COM20022I

10 Mbps ARCNET (ANSI 878.1) Controller with 2Kx8 On-Chip RAM

Data Brief

Product Features

- **New Features**
  - Data Rates up to 10 Mbps
  - Selectable 8/16 Bit Wide Bus With Data Swapper
  - Programmable DMA Channel
  - Programmable Reconfiguration Times
  - 48 Pin TQFP Package; Lead-Free RoHS Compliant Package also available
- Ideal for Industrial/Factory/Building Automation and Transportation Applications
- Deterministic, (ANSI 878.1), Token Passing ARCNET Protocol
- Minimal Microcontroller and Media Interface Logic Required
- Flexible Interface For Use With All Microcontrollers or Microprocessors
- Automatically Detects Type of Microcontroller Interface
- 2Kx8 On-Chip Dual Port RAM
- Command Chaining for Packet Queuing
- Sequential Access to Internal RAM
- Software Programmable Node ID
- Eight, 256 Byte Pages Allow Four Pages TX and RX Plus Scratch-Pad Memory
- Next ID Readable
- Internal Clock Scaler and Clock Multiplier for Adjusting Network Speed
- Operating Temperature Range of -40°C to +85°C
- Self-Reconfiguration Protocol
- Supports up to 255 Nodes
- Supports Various Network Topologies (Star, Tree, Bus...)
- CMOS, Single +5V Supply
- Duplicate Node ID Detection
- Powerful Diagnostics
- Receive All Packets Mode
- Flexible Media Interface:
  - Traditional Hybrid Interface For Long Distances up to Four Miles at 2.5Mbps
  - RS485 Differential Driver Interface For Low Cost, Low Power, High Reliability

ORDERING INFORMATION

Order Numbers:

COM20022ITQFP for 48 pin TQFP package

COM20022I-HT for 48 pin, TQFP Lead-Free RoHS Compliant package

PRODUCT PREVIEW



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PRODUCT PREVIEW

General Description

SMSC's COM20022I is a member of the family of Embedded ARCNET Controllers from Standard Microsystems Corporation. The device is a general purpose communications controller for networking microcontrollers and intelligent peripherals in industrial, automotive, and embedded control environments using an ARCNET protocol engine. The small 48 pin package, flexible microcontroller and media interfaces, eight- page message support, and extended temperature range of the COM20022I make it the only true network controller optimized for use in industrial, embedded, and automotive applications. Using an ARCNET protocol engine is the ideal solution for embedded control applications because it provides a deterministic token-passing protocol, a highly reliable and proven networking scheme, and a data rate of up to 10 Mbps when using the COM20022I. A token-passing protocol provides predictable response times because each network event occurs within a predetermined time interval, based upon the number of nodes on the network. The deterministic nature of ARCNET is essential in real time applications. The integration of the 2Kx8 RAM buffer on-chip, the Command Chaining feature, the 10 Mbps maximum data rate, and the internal diagnostics make the COM20022I the highest performance embedded communications device available. With only one COM20022I and one microcontroller, a complete communications node may be implemented.

PRODUCT PREVIEW

Block Diagram

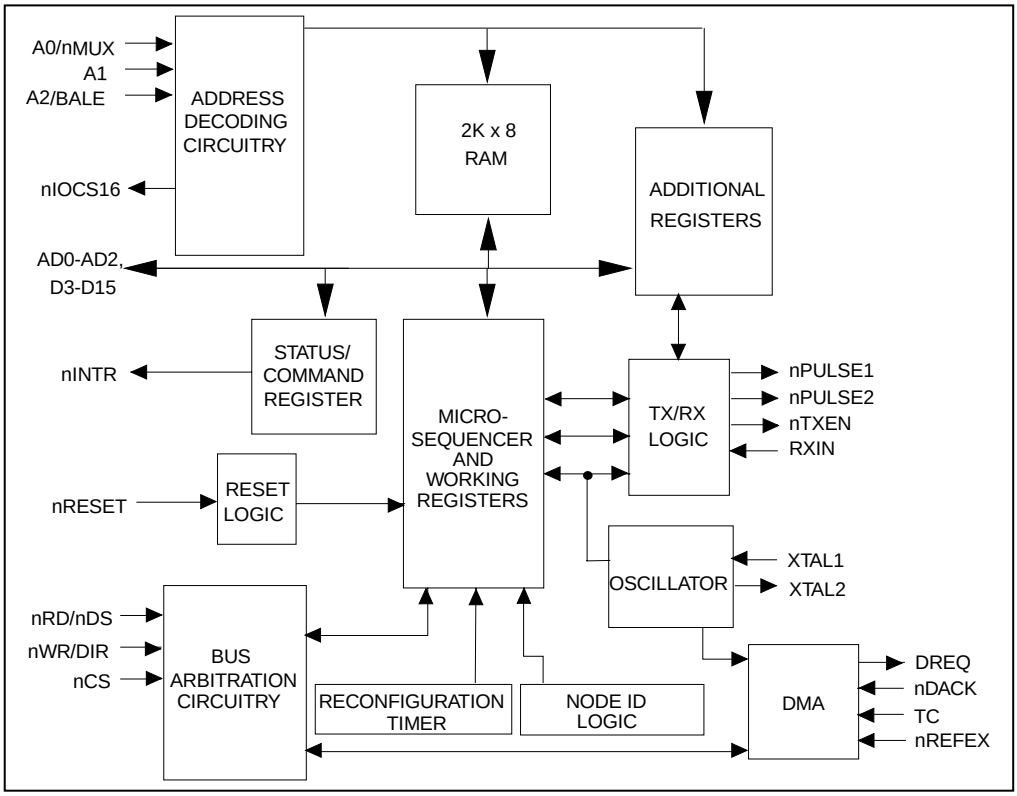


Figure 1 - COM20022I Internal Block Diagram

PRODUCT PREVIEW

Package Outline

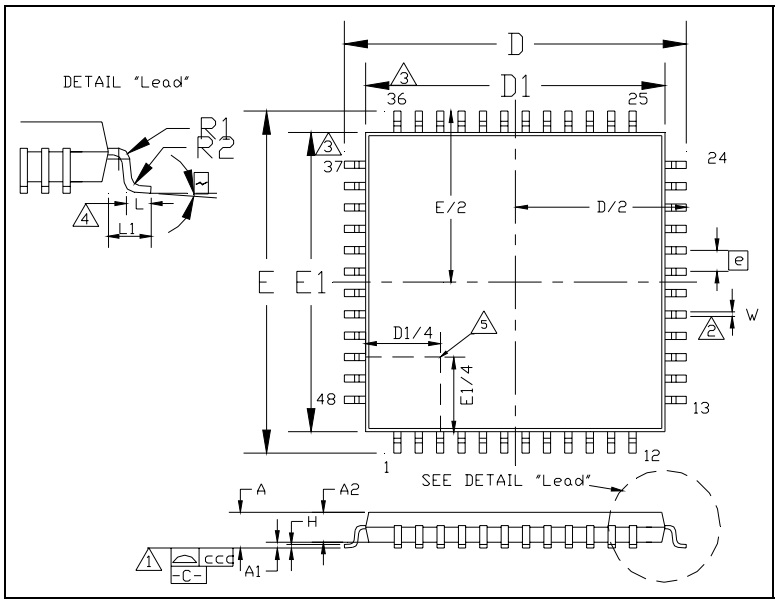


Figure 2 - COM20022I 48 Pin TQFP Package Outline

Table 1 - COM20022I 48 Pin TQFP Package Parameters

	MIN	NOMINAL	MAX	REMARK
A	~	~	1.6	Overall Package Height
A1	0.05	0.10	0.15	Standoff
A2	1.35	1.40	1.45	Body Thickness
D	8.80	9.00	9.20	X Span
D/2	4.40	4.50	4.60	$^1/_2$ X Span Measure from Centerline
D1	6.90	7.00	7.10	X body Size
E	8.80	9.00	9.10	Y Span
E/2	4.40	4.50	4.60	$^1/_2$ Y Span Measure from Centerline
E1	6.90	7.00	7.10	Y body Size
H	0.09	~	0.20	Lead Frame Thickness
L	0.45	0.60	0.75	Lead Foot Length from Centerline
L1	~	1.00	~	Lead Length
e		0.50 Basic		Lead Pitch
θ	0^o	~	7^o	Lead Foot Angle
W	0.17	~	0.27	Lead Width
R1	0.08	~	~	Lead Shoulder Radius
R2	0.08	~	0.20	Lead Foot Radius
ccc	~	~	0.0762	Coplanarity (Assemblers)
ccc	~	~	0.08	Coplanarity (Test House)

Notes:

1. Controlling Unit: millimeter
2. Tolerance on the position of the leads is ± 0.04 mm maximum.
3. Package body dimensions D1 and E1 do not include the mold protrusion. Maximum mold protrusion is 0.25 mm.
4. Dimension for foot length L measured at the gauge plane 0.25 mm above the seating plane is 0.78-1.08 mm.
5. Details of pin 1 identifier are optional but must be located within the zone indicated.

PRODUCT PREVIEW

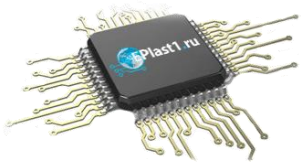
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- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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