SmartSCM™ SocketModem™

V.90/K56flex™/V.34/V.32 SocketModem for Worldwide "Data Only" Applications

The Conexant™ SmartSCM™ SocketModem™ with SmartDAA™ technology supports analog data up to 56 kbps or 33.6 kbps and analog fax up to 14.4 kbps. The modem pin-out connections, except for analog voice functions (which are not supported), are the same as earlier Conexant SocketModems, making it an easy drop-in solution for most existing designs. This SocketModem (Figure 1) is also ideal for new designs due to its low profile and use of Conexant's SmartSCM Single Chip Modem with SmartDAA™. The SocketModem stores over 35 country profiles in memory and more can be added as required.

As a V.90/K56flex™ data modem (SC56 models), the SmartSCM SocketModem can receive data at speeds up to 56 kbps from a digitally connected V.90- or K56flex-compatible central site modem. Taking advantage of the PSTN, which is primarily digital except for some client modem to central office local loops, V90/K56flex modems are ideal for applications such as remote access to an Internet Service Provider (ISP), on-line service, or corporate site. In this mode, the SocketModem can send data at speeds up to V.34 rates.

As a V.34 data modem (SC56 and SC34 models), the SmartSCM SocketModem operates at line speeds up to 33.6 kbps. Error correction (V.42/MNP 2-4) and data compression (V.42 bis/MNP 5) maximize data transfer integrity and boost average data throughput up to 230.4 kbps. Non-error-correcting mode is also supported.

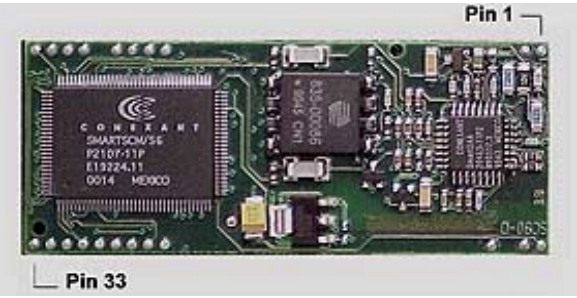
As a V.32 modem, the SmartSCM SocketModem operates at line speeds up to 14.4 kbps.

As a fax modem, the SmartSCM SocketModem supports V.17 fax for class I/II send and receive rates up to 14.4 kbps.

The SmartSCM SocketModem uses a Conexant CX88168 SmartSCM, in a 128-pin TQFP, and a Conexant CX20463 SmartDAA, in a 32-pin TQFP.

Refer to Conexant Doc. No. 100722 for a description of the supported AT commands and parameters.

Figure 1. Top View of SmartSCM SocketModem



Features

Data Modem Features

- ITU-T V.90/K56flex™, V.34, V.32bis, V.32, V.22bis, V.22, V.23, and V.21; Bell 212A and Bell 103
- V.42 LAPM and MNP 2-4 error correction
- V.42bis and MNP 5 data compression

Fax Modem Features

- V.17, V.29, V.27 ter and V.21 channel 2
- EIA/TIA 578 Class 1 and T.31 Class 1.0 commands
- EIA/TIA 578 Class 2 commands

Advanced Features

- Extension pickup detection
- Remote hang-up detection
- Line-in-use detection
- Digital PBX detection and protection

General Features

- Small size: 64.54 x 26.54 x 11.95 mm (L x W x H)
- Operates with over 35 country profiles stored in memory
- Optional additional country profiles
- Operating temperature: 0° C to +70° C
- Line quality monitoring and retrain
- Line protection circuitry included

Compliance

- FCC Part 15B compliant
- FCC Part 68 compliant
- CE Mark and CTR21 compliant
- UL/CUL recognized component, File No. E93908

Ordering Information

The SmartSCM SocketModem ordering information is listed in Table 1.

Table 1. SmartSCM SocketModem Ordering Information

Sales Order No.	Part No.	Configuration
SC56H1	SC43-E310-001	V.90/56 kbps, serial interface, +5 V operation
SC336H1	SC34-E310-001	V.34/33.6 kbps, serial interface, +5 V operation
SC144H1	SC14-E310-001	V.32/14.4 kbps, serial interface, +5 V operation
SC56H0	SC43-E010-001	V.90/56 kbps, parallel interface, +5 V operation
SC336H0	SC34-E010-001	V.34/33.6 kbps, parallel interface, +5 V operation
SC144H0	SC14-E010-001	V.32/14.4 kbps, parallel interface, +5 V operation

Reader Response: Conexant strives to produce quality documentation and welcomes your feedback. Please send comments and suggestions to tech.pubs@conexant.com. For technical questions, contact your local Conexant sales office or field applications engineer.

SmartSCM SocketModem Pin Connections

Serial TTL Interface Model

Pin signals for serial interface models are illustrated in Figure 2 and listed in Table 2.

Figure 2. SmartSCM SocketModem Pin Signals - Serial TTL Interface Models

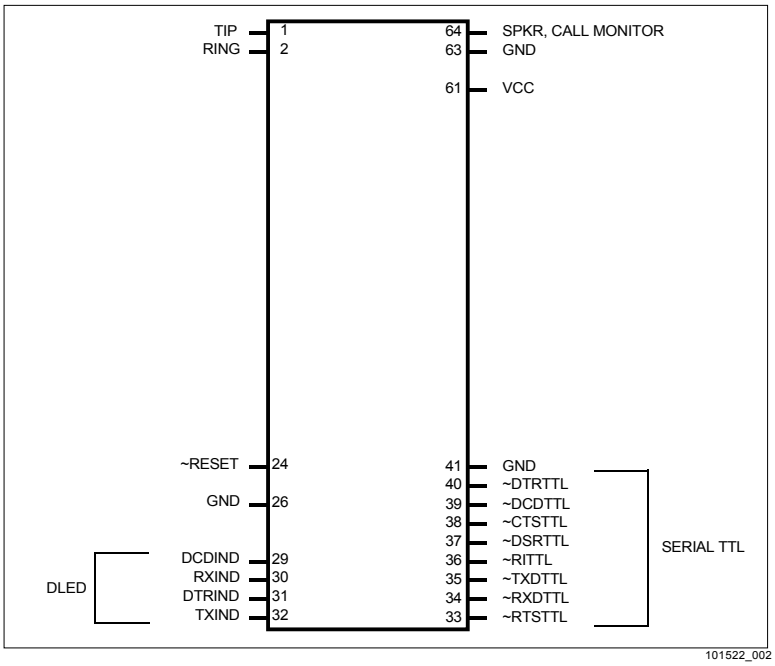


Table 2. SmartSCM SocketModem Pin Signals - Serial TTL Interface Models

Pin	Function
1	Telephone Line Interface – TIP.
2	Telephone Line Interface – RING.
24	Reset, active low, 50 to 100 ms. Closure to GND for reset.
26	Ground.
29	DCD Indicator; can drive an LED anode without additional circuitry.
30	RXD Indicator; can drive an LED anode without additional circuitry.
31	DTR Indicator; can drive an LED anode without additional circuitry.
32	TXD Indicator; can drive an LED anode without additional circuitry.
33	RTS Interface, TTL levels.
34	RXD Interface, TTL levels.
35	TXD Interface, TTL levels.
36	Ring Indicator Interface, TTL levels.
37	DSR Interface, TTL levels.
38	CTS Interface, TTL levels.
39	DCD Interface, TTL levels.
40	DTR Interface, TTL levels.
41	Ground.
61	+ 5 Volts DC Input.
63	Ground.
64	Speaker, Call Monitor.

Parallel Interface Model

Pin signals for parallel interface models are illustrated in Figure 3 and listed in Table 3.

Figure 3. SmartSCM SocketModem Pin Signals – Parallel Interface Models

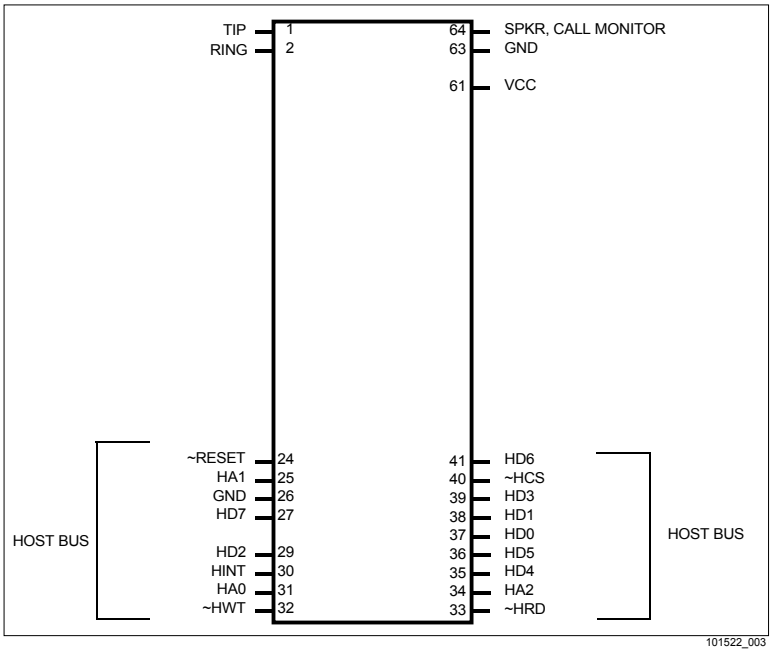


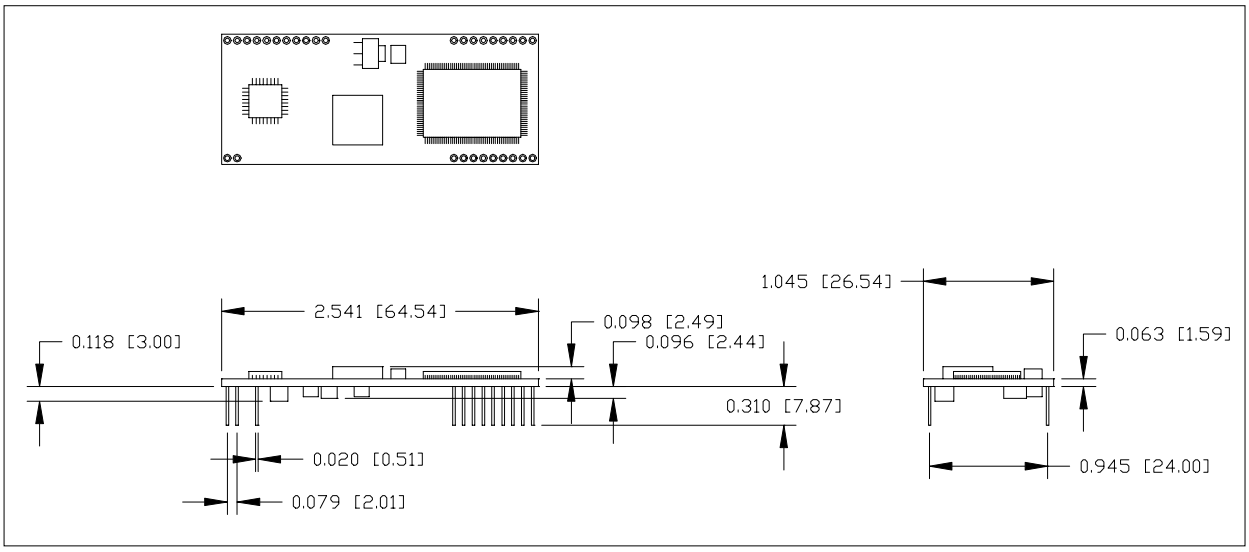
Table 3. SmartSCM SocketModem Pin Signals – Parallel Interface Models

Pin	Function
1	Telephone Line Interface – TIP.
2	Telephone Line Interface – RING.
24	Reset, active low, 50 to 100 ms. Closure to GND for reset.
25	Host Bus Address Line 1.
26	Ground.
27	Host Bus Data Line 7.
29	Host Bus Data Line 2.
30	Host Bus Interrupt Line, active high, Resets on Low.
31	Host Bus Address line 0.
32	Host Bus Write; when low, allows host to write to SocketModem.
33	Host Bus Read; when low, allows host to read from SocketModem.
34	Host Bus Address Line 2.
35	Host Bus Data Line 4.
36	Host Bus Data Line 5.
37	Host Bus Data Line 0.
38	Host Bus Data Line 1
39	Host Bus Data Line 3.
40	Host Bus Chip Select, active low.
41	Host Bus Data Line 6.
61	+5 Volts DC Input.
63	Ground.
64	Speaker, Call Monitor.

Physical Dimensions

The SmartSCM SocketModem dimensions are 64.54 (L) x 26.54 (W) x 11.95 (H) mm (Figure 4). The overall height of 11.95 mm includes the pin length of 7.87 mm.

Figure 4. SmartSCM SocketModem Physical Dimensions

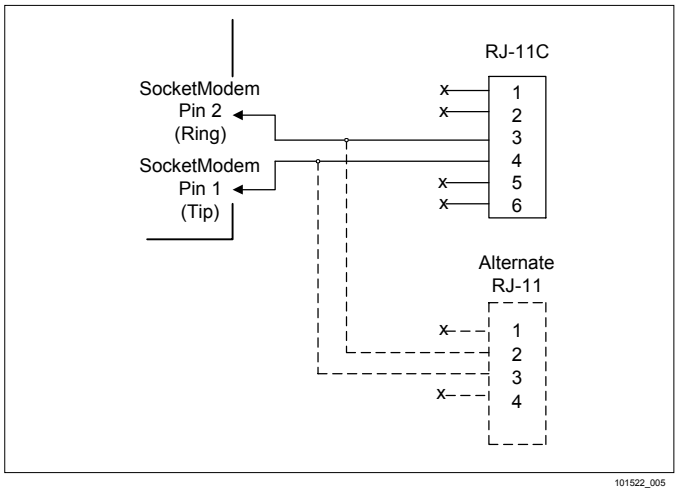


Telephone Line Interface

Figure 5 illustrates the telephone line interface for the SmartSCM SocketModem.

The TIP and RING SocketModem pins connect directly to the RJ-11 jack or customer-supplied telephone company (telco) interface.

Figure 5. SmartSCM SocketModem Telephone Line Interface



Electrical and Environmental Specifications

The operating conditions are specified in Table 4.

The absolute maximum ratings are listed in Table 5.

The current and power requirements are listed in Table 6.

Table 4. Operating Conditions

Parameter	Symbol	Limits	Units
Supply voltage	VDD	+4.75 to +5.25	VDC
Operating ambient temperature	T_A	0 to +70	°C

Table 5. Absolute Maximum Ratings

Parameter	Symbol	Limits	Units
Supply voltage	VDD	-0.5 to +7.0	VDC
Input voltage	V_{IN}	-0.5 to (+5VD +0.5)	VDC
Voltage applied to outputs in high impedance (Off) state	V_{HZ}	-0.5 to (+5VD +0.5)	VDC
DC input clamp current	I_{IK}	±20	mA
DC output clamp current	I_{OK}	±20	mA
Static discharge voltage (25°C)	V_{ESD}	±2500	VDC
Latch-up current (25°C)	I_{TRIG}	±200	mA
Storage temperature	T_{STG}	-40 to +80	°C

Table 6. Current and Power Requirements

Mode	Typ. Current (mA)	Max. Current (mA)	Typ. Power (mW)	Max. Power (mW)
Normal Mode (Serial TTL interface)	190	200	0.95	1.05
Normal Mode (Parallel interface)	180	200	0.90	1.05
Test conditions: VDD = +5 V for typical values; VDD = +5.25 V for maximum values.				

Supported Country Profiles

The SmartSCM SocketModem contains the country profiles listed in Table 7.

Table 7. Supported Country Profiles

Country	Country	Country
Australia	Hungary	Poland
Austria	India	Portugal
Belgium	Ireland	Singapore
Brazil	Israel	South Africa
Canada	Italy	Spain
China	Japan	Switzerland
Czech Republic	Korea	Taiwan
Denmark	Malaysia	Thailand
France	Mexico	Turkey
Germany	The Netherlands	United Kingdom
Greece	New Zealand	United States
Hong Kong	Philippines	

Further Information
literature@conexant.com
(800) 854-8099 (North America)
(949) 483-6996 (International)
Printed in USA

World Headquarters
Conexant Systems, Inc.
4311 Jamboree Road
Newport Beach, CA
92660-3007
Phone: (949) 483-4600
Fax 1: (949) 483-4078
Fax 2: (949) 483-4391

Americas

U.S. Northwest/
Pacific Northwest – Santa Clara
Phone: (408) 249-9696
Fax: (408) 249-7113

U.S. Southwest – Los Angeles
Phone: (805) 376-0559
Fax: (805) 376-8180

U.S. Southwest – Orange County
Phone: (949) 483-9119
Fax: (949) 483-9090

U.S. Southwest – San Diego
Phone: (858) 713-3374
Fax: (858) 713-4001

U.S. North Central – Illinois
Phone: (630) 773-3454
Fax: (630) 773-3907

U.S. South Central – Texas
Phone: (972) 733-0723
Fax: (972) 407-0639

U.S. Northeast – Massachusetts
Phone: (978) 367-3200
Fax: (978) 256-6868

U.S. Southeast – North Carolina
Phone: (919) 858-9110
Fax: (919) 858-8669

U.S. Southeast – Florida/
South America
Phone: (727) 799-8406
Fax: (727) 799-8306

U.S. Mid-Atlantic – Pennsylvania
Phone: (215) 244-6784
Fax: (215) 244-9292

Canada – Ontario
Phone: (613) 271-2358
Fax: (613) 271-2359

Europe

Europe Central – Germany
Phone: +49 89 829-1320
Fax: +49 89 834-2734

Europe North – England
Phone: +44 1344 486444
Fax: +44 1344 486555

Europe – Israel/Greece
Phone: +972 9 9524000
Fax: +972 9 9573732

Europe South – France
Phone: +33 1 41 44 36 51
Fax: +33 1 41 44 36 90

Europe Mediterranean – Italy
Phone: +39 02 93179911
Fax: +39 02 93179913

Europe – Sweden
Phone: +46 (0) 8 5091 4319
Fax: +46 (0) 8 590 041 10

Europe – Finland
Phone: +358 (0) 9 85 666 435
Fax: +358 (0) 9 85 666 220

Asia – Pacific

Taiwan
Phone: (886-2) 2-720-0282
Fax: (886-2) 2-757-6760

Australia
Phone: (61-2) 9869 4088
Fax: (61-2) 9869 4077

China – Central
Phone: 86-21-6361-2515
Fax: 86-21-6361-2516

China – South
Phone: (852) 2 827-0181
Fax: (852) 2 827-6488

China – South (Satellite)
Phone: (86) 755-5182495

China – North
Phone: (86-10) 8529-9777
Fax: (86-10) 8529-9778

India
Phone: (91-11) 692-4789
Fax: (91-11) 692-4712

Korea
Phone: (82-2) 565-2880
Fax: (82-2) 565-1440

Korea (Satellite)
Phone: (82-53) 745-2880
Fax: (82-53) 745-1440

Singapore
Phone: (65) 737 7355
Fax: (65) 737 9077

Japan
Phone: (81-3) 5371 1520
Fax: (81-3) 5371 1501