TMC423

Triple Incremental Encoder Interface and Companion IC for the TMC428

INFO The TMC423 is a triple incremental encoder input chip, which interfaces to any SPI™ compatible controller. It integrates 24 bit counters – one for each encoder – to provide a high position resolution without CPU interaction. The TMC423 is intended as a companion chip for the TMC428 but not limited to this. Both ICs together enable the realization of a motion control system of three axis with encoder feedback. This provides position verification or stabilization by implementation of some additional software. Further, the TMC423 allows dynamic resolution adaptation for direct comparison of encoder counters with motors using different micro step resolution.

All encoder counters can be latched synchronously, or whenever a null channel event occurs, providing a position on strobe holding function. The TMC423 also provides a step / direction output with programmable signal shaping for the TMC428 as well as a multiplexer function for the TMC428 reference switches. Additionally, the TMC423 can drive an LED matrix and read out a switch matrix, to support systems with keyboard user interaction.

MAIN CHARACTERISTICS

- incremental encoder interface for three 2 or 3 channel encoders
- TMC428 step / direction interface extension
- TMC428 reference switch interface
- TMC428 interrupt de-multiplexer
- control of LED 6 x 4 Matrix
- control of key 6 x 4 matrix

INTERFACE
- SPI interface to microcontroller

ELECTRICAL DATA
- 2.5V and 5V supply required
- 20mA LED driver outputs
- 5V CMOS / TTL compatible IOs

PACKAGE
- TQFP100
- RoHS compliant
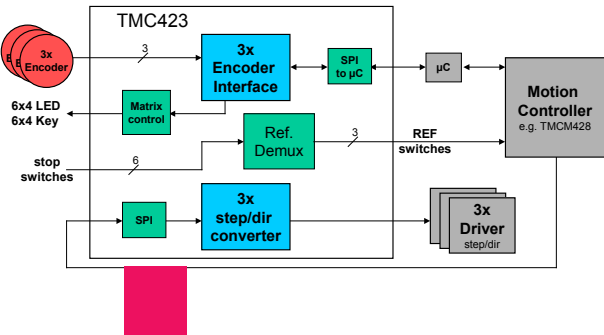
ORDER CODE	DESCRIPTION
TMC423	3-axis encoder interface TQFP100 package