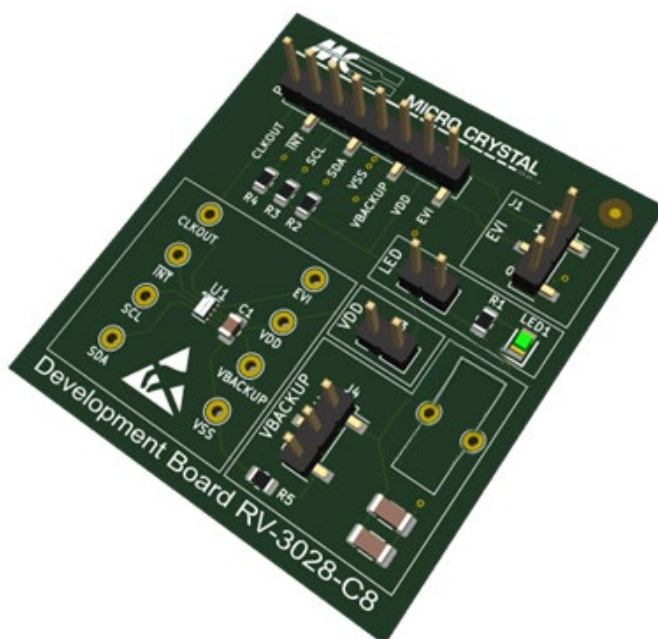


Development Board



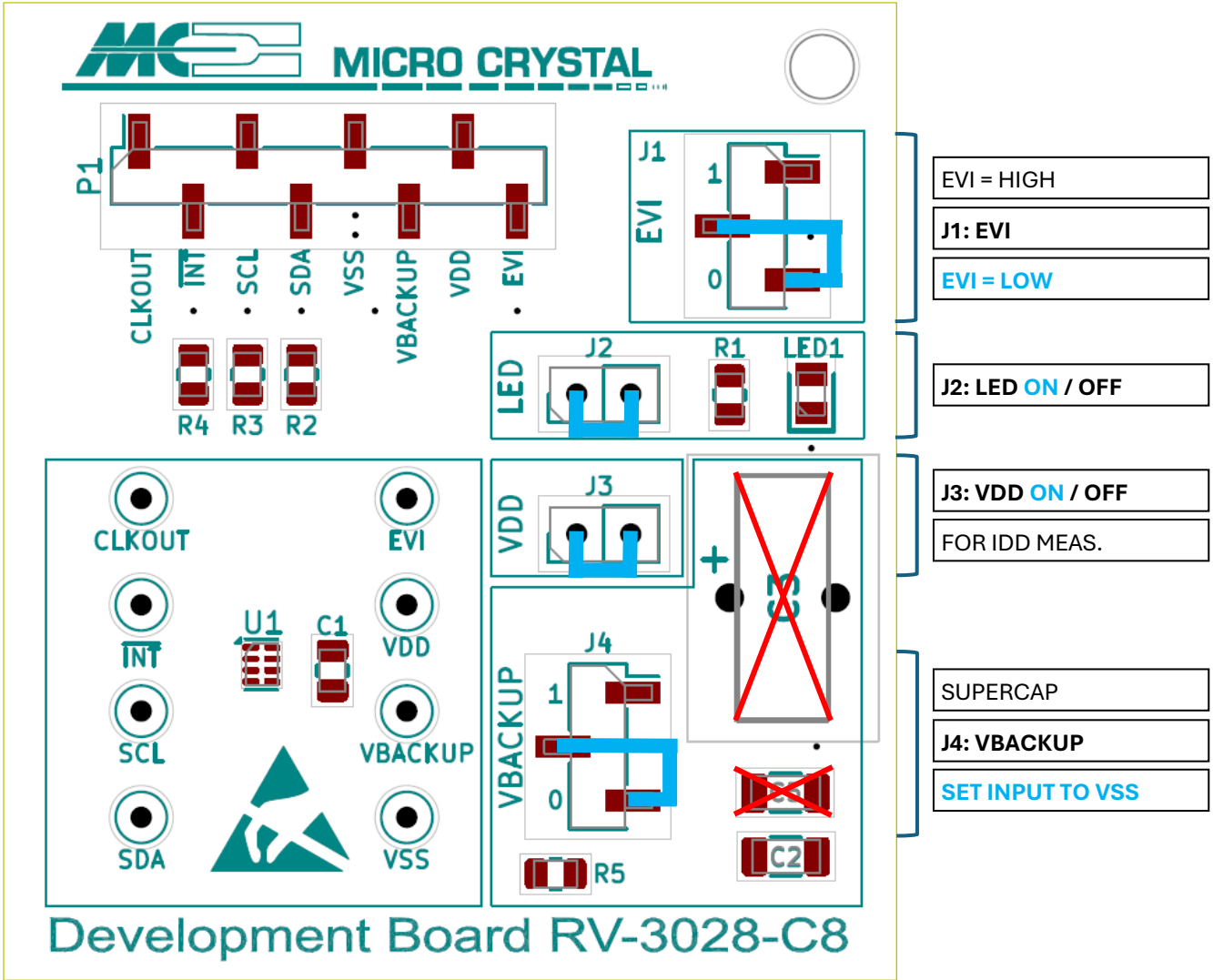
RV-3028-C8

Extreme Low Power RTC Module

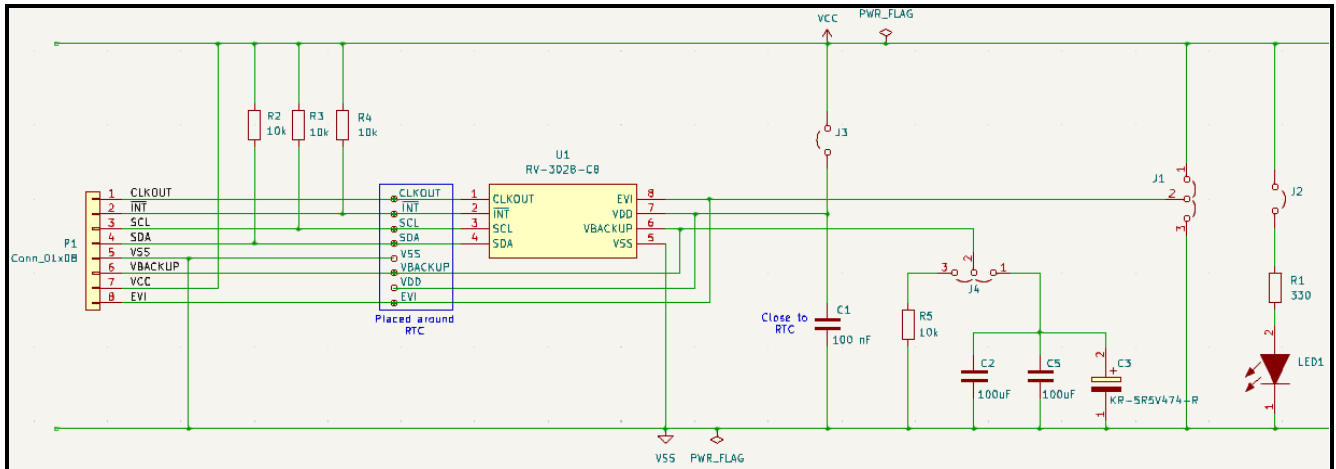
RV-3028-C8: Assembly Plan

Reference	Description	Note
U1	RV-3028-C8	Dimensions: 2.0 x 1.2 x 0.6 mm
P1	Header SMD, 8-Pin	Every RTC pin is accessible at test pins 1 to 8, and at the test vias situated around the device.
C1	10 nF / 0805	Decoupling capacitor between V _{SS} and V _{DD} .
C2	100uF / 1206	Capacitor for Backup power.
C3	Not populated	Optional; Place alternative capacitor for backup power.
C5	Not populated	Optional; Place alternative supercap for backup power.
LED1	LED Green	Supply; current consumption of the LED must be considered. J2 to switch on/off.
R1	330 Ω / 0805	Current limiting resistor for LED.
R2	10 kΩ / 0805	Pull-up resistor SDA to V _{DD} .
R3	10 kΩ / 0805	Pull-up resistor SCL to V _{DD} .
R4	10 kΩ / 0805	Pull-up resistor INT to V _{DD} .
R5	10 kΩ / 0805	Pull-down resistor to define V _{BACKUP} input voltage when not used.

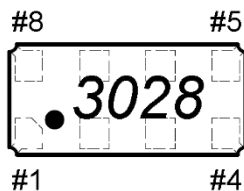
DEVELOPMENT BOARD:



SCHEMATICS:



PINOUT RV-3028-C8



# 1	CLKOUT	# 8	EVI
# 2	$\overline{\text{INT}}$	# 7	V _{DD}
# 3	SCL	# 6	V _{BACKUP}
# 4	SDA	# 5	V _{SS}

PIN DESCRIPTION

Symbol	Pin #	Description
CLKOUT	1	<p>Clock Output; push-pull; Normal and Interrupt driven clock output can be activated concurrently.</p> <p>1. Normal clock output is controlled by the CLKOE bit. When CLKOE is set to 1 (default), the CLKOUT pin drives the square wave on the CLKOUT pin. When CLKOE bit is set to 0, the CLKOUT pin is LOW.</p> <p>2. Interrupt driven clock output is controlled by an interrupt event. When CLKIE is set to 1 the occurrence of the interrupt selected in the Clock Interrupt Mask Register (12h) allows the square wave output on the CLKOUT pin. Writing 0 to CLKIE will disable new interrupts from driving square wave on CLKOUT. When CLKF flag is cleared, the CLKOUT pin is LOW.</p> <p>Depending on the settings in the FD field, the CLKOUT pin can drive the square wave of 32.768 kHz (default), 8192 Hz, 1024 Hz, 64 Hz, 32 Hz or 1 Hz, or the predefined periodic countdown timer interrupt. When FD field is 111 the CLKOUT pin is LOW.</p>
$\overline{\text{INT}}$	2	Interrupt Output; open-drain; active LOW; requires pull-up resistor; used to output Alarm, Periodic Countdown Timer, Periodic Time Update and External Event Interrupt signals. Interrupt output also in V _{BACKUP} Power state.
SCL	3	I ² C Serial Clock Input; requires pull-up resistor. In V _{BACKUP} Power state, the SCL pin is disabled.
SDA	4	I ² C Serial Data Input-Output; open-drain; requires pull-up resistor. In V _{BACKUP} Power state, the SDA pin is disabled (high impedance)
V _{SS}	5	Ground
V _{BACKUP}	6	Backup Supply Voltage. When the backup switchover function is not needed, V _{BACKUP} must be tied to V _{SS} with a 10 kΩ resistor
V _{DD}	7	Positive supply voltage: Positive or negative steps in supply voltage may affect oscillator performance, recommend 10 nF decoupling capacitor close to the device
EVI	8	External Event Input: used for interrupt generation, interrupt driven clock output and time stamp function. Remains active also in V _{BACKUP} Power state. This pin should not be left floating