CONN |

## Notes and documentation

This color is for Layout notes  
This color is for Silk  
This color is for User notes  
This color is for DNP components



|                                                                                                                                                                                                                  |                                       |                                              |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------|----------|
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| Designer:<br>Iain Galloway                                                                                                                                                                                       | Drawing Title:<br><b>UCANS32K1SIC</b> |                                              |          |
| Drawn by:<br>Ana Sanz                                                                                                                                                                                            | Page Title:<br><b>Notes</b>           |                                              |          |
| Approved:<br>Iain Galloway                                                                                                                                                                                       | Size<br>C                             | Document Number<br>SCH-50592 PDF-SPF-50592   | Rev<br>A |
| Date: Wednesday, July 07, 2021                                                                                                                                                                                   |                                       | Sheet 2 of 4                                 |          |

**Debug Interface**

**Power Supply**

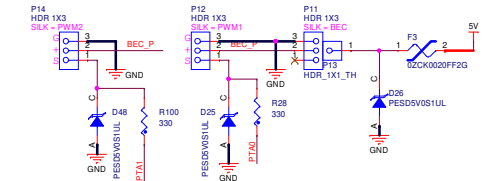
**PWM & BEC**

**RC-PWM and BEC (external power)**

**Legend**

| Component | Value | Location                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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|-----------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Resistor  | 100K  | PTC17, PTC16, PTC15, PTC14, PTC13, PTC12, PTC11, PTC10, PTC9, PTC8, PTC7, PTC6, PTC5, PTC4, PTC3, PTC2, PTC1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Resistor  | 10K   | PTD1, PTD2, PTD3, PTD4, PTD5, PTD6, PTD7, PTD8, PTD9, PTD10, PTD11, PTD12, PTD13, PTD14, PTD15, PTD16, PTD17, PTD18, PTD19, PTD20, PTD21, PTD22, PTD23, PTD24, PTD25, PTD26, PTD27, PTD28, PTD29, PTD30, PTD31, PTD32, PTD33, PTD34, PTD35, PTD36, PTD37, PTD38, PTD39, PTD40, PTD41, PTD42, PTD43, PTD44, PTD45, PTD46, PTD47, PTD48, PTD49, PTD50, PTD51, PTD52, PTD53, PTD54, PTD55, PTD56, PTD57, PTD58, PTD59, PTD60, PTD61, PTD62, PTD63, PTD64, PTD65, PTD66, PTD67, PTD68, PTD69, PTD70, PTD71, PTD72, PTD73, PTD74, PTD75, PTD76, PTD77, PTD78, PTD79, PTD80, PTD81, PTD82, PTD83, PTD84, PTD85, PTD86, PTD87, PTD88, PTD89, PTD90, PTD91, PTD92, PTD93, PTD94, PTD95, PTD96, PTD97, PTD98, PTD99, PTD100, PTD101, PTD102, PTD103, PTD104, PTD105, PTD106, PTD107, PTD108, PTD109, PTD110, PTD111, PTD112, PTD113, PTD114, PTD115, PTD116, PTD117, PTD118, PTD119, PTD120, PTD121, PTD122, PTD123, PTD124, PTD125, PTD126, PTD127, PTD128, PTD129, PTD130, PTD131, PTD132, PTD133, PTD134, PTD135, PTD136, PTD137, PTD138, PTD139, PTD140, PTD141, PTD142, PTD143, PTD144, PTD145, PTD146, PTD147, PTD148, PTD149, PTD150, PTD151, PTD152, PTD153, PTD154, PTD155, PTD156, PTD157, PTD158, PTD159, PTD160, PTD161, PTD162, PTD163, PTD164, PTD165, PTD166, PTD167, PTD168, PTD169, PTD170, PTD171, PTD172, PTD173, PTD174, PTD175, PTD176, PTD177, PTD178, PTD179, PTD180, PTD181, PTD182, PTD183, PTD184, PTD185, PTD186, PTD187, PTD188, PTD189, PTD190, PTD191, PTD192, PTD193, PTD194, PTD195, PTD196, PTD197, PTD198, PTD199, PTD200, PTD201, PTD202, PTD203, PTD204, PTD205, PTD206, PTD207, PTD208, PTD209, PTD210, PTD211, PTD212, PTD213, PTD214, PTD215, PTD216, PTD217, PTD218, PTD219, PTD220, PTD221, PTD222, PTD223, PTD224, PTD225, PTD226, PTD227, PTD228, PTD229, PTD230, PTD231, PTD232, PTD233, PTD234, PTD235, PTD236, PTD237, PTD238, PTD239, PTD240, PTD241, PTD242, PTD243, PTD244, PTD245, PTD246, PTD247, PTD248, PTD249, PTD250, PTD251, PTD252, PTD253, PTD254, PTD255, PTD256, PTD257, PTD258, PTD259, PTD260, PTD261, PTD262, PTD263, PTD264, PTD265, PTD266, PTD267, PTD268, PTD269, PTD270, PTD271, PTD272, PTD273, PTD274, PTD275, PTD276, PTD277, PTD278, PTD279, PTD280, PTD281, PTD282, PTD283, PTD284, PTD285, PTD286, PTD287, PTD288, PTD289, PTD290, PTD291, PTD292, PTD293, PTD294, PTD295, PTD296, PTD297, PTD298, PTD299, PTD300, PTD301, PTD302, PTD303, PTD304, PTD305, PTD306, PTD307, PTD308, PTD309, PTD310, PTD311, PTD312, PTD313, PTD314, PTD315, PTD316, PTD317, PTD318, PTD319, PTD320, PTD321, PTD322, PTD323, PTD324, PTD325, PTD326, PTD327, PTD328, PTD329, PTD330, PTD331, PTD332, PTD333, PTD334, PTD335, PTD336, PTD337, PTD338, PTD339, PTD340, PTD341, PTD342, PTD343, PTD344, PTD345, PTD346, PTD347, PTD348, PTD349, PTD350, PTD351, PTD352, PTD353, PTD354, PTD355, PTD356, PTD357, PTD358, PTD359, PTD360, PTD361, PTD362, PTD363, PTD364, PTD365, PTD366, PTD367, PTD368, PTD369, PTD370, PTD371, PTD372, PTD373, PTD374, PTD375, PTD376, PTD377, PTD378, PTD379, PTD380, PTD381, PTD382, PTD383, PTD384, PTD385, 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PTD636, PTD637, PTD638, PTD639, PTD640, P |

Place Silk as follows:



The schematic diagram illustrates the proposed BEC-RC-PWM circuit. It features a PTAD (Pulse Width Modulation to Analog-to-Digital Converter) block, a BEC (Buck-Boost Converter) block, and an RC-PWM (Resistor-Capacitor Pulse Width Modulation) block. The PTAD is connected to a 5V supply and a 10k resistor. The BEC is connected to the PTAD output and a 10k resistor. The RC-PWM is connected to the BEC output and a 10k resistor. The output of the RC-PWM is connected to a 5V supply and a 10k resistor. The BEC and RC-PWM are prominently marked.

|                                                                                       |  |                                                                                                                                                                                                                  |                                             |
|---------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
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| Designer:<br>Iain Gallaway                                                            |  | Drawing Title:<br><b>UCANS32K1SIC</b>                                                                                                                                                                            |                                             |
| Drawn by:<br>Ansa Santz                                                               |  | Part Title:<br><b>CPU / PWR / Debug / SE / PWM</b>                                                                                                                                                               |                                             |
| Approved:<br>Iain Gallaway                                                            |  | Size C                                                                                                                                                                                                           | Document Number<br>SCH-50592 Prod-SPF-50592 |
| Date: <b>Wednesday, July 07, 2010</b>                                                 |  | Sheet <b>3</b>                                                                                                                                                                                                   | of <b>4</b>                                 |

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