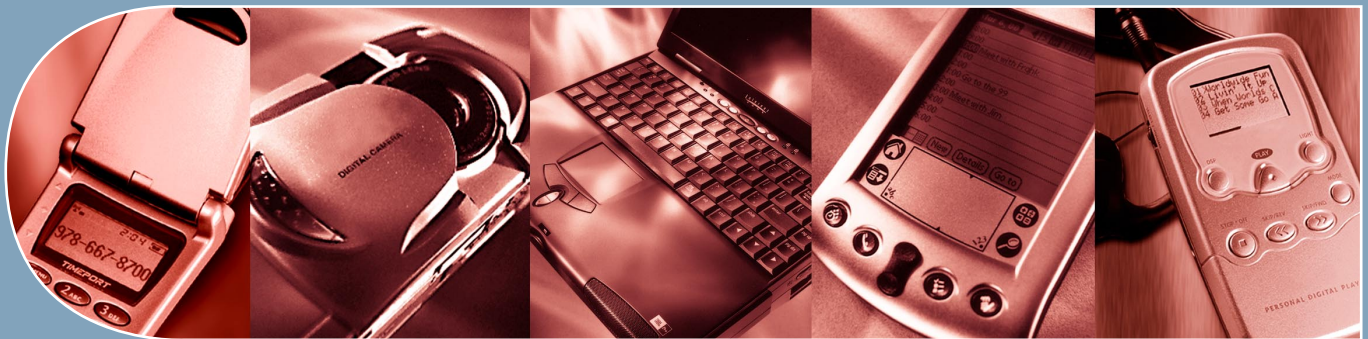


DATA CABLE/SERIAL INTERFACE SELECTION GUIDE 2002



DISPLAY DRIVER ♦ POWER MANAGEMENT ♦ INTERFACE



DATA CABLE INTERFACE PRODUCTS

3.3V, HIGH ESD, FULL FEATURED SERIAL INTERFACE PRODUCTS

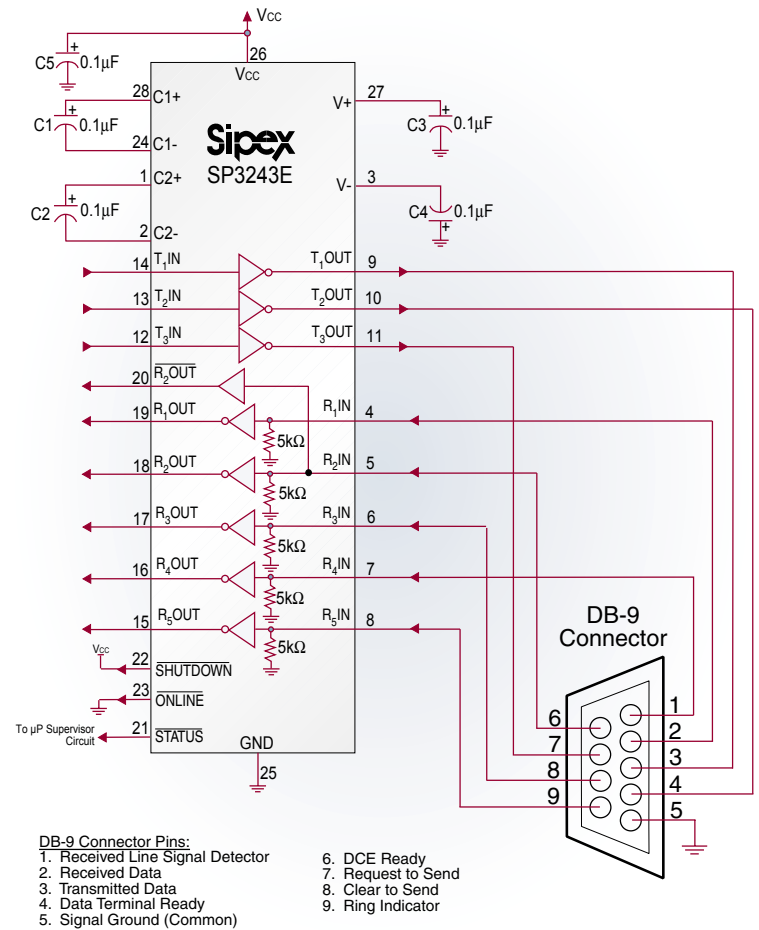
NEW

SP3238E, 39E, 49E

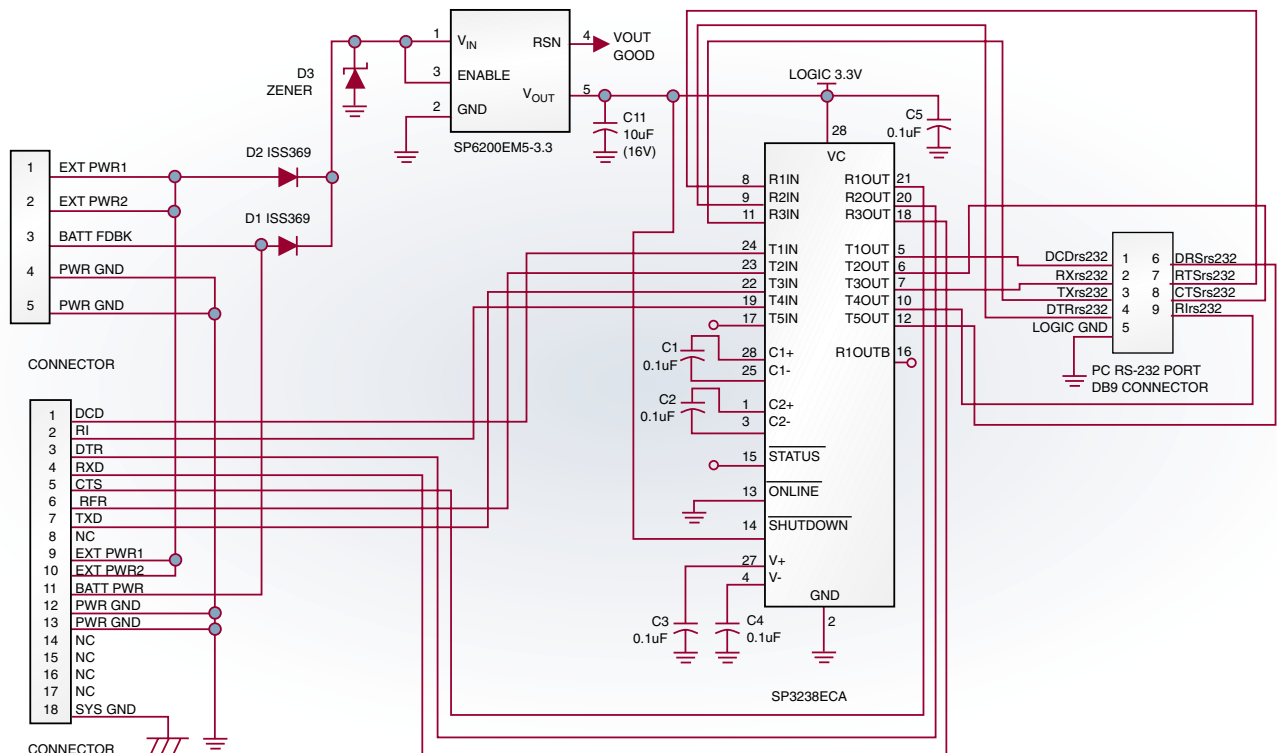
- Ideal for wireless modems
- 5 driver, 3 receiver
- $V_{IN} = 2.7V$ to $5.5V$
- Adheres to EIA/TIA-562 down to $2.7V$
- 250 kbps data rate
- 15kV HBM, IEC-1000-4-2 air gap discharge, 8kV IEC-1000-4-2 contact discharge
- AUTO ON-LINE™ (SP3238E)
- Active receiver in shutdown (SP3239E)
- Smallest package (SP3249E)

SP3243E

- Ideal for high multifunction function data cables
- 3 driver, 5 receiver
- $V_{IN} = 2.7V$ to $5.5V$
- Adheres to EIA/TIA-562 down to $2.7V$
- 235 kbps data rate
- 15kV HBM, IEC-1000-4-2 air gap discharge, 8kV IEC-1000-4-2 contact discharge
- AUTO ON-LINE™
- Active receiver in shutdown

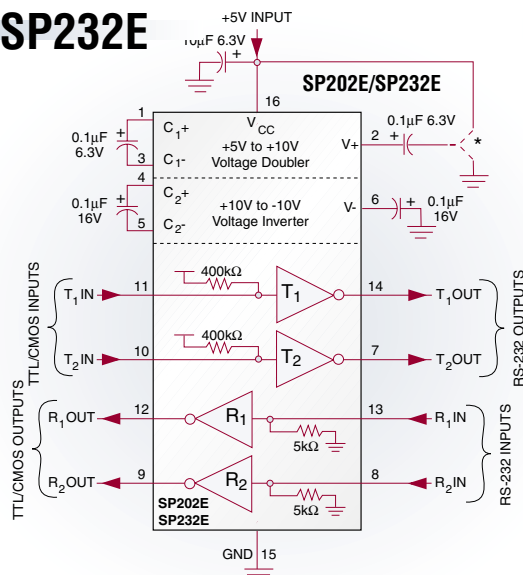


TYPICAL DATA CABLE APPLICATION



SP202E, SP232A, SP232E

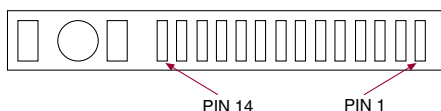
- Ideal choice when transitioning from 5V discrete solutions
- Uses 5V supply voltage
- 2 drivers, 2 receivers
- No extra, unused features
- 120 kbps data rate
- <1 μ A shutdown current
- 15kV HBM, IEC-1000-4-2 air gap discharge, 8kV IEC-1000-4-2 contact discharge



* The negative terminal of the V+ storage capacitor can be tied to either V_{CC} or GND. Connecting the capacitor to V_{CC} (+5V) is recommended.

SP385E-1

- Ideal choice when transitioning from 3V discrete solutions
- Uses 3.3V supply voltage
- 2 Drivers, 2 receivers
- 120 kbps data rate
- <1 μ A shutdown current
- 15kV HBM, IEC-1000-4-2 air gap discharge, 8kV IEC-1000-4-2 contact discharge



end view of a mobile phone connector with pin assignment

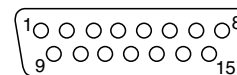
Pin Number	Signal Name	Signal Type	Signal Description
1	PC_DCD	OUT	RS232 Carrier-Detect from Mobile (DCD) to PC(DCD)
2	PC_RI	OUT	RS232 Ring-Indicator from Mobile (RI) to PC(RI)
3	PC_DTR	IN	RS232 Data-Terminal-Ready from PC (DTR) to Mobile (DTR)
4	PC_RXD	OUT	RS232 Receive Data from Mobile (TXD) to PC (RXD)
5	PC_CTS	OUT	RS232 Clear-To-Send from Mobile (RFR) to PC (CTS)
6	PC_RFR	IN	RS232 Ready-For-Receive from PC (RFR) to Mobile (CTS)
7	PC_TXD	IN	RS232 Transmit Data from PC (TXD) to Mobile (RXD)
8	(RESERVED)	TBD	Reserved For Future Use
9	EXT_PWR1	OUT	External Power Supply 1
10	EXT_PWR2	OUT	External Power Supply 2
11	BATT_PWR	OUT	Switched Battery Power Output
12	PWR_GND		Mobile Power Ground
13	PWR_GND		Mobile Power Ground
14	(RESERVED)	TBD	Reserved For Future Use
15	(RESERVED)	TBD	Reserved For Future Use
16	(RESERVED)	TBD	Reserved For Future Use
17	(RESERVED)	TBD	Reserved For Future Use
18	SYS_GND		Mobile System Ground

SP3222E, SP3232E

- Midrange data cable serial transceiver choice
- Uses 3.3V supply voltage
- 2 drivers, 2 receivers
- 235 kbps data rate
- <1 μ A shutdown current
- 15kV HBM, IEC-1000-4-2 air gap discharge, 8kV IEC-1000-4-2 contact discharge
- Receiver tristate (SP3222E)
- Smallest package (SP3232E)

SP3203E

- Designed for mixed logic systems
- Uses 3.3V supply voltage
- 3 drivers, 2 receivers
- 250 kbps data rate
- V_{IN} = 2.7V to 5.5V
- Adheres to EIA/TIA-562 down to 2.7V
- 15kV HBM, IEC-1000-4-2 air gap discharge, 8kV IEC-1000-4-2 contact discharge



X.21 Connector (ISO 4903)
DTE Connector – DB-15 Pin male
DCE Connector – DB-15 Pin Female

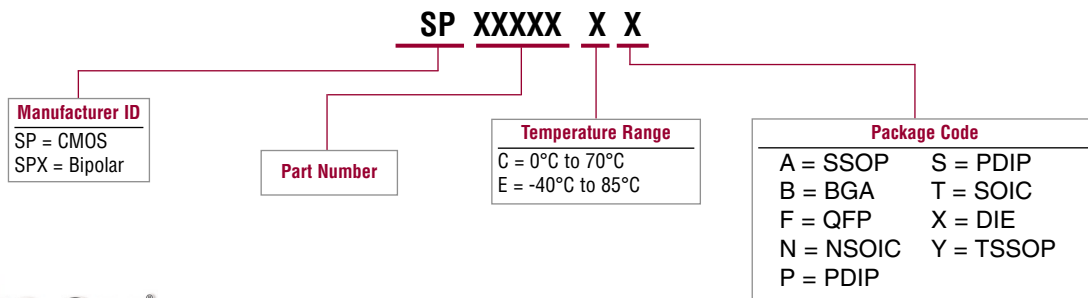
RS-232 port pin configuration

Pin Number	DB9 F Serial Connector Definitions
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

RS-232 INTERFACE

DATA CABLE APPLICATIONS FOR CELL PHONES

CABLE SPECS	PART NO.	PERFORMANCE							PACKAGE TYPES																COMMENTS	
		I/O pins at ±15kV ESD	V _{CC} Range	Quiescent Current (mA)	AUTO ON-LINE™	Shutdown	Standard Data Rate (bps)	1Mbps Data Rate Option	External LDO/Regulator	16L nSOIC	16L wSOIC	16L PDIP	16L SSOP	16L wSSOP	16L TSSOP	18L SOIC	20L PDIP	20L SSOP	20L TSSOP	24L SSOP	24L TSSOP	28L SSOP	28L TSSOP	32L MLPQ		
< 2D / 2R	SP202E	✓	5.0V	3.0			120k		✓	✓	✓	✓													Low cost solution to replace discrete components	
	SP232A		5.0V	10.0			120k		✓	✓	✓	✓														
	SP232E	✓	5.0V	3.0			120k		✓	✓	✓	✓														
1D / 1R	SP3220E	✓	3.0V~5.5V	0.3			235k		✓				✓	✓	✓										Medium cost solution for applications requiring 3 drivers/3 receivers or less.	
< 2D / 2R	SP3232E	✓	3.0V~5.5V	0.3			235k	✓	✓	✓		✓	✓	✓	✓											
	SP385E-1	✓	3.0V~5.5V	0.5			120k		✓							✓		✓								
2D / 2R	SP3222E	✓	3.0V~5.5V	0.3		✓	235k	✓	✓							✓		✓	✓							
	SP3223E	✓	3.0V~5.5V	0.3	✓	✓	235k	✓	✓								✓	✓	✓							
	SP3232E	✓	3.0V~5.5V	0.3			235k	✓	✓	✓		✓	✓	✓	✓											
3D / 2R	SP3203E	✓	3.0V~5.5V	0.3		✓	250k												✓						VL pin for selectable mixed-logic TTL interface	
3D / 3R	SP3232E x 2	✓	3.0V~5.5V	0.3			235k	✓	✓	✓		✓	✓	✓	✓										For High-End cables requiring more than 3 drivers	
	SP3243E	✓	3.0V~5.5V	0.3	✓	✓	235k	✓	✓													✓	✓	✓		
3D / 4R	SP3223E x 2	✓	3.0V~5.5V	0.3	✓	✓	235k	✓	✓								✓	✓	✓							
3D / 5R	SP3243E	✓	3.0V~5.5V	0.3	✓	✓	235k	✓	✓													✓	✓	✓		
4D / 1R	SP3232E x 2	✓	3.0V~5.5V	0.3			235k	✓	✓	✓		✓	✓	✓	✓											
4D / 3R	SP3232E x 2	✓	3.0V~5.5V	0.3			235k	✓	✓	✓		✓	✓	✓	✓											
	SP385E-1 x 2	✓	3.0V~5.5V	0.3			120k		✓							✓		✓								
5D / 3R	SP3238E	✓	3.0V~5.5V	0.3	✓	✓	250k		✓														✓	✓	Full specs ideal for a wireless modem interface	
	SP3239E	✓	3.0V~5.5V	0.3		✓	250k		✓														✓	✓		
	SP3249E	✓	3.0V~5.5V	0.3			250k		✓											✓	✓					
5D / 3R	SP3218E*	✓	1.8V~5.5V	0.3	✓	✓	250k	✓															✓	✓	For next generation cables ideal for using from cell phone battery power Interoperate in mixed-logic selectable voltages, +1.8V, +2.5V, +3.3V, or +5.0V (* Available in 3Q02)	



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