

M68HC11 and X2402 Family

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0173 *****
0174 * PERFORM ACKNOWLEDGE POLLING TO DETERMINE WHEN THE WRITE CYCLE *
0175 * COMPLETES. UPON RETURN FROM THIS ROUTINE THE A REGISTER INDICATES *
0176 * WHETHER THE DUT EVER ACKNOWLEDGED THE WRITE. A = 0 PART ACKNOWLEDGED, *
0177 * A = 1 NO ACKNOWLEDGE RECEIVED. *
0178 *****

0179

0180 E0D0 86 7F    ACKPOL: LDAA    #$07F    MAX NUMBER OF TIMES TO CHECK THE PART
0181 E0D2 97 85    STAA    COUNT2
0182 E0D4 7A 00 85  AKLOOP: DEC     COUNT2    RETURN IF THE PART
0183 E0D7 27 11    BEQ     OUTACK    NEVER ISSUES AN ACKNOWLEDGE
0184 E0D9 BD E0 FE    JSR     START    SEND START COMMAND
0185 E0DC 86 A0    LDAA    #$0A0
0186 E0DE 97 82    STAA    DATA
0187 E0E0 BD E0 9B    JSR     OUTBYT    SEND SLAVE ADDRESS
0188 E0E3 BD E1 1A    JSR     NACK    SEE IF PART ACKNOWLEDGES
0189 E0E6 81 00    CMPA    #$00
0190 E0E8 26 EA    BNE     AKLOOP    LOOP IF NO ACKNOWLEDGE
0191 E0EA 36    OUTACK: PSHA
0192 E0EB BD E0 F0    JSR     STOP    SEND STOP
0193 E0EE 32    PULA
0194 E0EF 39    RTS

0195
0196 *****
0197 *    ISSUE A STOP COMMAND    *
0198 *****
0199

0200 E0F0 1D 08 01  STOP:  BCLR    PORTD,X #SDABIT  MAKE SURE SDA IS LOW
0201 E0F3 1C 08 02    BSET    PORTD,X #SCLBIT  BRING SCL HIGH
0202 E0F6 01    NOP    PROVIDE SET-UP TIME
0203 E0F7 01    NOP
0204 E0F8 01    NOP
0205 E0F9 01    NOP
0206 E0FA 1C 08 01    BSET    PORTD,X #SDABIT  BRING SDA HIGH
0207 E0FD 39    RTS

0208
0209 *****
0210 *    ISSUE A START COMMAND    *
0211 *****
0212

0213 E0FE 1C 08 01  START:  BSET    PORTD,X #SDABIT  MAKE SURE THAT SDA IS HIGH
0214 E101 1C 08 02    BSET    PORTD,X #SCLBIT  MAKE SURE THAT SCL IS HIGH
0215 E104 1D 08 01    BCLR    PORTD,X #SDABIT  FORCE SDA LOW
0216 E107 01    NOP    PROVIDE SET-UP TIME
0217 E108 01    NOP
0218 E109 01    NOP
0219 E10A 01    NOP
0220 E10B 1D 08 02    BCLR    PORTD,X #SCLBIT  FORCE SCL LOW
0221 E10E 39    RTS

0222

0223 *****
0224 * ISSUE AN ACKNOWLEDGE. THE ACK ROUTINE DOES NOT CHECK *
0225 * TO SEE IF THE DUT ACTUALLY ISSUES AN ACKNOWLEDGE. *
0226 *****
0227

0228 E10F 86 03    ACK:    LDAA    #SDAOUT    MAKE SDA AN OUTPUT
0229 E111 A7 09    STAA    DDRD,X
0230 E113 1D 08 01    BCLR    PORTD,X #SDABIT  PERFORM AN 'ACKNOWLEDGE' WITH SDA LOW
0231 E116 BD E1 24    JSR     CLOCK    GENERATE A CLOCK PULSE
0232 E119 39    RTS
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