Specifications

PCM-QUAD02

Specifications

Typical for 25 °C unless otherwise specified.

Specifications in *italic* text are guaranteed by design.

Power consumption

Table 1. Power consumption specifications

Parameter	Specification
Not supplying power to external encoders:	
+5V	80 mA max, 50 mA typical
Typical supplying one Dynamics Research Incremental Optical Rotary Encoder — part number M21AAFOBB2E-2500	
+5V	179 mA
Maximum peak current to encoders (each)	400 mA

Input

Table 2. Input specifications

Receiver type	SN75ALS175 quad differential receiver
Configuration	Each channel consists of Phase A input, Phase B input and Index input; each is configured for differential input
Number of channels	2
Common mode input voltage range	±12 V max
Differential input voltage range	±12 V max
Input sensitivity	±200 mV
Input hysteresis	50 mV typ
Input impedance	12 KΩ min
Propagation delay	27 ns max
Absolute maximum input voltage	Differential: ±25 V max
Miscellaneous	▪ Meets EIA RS422, 423, 485 and CCITT V.10, V.11, X.26, X.27. ▪ Designed for multipoint buses on long lines in noisy environments.

Counter

Table 3. Counter specifications

Counter type	LS7266R1 24-bit Dual-axis Quadrature Counter	
Quadrature Mode	Clock frequency:	4.3 MHz max
	Separation:	57 ns min
	Clock pulse width:	115 ns min
	Index pulse width:	85 ns min
Count Mode	Clock frequency:	30 MHz max, (25 MHz max Mod-N mode)
	Clock A - high pulse width:	16 ns min
	Clock A - low pulse width:	16 ns min
Filter clock (FCK)	10 MHz	
Digital filter rate	10 MHz, software selectable divider (1 to 256 in single steps)	
Crystal oscillator (FCK source)	Frequency:	10 MHz
	Frequency accuracy:	100 ppm

Interrupt controller

Table 4. Interrupt Controller specifications

Controller type	FPGA
Configuration	Polled mode only
Interrupts	2 - 15
Interrupt enable	Programmable
Interrupt sources	All Carry/Borrow outputs from LS7266R1, all Index inputs

Environmental

Table 5. Environmental specifications

Operating temperature range	0 to 70 °C
Storage temperature range	-40 to 100 °C
Humidity	0 to 90% non-condensing

Pin out

AMP 15 position I/O connector

Pin #	Function	Pin #	Function
1	Phase 1A+	9	+5 VDC
2	Phase 1A–	10	Phase 2A+
3	Phase 1B+	11	Phase 2A–
4	Phase 1B–	12	Phase 2B+
5	Index 1+	13	Phase 2B–
6	Index 1–	14	Index 2+
7	Ground	15	Index 2–
8	+5 VDC	16	