



电子元器件系列 (中国.厦门)

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Intersil SLIC Selection Guide



Part Number	HC5549 (New!)	VoIPRSLIC, HC55185 (New!)	UniSLIC14 (New!)	RSLIC18 100V, 50mW	HC5503, HC5503T, HC5503C, HC5503PRC	HC5513B, HC5526, HC5515	HC5502B, HC5504B	HC5509B	HC5517B, HC55171B
Replacement For	-	-	PBL386XX	-	-	PBL3764, PBL3764/A, PBL3860(A)	-	-	-
Applications	ISDN NT + Terminals, Pairgain RT, PABX	VoDSL, Cable Modems, ISDN-TA, Router	PABX, CO, Loop Carrier	PABX, Pairgain, ISDN-TA, WLL	PABX, CO (HC5503PRC)	PABX, CO, Loop Carrier	PABX	CO	ISDN Modems, Cable Telephony, WLL
Longitudinal Balance (dB)	53/58	53/58	45/55/63	45/53/58	53	53/55/58	58	58	58/40
Relay Drivers	1	1	Ring	1	Ring or None	Ring	Ring	Ring + 1	-
Ringing	External	Internal	External	Internal	External	External	External	External	Internal
REN	-	5	-	5	-	-	-	-	3/5
Dual Battery Capability	yes	yes	yes	Internal Battery Switch	yes	-	yes	yes	External Battery Switch
Constant Voltage Feed	yes	yes	yes	yes	yes	-	yes	yes	yes
Constant Current Feed	yes	yes	yes	yes	-	yes	-	yes	-
Programmable Feed	yes	yes	yes	yes	-	yes	-	yes	yes
Loop Current (mA)	15 to 45	15 to 45	15 to 45	15 to 45	25/30/30	20 to 60	30/40	20 to 60	20 to 60
RLoop 20mA @ 48V(ohms)	1800	Med Loop	2000	Med Loop	1400, 1800 (PRC)	2000	1400	1800	Short Loop
Tip and Ring Open	yes	yes	yes	yes	-	yes	-	yes	yes
Loop Current Detector	yes	yes	yes	yes	yes	yes	yes	yes	yes
Ground Key Detector	yes	yes	yes	yes	-	yes	yes	yes	yes
Tip Open Ground Start	-	yes	yes	yes	-	-	-	-	-
Ring Trip Detector	yes	yes	yes	yes	HC5503 & HC5503PRC	yes	yes	yes	yes
Thermal Shutdown	yes	yes	Foldback	yes	Foldback	yes	Foldback	yes	yes
Thermal Alarm Indicator	yes	yes	yes	yes	-	-	-	yes	yes
On Hook Transmission	yes	yes	yes	yes	yes	yes	yes	yes	yes
Low Power Standby	yes	yes	-	yes	-	yes	-	-	-
Saturation Guard	yes	yes	yes	yes	yes	yes	yes	yes	yes
-40°C to + 85°C	yes	yes	yes	yes	-	yes	yes	yes	yes
Standard Packages	PLCC	PLCC	PLCC, SO	PLCC	PLCC for HC5503 & HC5503PRC, SO, PDIP	PLCC, PDIP	PLCC, PDIP, SO	PLCC, PDIP, SO	PLCC, SO

National Semiconductor Telecom Products

ISDN/Digital Line Card Components



Part Number	Description	Package
TP11362A	Quad Adaptive Differential PCM Processor	MDIP
TP11368	Octal Adaptive Differential PCM Processor	MDIP, PLCC
TP3404	QDASL Quad Digital Adapter for Subscriber Loops	PLCC
TP3406	DASL Digital Adapter for Subscriber Loops	MDIP, PLCC
TP3410	ISDN Basic Access Echo-Cancelling 2B1Q U Transceiver	CERDIP
TP3420A	ISDN S/T Interface Device	MDIP, PLCC



Analog Line Card Components

Part Number	Description	Package
TP11362A	Quad Adaptive Differential PCM Processor	PLCC
TP11368	Octal Adaptive Differential PCM Processor	MDIP, PLCC
TP3054	TP3052,TP3053,TP3054,TP3057,Enhanced Serial Interface CODEC/Filter COMBO Family	SOIC WIDE, MDIP
TP3057	TP3052,TP3053,TP3054,TP3057,Enhanced Serial Interface CODEC/Filter COMBO Family	SOIC WIDE, MDIP, PLCC
TP3064	Enhanced Serial Interface CMOS CODEC/Filter COMBO	SOIC WIDE, MDIP
TP3067	Enhanced Serial Interface CMOS CODEC/Filter COMBO	SOIC WIDE, MDIP, PLCC
TP3069	Enhanced Serial Interface CMOS CODEC/Filter COMBO	MDIP
TP3070	COMBO II Programmable PCM CODEC/Filter	PLCC
TP3071	COMBO II Programmable PCM CODEC/Filter	MDIP
TP3076	Combo II Programmable PCM CODEC/Filter for ISDN and Digital Phone Applications	MDIP
TP3094	COMBO Quad PCM Codec/Filter	PLCC(MCM)
TP3155	Time Slot Assignment Circuit	MDIP, PLCC

TE/Telephone Handset Components

Part Number	Description	Package
LMC567	Low Power Tone Decoder	SOIC NARROW, MDIP
TP3054	TP3052,TP3053,TP3054,TP3057,Enhanced Serial Interface CODEC/Filter COMBO Family	SOIC WIDE, MDIP
TP3057	TP3052,TP3053,TP3054,TP3057,Enhanced Serial Interface CODEC/Filter COMBO Family	SOIC WIDE, MDIP, PLCC
TP3076	Combo II Programmable PCM CODEC/Filter for ISDN and Digital Phone Applications	MDIP
TP3406	DASL Digital Adapter for Subscriber Loops	MDIP, PLCC
TP3410	ISDN Basic Access Echo-Cancelling 2B1Q U Transceiver	Cerdip
TP3420A	ISDN S/T Interface Device	MDIP, PLCC

PLL Products

Single PLLs

Part Number	Description	Package	Active Icc (typ@3V)	Power-Down Icc (typ@3V)	Fast-lock	Vcc	RF Input	Prescalers
LMX1501A	PLLatinum 1.1 GHz Frequency Synthesizer for RF Personal Communications	SOIC NARROW, Die	6 mA	-	-	2.7 to 5.5V	1.1 GHz	64/65 or 128/129
LMX1511	PLLatinum 1.1 GHz Frequency Synthesizer for RF Personal Communications	TSSOP	6 mA	-	No	2.7 to 5.5V	1.1 GHz	64/65 or 128/129
LMX2301	PLLatinum 160 MHz Frequency Synthesizer for RF Personal Communications	TSSOP	2 mA	30 μ A	No	2.7 to 5.5V	160 MHz	-
LMX2305	PLLatinum Frequency Synthesizer for RF Personal Communications	TSSOP, Ceramic SOIC	4 mA	30 μ A	No	2.65 to 5.5V	550 MHz	64/65 or 128/129
LMX2306	550 MHz PLLatinum Low Power Frequency Synthesizer for RF Personal Communications	TSSOP, Laminate CSP	1.2 mA	1 μ A	Yes	2.3 to 5.5V	550 MHz	8/9
LMX2315	PLLatinum 1.2 GHz Frequency Synthesizer for RF Personal Communications	TSSOP, Die, Ceramic SOIC	6 mA	30 μ A	No	2.7 to 5.5V	1.2 GHz	64/65 or 128/129
LMX2316	1.2 GHz PLLatinum Low Power Frequency Synthesizer for RF Personal Communications	TSSOP, Wafer	2 mA	1 μ A	Yes	2.3 to 5.5V	1.2 GHz	32/33
LMX2325	PLLatinum 2.5 GHz Frequency Synthesizer for RF Personal Communications	Ceramic SOIC	11 mA	30 μ A	No	2.7 to 5.5V	2.5 GHz	32/33 or 64/65
LMX2326	2.8 GHz PLLatinum Low Power Frequency Synthesizer for RF Personal Communications [Preliminary]	TSSOP, Laminate CSP	3.5 mA	1 μ A	Yes	2.3 to 5.5V	2.8 GHz	32/33

Dual PLLs

Part Number	Description	Package	Active Icc (typ@3V)	Power down Icc (typ@3V)	Fastlock	Vcc	RF Input (main)	RF Input (aux)	Prescalers (main)	Prescalers (aux)
LMX1600	2.0 GHz/500 MHz PLLatinum Low Cost Dual Frequency Synthesizer	TSSOP	5 mA	1 μ A	-	-	2.0 GHz	-	-	-
LMX1601	1.1 GHz/500 MHz PLLatinum Low Cost Dual Frequency Synthesizer	TSSOP	4 mA	1 μ A	-	-	1.1 GHz	-	-	-
LMX1602	1.1 GHz/1.1 GHz PLLatinum Low Cost Dual Frequency Synthesizer	TSSOP	5 mA	1 μ A	-	-	1.1 GHz	1.1 GHz	-	-
LMX2330A	PLLatinum Dual Frequency Synthesizer for RF Personal Communications	TSSOP	13 mA	1 μ A	Yes	2.7 to 5.5V	2.5 GHz	510 MHz	32/33 or 64/65	8/9 or 16/17
LMX2330L	2.5 GHz/510 MHz PLLatinum Low Power Dual Frequency Synthesizer for RF Personal Communications	TSSOP	5 mA	1 μ A	Yes	2.7 to 5.5V	2.5 GHz	510 MHz	32/33 or 64/65	8/9 or 16/17
LMX2331A	PLLatinum Dual Frequency Synthesizer for RF Personal Communications	TSSOP	12 mA	1 μ A	Yes	2.7 to 5.5V	2.0 GHz	510 MHz	64/65 or 128/129	8/9 or 16/17
LMX2331L	2.0 GHz/510 MHz PLLatinum Low Power Dual Frequency Synthesizer for RF Personal Communications	TSSOP	4 mA	1 μ A	Yes	2.7 to 5.5V	2.0 GHz	510 MHz	64/65 or 128/129	8/9 or 16/17
LMX2332A	PLLatinum Dual Frequency Synthesizer for RF Personal Communications	TSSOP	8 mA	1 μ A	Yes	2.7 to 5.5V	1.2 GHz	510 MHz	64/65 or 128/129	8/9 or 16/17
LMX2332L	1.2 GHz/510 MHz PLLatinum Low Power Dual Frequency Synthesizer for RF Personal Communications	TSSOP, Laminate CSP	3 mA	1 μ A	Yes	2.7 to 5.5V	1.2 GHz	510 MHz	64/65 or 128/129	8/9 or 16/17
LMX2335	PLLatinum 1.1 GHz Dual Frequency Synthesizer for RF Personal Communications	SOIC NARROW, TSSOP	9 mA	1 μ A	Yes	2.7 to 5.5V	1.1 GHz	1.1 GHz	64/65 or 128/129	64/65 or 128/129
LMX2335L	PLLatinum Low Power Dual Frequency Synthesizer for RF Personal Communications	SOIC NARROW, TSSOP	4 mA	1 μ A	Yes	2.7 to 5.5V	1.1 GHz	1.1 GHz	64/65 or 128/129	64/65 or 128/129
LMX2336	PLLatinum 1.1 GHz Dual Frequency Synthesizer for RF Personal Communications	TSSOP	13 mA	1 μ A	Yes	2.7 to 5.5V	2.0 GHz	1.1 GHz	64/65 or 128/129	64/65 or 128/129
LMX2336L	PLLatinum Low Power Dual Frequency Synthesizer for RF Personal Communications	TSSOP, Die	5 mA, 13 mA	1 μ A	Yes	2.7 to 5.5V	2.0 GHz	1.1 GHz	64/65 or 128/129	64/65 or 128/129
LMX2337	PLLatinum 1.1 GHz Dual Frequency Synthesizer for RF Personal Communications	SOIC NARROW, TSSOP	9 mA	1 μ A	Yes	2.7 to 5.5V	550 MHz	550 MHz	64/65 or 128/129	64/65 or 128/129
LMX2350	2.5 GHz/550 MHz PLLatinum Fractional N RF/ Integer N IF Dual Low Power Frequency Synthesizer	TSSOP, Laminate CSP	-	-	-	-	-	-	-	-
LMX2352	1.2 GHz/550 MHz PLLatinum Fractional N RF/ Integer N IF Dual Low Power Frequency Synthesizer	TSSOP, Laminate CSP	-	-	-	-	-	-	-	-
LMX2370	2.5 GHz/1.2 GHz PLLatinum Dual Frequency Synthesizer for RF Personal Communications [Preliminary]	Laminate CSP	-	-	-	-	-	-	-	-
LMX2371	2.0 GHz/1.2 GHz PLLatinum Dual Frequency Synthesizer for RF Personal Communications	Laminate CSP	-	-	-	-	-	-	-	-
LMX2372	1.2 GHz/1.2 GHz PLLatinum Dual Frequency Synthesizer for RF Personal Communications	Laminate CSP, Die	-	-	-	-	-	-	-	-

WIRELESS COMM

Motorola Wireless Products
RF Front End Integrated Circuits



Downconverters

Product	RF Freq. Range (MHz)	Supply Voltage Range (Vdc)	Supply Current (typ) (mA)	LNA Gain (typ) (dB)	LNA NF (typ)	Mixer Conv. Gain (typ)	Mixer NF (typ)	Case No. /Package	System Applicability	Notes
MC13142	DC to 1800	2.7 to 6.5	13.5	17	1.8	-3.0	12	751B/SO-16	ISM, Cellular, PCS	Tape and Reel available by adding R2 suffix. R2 = 2,500 units.

Upconverters/Exciters

Product	RF Freq. Range (MHz)	Supply Voltage Range (Vdc)	Supply Current (typ) (mA)	Standby Current (typ) (mA)	Conv. Gain (typ) (dB)	Output IP3 (typ)(dBm)	Case No. /Package	System Applicability	Notes
MRFIC0954	800 to 1000	2.7 to 5.0	65	5	31	28	948M/TSSOP-20EP	CDMA, TDMA, ISM	Tape and Reel available by adding R2 suffix. R2 = 2,500 units.
MRFIC1813	1700 to 2000	2.7 to 4.5	25	0.1	15	11	948C/TSSOP-16	DCS1800, PCS	Tape and Reel available by adding R2 suffix. R2 = 2,500 units.
MRFIC1854	1700 to 2000	2.7 to 3.6	70	5	31	22	948M/TSSOP-20EP	CDMA, TDMA, PCS	-



Power Amplifiers

Product	RF Freq Range (MHz)	Supply Voltage Range (Vdc)	Saturated Pout (typ)(dBm)	PAE (typ) (%)	Gain Pout/Pin (typ)(dB)	Case No. /Package	System Applicability	Notes
MRFIC0919	800 to 1000	3.0 to 5.5	35.3	48	32.3	948L/TSSOP-16EP	GSM	Tape and Reel available by adding R2 suffix. R2 = 2,500 units.
MRFIC1819	1700 to 2000	3.0 to 5.0	33	40	27	948L/TSSOP-16EP	DCS1800, PCS	Tape and Reel available by adding R2 suffix. R2 = 2,500 units.
MRFIC1856	800 to 1000, 1700 to 2000	3.0 to 5.6	32, 30	50, 35	32, 30	948M/TSSOP-20EP	TDMA, CDMA, AMPS, PCS	Tape and Reel available by adding R2 suffix. R2 = 2,500 units.
MRFIC1859	880 to 915	2.8 to 5.5	-	-	-	873E/TQFP-32EP	GSM, DCS	Available in Tape & Reel only by adding the R2 suffix

Amplifiers

Product	RF Freq Range (MHz)	Supply Voltage Range (Vdc)	Supply Current (typ)(mA)	Standby Current (typ)(μ A)	Small Signal Gain (typ)(dB)	Output IP3 (typ) (dBm)	NF (typ) (dB)	Case No. /Package	System Applicability	Notes
MC13144	100 to 2000	1.8 to 6.0	8.5	1	17	12	1.4	751/SO-8	-	Tape and Reel available by adding R2 suffix. R2 = 2,500 units.
MRFIC0915	100 to 2500	2.7 to 5.0	2	-	16.2	4	1.9	318A/SOT-143	ISM, PCS, Cellular	Tape and Reel available by adding T1 suffix. T1 = 3,000 units.
MRFIC0916	100 to 2500	2.7 to 5.0	4.7	-	18.5	11	1.9	318A/SOT-143	ISM, PCS, Cellular	Tape and Reel available by adding T1 suffix. T1 = 3,000 units.
MRFIC0930	800 to 1000	2.7 to 4.5	8.5	20	19	10	1.7	846A/Micro-8	GSM, AMPS, ISM	Tape and Reel available by adding R2 suffix. R2 = 2,500 units.
MRFIC1501	1000 to 2000	3.0 to 5.0	5.9	-	18	10	1.1	751/SO-8	GPS	Tape and Reel available by adding R2 suffix. R2 = 2,500 units.
MRFIC1808	1700 to 2100	2.7 to 4.5	5	8	18	13	1.6	846A/Micro-8	DCS1800, PCS	Tape and Reel available by adding R2 suffix. R2 = 2,500 units.

Mixers

Product	RF Freq Range (MHz)	Supply Voltage Range (Vdc)	Supply Current (typ)(mA)	Standby Current (typ)(μ A)	Conv. Gain (typ)(dB)	Input IP3 (typ) (dBm)	Case No. /Package	System Applicability	Notes
MC13143	DC to 2400	1.8 to 6.0	4.1	-	-2.6	16	751/SO-8	ISM, PCS, Cellular	Tape and Reel available by adding R2 suffix. R2 = 2,500 units.

RF/IF Subsystem Integrated Circuits

Cordless Phone Subsystems

Product	VCC	ICC (typ)	Dual Conversion Receiver	Universal Dual PLL	Companion & Audio Interface	CVSD Compatible	Low Battery Detect	Notes	Suffix/Case
MC13109A	2.0 to 5.5V	Active Mode 6.7 mA, Inactive Mode 40 μ A	Yes	Yes	Yes	-	Yes	CT-0	FB/848B, FTA/932
MC13110A	2.7 to 5.5V	Active Mode 8.5 mA, Inactive Mode 15 μ A	Yes	Yes	Yes	-	Yes	CT-0	FB/848B, FTA/932
MC13111A	2.7 to 5.5V	Active Mode 8.5 mA, Inactive Mode 15 μ A	Yes	Yes	Yes	-	Yes	CT-0	FB/848B, FTA/932
MC13145	2.7 to 5.5V	Active Mode 27 mA, Inactive Mode 10 μ A	Yes	-	-	Yes	-	Receiver with coilless demod CT-900	FTA/932
MC13146	2.7 to 5.5V	Active Mode 18 mA, Inactive Mode 10 μ A	-	-	-	Yes	-	Transmitter with VCO CT-900	FTA/977
MC33411B	2.7 to 5.5V	Active Mode 15 mA, Inactive Mode 10 μ A	Yes	Yes	Yes	-	Yes	Analog Baseband CT-900	FTA/932

GPS Subsystems

Product	RF Freq. (MHz)	IF Freq (MHz)	VCC (V)	ICC (typ)	Dual Conversion Receiver	Dual Loop PLL	Limiting Amplifier	Variable Gain IF Amplifier	Case No./Package
MRFIC1502	1575	9.5	4.5 to 5.5	52	Yes	Yes	-	-	932
MRFIC1504	1575	4.1	2.7 to 3.3	28	Yes	Yes	Yes	Yes	932



Receivers

Product	VCC	ICC (typ) (mA)	Sensitivity (typ)	RF Input (MHz)	IF	Mute	RSSI	Max Data Rate	Notes	Suffix/Case
MC3356	3.0 to 9.0V	20	30 μ V	150	10.7 MHz	Yes	Yes	500 Kb	Includes front end mixer/LO	DW/751D
MC3361B	2.0 to 8.0V	3.9	2.6 μ V	60	455 kHz	Yes	-	>4.8 Kb	Squelch and Scan	D/751B
MC3361C	2.0 to 8.0V	2.8	2.6 μ V	60	455 kHz	Yes	-	>4.8 Kb	Squelch and Scan	D/751B
MC3371	2.0 to 9.0V	6	1.0 μ V	100	455 kHz	Yes	60 dB	>4.8Kb	RSSI	D/751B, DTB/948F
MC3372	2.0 to 9.0V	6	1.0 μ V	100	455 kHz	Yes	60 dB	>4.8 Kb	RSSI, Ceramic Quad Detector/Resonator	D/751B, DTB/948F
MC13135	2.0 to 6.0V	4	1.0 μ V	200	10.7 MHz/455 kHz	-	70 dB	>4.8 Kb	Voltage Buffered RSSI, LC Quad Detector	DW/751E, P/724
MC13156	2.0 to 6.0V	5	2.0 μ V	500	21.4 MHz	-	80 dB	-	CT-2 FM/Demodulator	DW/751E, FB/873
MC13158	2.0 to 6.0V	6	2.0 μ V	500	21.4 MHz	-	80 dB	>1.2 Mb	FM IF/Demodulator with split IF for DECT	FTB/873
MC13760	2.65 to 2.90 V	30	-	400	Digital Baseband	-	-	-	GSM/DCS/TDMA/AMPS Transceiver	1285

IFs

Product	VCC	ICC (typ)(mA)	Sensitivity (typ)	IF	Mute	RSSI	Max Data Rate	Notes	Suffix/Case
MC13055	3.0 to 12	25	20 μ V	40 MHz	Yes	Yes	2.0 Mb	Wideband Data IF, includes data shaper	D/751B
MC13155	3.0 to 6.0	7	100 μ V	250 MHz	-	Yes	10 Mb	Video Speed FM IF	D/751B

ADCs/DACs

Product	Function	I/O Format	Resolution	Number of Analog Channels	On-Chip Oscillator	Other Features	Suffix/Case
MC144110	DAC	Serial	6 Bits	6	-	Emitter-Follower Outputs	DW/751D
MC144111	DAC	Serial	6 Bits	4	-	Emitter-Follower Outputs	DW/751G

Encoders/Decoders

Product	Function	Number of Address Lines	Maximum Number of Address Codes	Number of Data Bits	Operation	Suffix/Case
MC145026	Encoder	Depends on Decoder	Depends on Decoder	Depends on Decoder	Simplex	P/648, D/751B
MC145027	Decoder	5	243	4	Simplex	P/648, DW/751G
MC145028	Decoder	9	19,683	0	Simplex	P/648, DW/751G

Frequency Synthesis

Single PLL

Product	Maximum Frequency (MHz)	Supply Voltage (V)	Nominal Supply Current(mA)	Features	Suffix/Case
MC145151-2	20 @ 5.0V	3.0 to 9.0	7.5 @ 5V	Parallel Interface	DW/751F
MC145152-2	20 @ 5.0V	3.0 to 9.0	7.5 @ 5V	Parallel Interface, Uses External Dual-Modules Prescaler	DW/751F
MC145157-2	20 @ 5.0V	3.0 to 9.0	7.5 @ 5V	Serial Interface	DW/751G
MC145158-2	20 @ 5.0V	3.0 to 9.0	7.5 @ 5V	Serial Interface, Uses External Dual-Modules Prescaler	DW/751G
MC145170-2	100 @ 3.0V /185 @ 4.5V	2.7 to 5.5	2 @ 3V / 6 @ 5V	Serial Interface, Auxiliary Reference Divider, Evaluation Kit- MC145170EVK	P/648, D/751B, DT/948C
MC12181	1000	2.7 to 5.5	4.25	4-Line Parallel Interface	D/751B
MC145193	1100	2.7 to 5.5	7.0 @ 5 V	Serial Interface, Standby, Auxillary Reference Divider, Evaluation Kit - MC145193EVK	F/751J
MC145202-1	2000	2.7 to 5.5	4.0 @ 3 V	Serial Interface, Standby, Auxillary Reference Divider, Evaluation Kit - MC145202-1EVK	F/751J
MC12210	2500	2.7 to 5.5	9.5	Serial Interface	D/751B, DT/948E
MC12179	2800	4.5 to 5.5	3.5	Fixed Divider	D/751



Dual PLL

Product	Maximum Frequency (MHz)	Supply Voltage (V)	Nominal Supply Current (mA)	Phase Detector	Suffix/Case
MC145181	550, 60	1.8 to 3.6	3	10 MHz Serial Interface, Multiple Standby Modes, Dual 8-Bit DACs, Voltage Multiplier for Phase Detectors	FTA/873C
MC145220	1100 both loops	2.7 to 5.5	12	Serial Interface, Standby, Evaluation Kit - MC145220EVK	F/803C, DT/948D
MC145225	1200, 550	1.8 to 3.6	4	10 MHz Serial Interface, Multiple Standby Modes, Dual 8-Bit DACs, Voltage Multiplier for Phase Detectors	FTA/873C
MC145230	2200, 550	1.8 to 3.6	5	10 MHz Serial Interface, Multiple Standby Modes, Dual 8-Bit DACs, Voltage Multiplier for Phase Detectors	FTA/873C

Prescalers

Product	Max Frequency (MHz)	Divide Ratios	Single or Dual Modules	Supply Voltage (V)	Supply Current (Max) (mA)	Features	Suffix/Case
MC12052A	1100	64/65, 128/129	Dual	2.7 to 5.5	2	Low Power	D/751
MC12058	1100	126/128, 254/256	Dual	2.7 to 5.5	2	Low Power	D/751
MC12080	1100	10,20,40,80	Single	4.5 to 5.5	5	-	D/751
MC12093	1100	2, 4, 8	Single	2.7 to 5.5	4.5	Standby	D/751
MC12054A	2000	64/65, 128/129	Dual	2.7 to 5.5	2.6	Low Power	D/751
MC12095	2500	2, 4	Single	2.7 to 5.5	14	Standby	D/751
MC12079	2800	64, 128, 256	Single	4.5 to 5.5	11.5	-	D/751
MC12089	2800	64, 128	Single	4.5 to 5.5	14.5	-	D/751

Voltage Control Oscillators

Product	Frequency (MHz)	Supply Voltage (V)	Features	Suffix/Case
MC12149	1300	2.7 to 5.5	Two high drive open collector outputs (Q, QB), Adjustable output amplitude, Low drive output for prescaler	D/751

Phase-Frequency Detectors

Product	Freq. (typ) (MHz)	Supply Voltage (V)	Features	Suffix/Case
MCH12140	800	4.75 to 5.5	MECL10H compatible	D/751
MCK12140	800	4.2 to 5.5	100K ECL compatible	D/751

RF Transistors

Small Signal (Plastic)

Product	fT @ IC (typ) (GHz)	NFmin @ f (typ) (dB)	Gain @ f (typ) (dB)	Collector Emitter Breakdown Voltage (Min) (Volts)	IC (Max) (mA)	hFE (Min)	Package
MMBR941L	8.0 @ 15 mA	2.1 @ 2000 MHz	8.5 @ 2000 MHz	10	50	-	318-08
MMBR941BL	8.0 @ 15 mA	2.1 @ 2000 MHz	8.5 @ 2000 MHz	10	50	-	318-08
MMBR951L	8.0 @ 30 mA	2.1 @ 2000 MHz	7.5 @ 2000 MHz	10	100	-	318-08
MRF947	8.0 @ 15 mA	2.1 @ 2000 MHz	10.5 @ 1500 MHz	10	50	-	419-02
MRF947A	8.0 @ 15 mA	2.1 @ 2000 MHz	10.5 @ 1500 MHz	10	50	-	419-02
MRF947B	8.0 @ 15 mA	2.1 @ 2000 MHz	10.5 @ 1500 MHz	10	50	-	419-02
MRF957	9.0 @ 30 mA	2.0 @ 2000 MHz	9.0 @ 1500 MHz	10	100	-	419-02
MRF1047	12 @ 15 mA	1.0 @ 1000 MHz	13 @ 1000 MHz	5	45	-	419-02
MRF949	9.0 @ 15 mA	1.5 @ 1000 MHz	14 @ 1000 MHz	-	50	-	463-01
MRF959	9.0 @ 30 mA	1.6 @ 1000 MHz	8.0 @ 1000 MHz	-	100	-	463-01



Small Signal (Ceramic)

Product	fT Gain-BW @Ic=90mA (typ) (GHz)	NF @ f (typ) (dB)	Gain @ f (typ) (dB)	Collector Emitter Breakdown Voltage(V)	IC (Max) (mA)	Package/Style
MRF587	5.5	3	13	15	200	244A/1

RF Medium Power Transistors

Product	Freq. (MHz)	VDD (V)	Output Power (typ) (dBm)	Drain Efficiency (typ) (%)	Gain (typ) (dB)	Die Technology	Case No./Package
MRF9482	900	4.8	36	65	10	LD MOS	449/PLD-1

RF Power Bipolar Transistors

Linear Transistors

Product	Supply Voltage (V)	Pout (Watts)	Gain Typ/Freq. (dB/MHz)	theta JC (°C/W)	Class	Die Technology	System Application	Package/Style	Footnotes	Notes
MRF6404	26	30	8.2/1880	1.4	AB	Bipolar	PCN	395C/1	-	Formerly known as "TP4035"
MRF20030R	26	30	11/2000	1.4	AB	Bipolar	PCN	395C/1	-	-
MRF20060R	26	60	09-08-00	0.7	AB	Bipolar	PCN	451/1	-	-
MRF20060RS	26	60	09-08-00	0.7	AB	Bipolar	PCN	451A/1	-	-
MRF15090	26	90	8.3/1490	0.7	A, AB	Bipolar	PCN	375A/1	-	-
TPV8100B	28	100 (11)	9.5/860	0.7	AB	Bipolar	TV Band IV and V	398/1	(11) Output power (Min) at 1 dB compression in Class AB	Small Signal Gain

900 MHz Transistors

Product	Supply Voltage (V)	Pout (Watts)	Gain Typ/Freq. (dB/MHz)	theta JC (°C/W)	Class	Die Technology	Package/Style
MRF858S	24	3.6 (CW)	11/900	6.9	A	Bipolar	319A/2
MRF897	24	30	10/900	1.7	AB	Bipolar	395B/1
MRF897R	24	30	10.5/900	1.7	AB	Bipolar	395E/1
MRF898	24	60 (CW)	7/900	1	C	Bipolar	333A/1
MRF6409	26	20	10/960	3.8	AB	Bipolar	319/2
MRF6414	26	50	8.5/960	1.3	AB	Bipolar	333A/2
MRF899	26	150	8/900	0.8	AB	Bipolar	375A/1

UHF Transistors

Product	Supply Voltage (Volts)	Pout (Watts)	Gain-tp Freq. (dB/MHz)	Eff. (typ) (%)	theta JC (°C/W)	Operating Frequency (typ)(MHz)	Class	Die Technology	System Application	Package /Style
MRF392	28	125	8.0/400	55	0.65	100-400	C	Bipolar	General Purpose RF Amplifiers, RF Amplifiers for Avionics, Communication, Industrial, Lab Power Amps, Pager Base Stations, General Communication Power Amplifiers	744A/1
MRF393	28	100	7.5/500	55	0.65	100-512	C	Bipolar	General Purpose RF Amplifiers, RF Amplifiers for Avionics, Communication, Industrial, Lab Power Amps, Pager Base Stations, General Communication Power Amplifiers	744A/1



1.5 GHz Transistors

Product	Supply Voltage (V)	Pout (Watts)	Gain Typ/Freq. (dB/MHz)	Eff. (typ) (%)	theta JC (°C/W)	Operating Freq. (typ) (MHz)	Class	Die Technology	System Application	Package/ Style
MRF16006	28	6	7.4/1600	40	6.8	1600-1640	C	Bipolar	Satellite Uplink	395C/2
MRF16030	28	30	7.5/1600	40	1.7	1600-1640	C	Bipolar	Satellite Uplink	395C/2

Microwave Transistors

Product	Supply Voltage (V)	Pout (Watts)	Gain Typ/Freq. (dB/MHz)	theta JC (°C/W)	Operating Freq. (typ) (MHz)	Class	Die Technology	System Application	Package/Style
MRF10005	28	5	8.5/1215	8	960-1215	C	Bipolar	L-Band	336E/1
MRF10031	36	30	10/1215	3	960-1215	C	Bipolar	L-Band	376B/1
MRF10120	36	120	8/1215	0.6	960-1215	C	Bipolar	L-Band	355C/1
MRF10150	50	150	10 (Typ)/1090	0.25	1025-1150	C	Bipolar	L-Band	376B/1
MRF10350	50	350	9 (Typ)/1090	0.11	1025-1150	C	Bipolar	L-Band	355E/1
MRF10502	50	500	9 (Typ)/1090	0.12	1025-1150	C	Bipolar	L-Band	355J/1

Intersil Wireless LAN Solutions



PRISM 2.5

SPECIFICATIONS		PRISM 2.5 Chipsets	
Variable Data Rates	11, 5.5, 2 and 1Mbps	Part Number	Description
Frequency Band	2.4GHz ISM Band	ISL3984	2.4GHz Power Amplifier and Detector
BER	1x10 ⁻⁵ at -83dBm	ISL3685	2.4GHz RF/IF Converter and Synthesizer
Dual Mode	IEEE802.11, 1 and 2Mbps 5.5 and 11Mbps	ISL3873	Wireless LAN Integrated Medium Access Controller with Baseband Processor
Range	100m Indoors*		
Power Consumption	Same as PRISM II		
*Range test using AND-C-107 omnidirectional antenna			

PRISM II

SPECIFICATIONS		PRISM II Chipsets	
Variable Data Rates	11, 5.5, 2 and 1Mbps	Part Number	Description
Frequency Band:	2.4GHz ISM Band	HFA3983	2.4GHz Power Amplifier with Detector
Sensitivity (typ, AWGN, 8E-2 PER)	-91dBm at 1Mbps	HFA3683A	2.4GHz RF/IF Converter and Synthesizer (RF/IF)
	-88dBm at 2Mbps	HFA3783	I/Q Mod/DeMod and Synthesizer (IF)
	-87dBm at 5.5Mbps	HFA3861B	Baseband Processor with Rake Receiver (BBP)
	-84dBm at 11Mbps	HFA3863	Baseband Processor with Rake Receiver and Equalizer (Pin Compatible with HFA3861B)
Range	100m Indoor	HFA3842	Medium Access Controller (MAC)
Power Consumption	50% Prism I		



NETWORK

National Semiconductor Network Products

10/100/1000Mbps/s (Gigabit Ethernet)

Part Number	Description	Package
DP83861	EN Gig PHYTER 10/100/1000M Ethernet Physical Layer [Preliminary]	PQFP
DP83891	Gig PHYTER 10/100/1000M [Preliminary]	PQFP

10/100Mbit/s (Fast Ethernet)

Part Number	Description	Package
DP83815	10/100 Mb/s Integrated PCI Ethernet Media Access Controller and Physical Layer [Preliminary]	LQFP
DP83223	TWISTER High Speed Networking Transceiver Device	PLCC
DP83840A	10/100 Mb/s Ethernet Physical Layer	PQFP
DP83843	PHYTER	PQFP
DP83846A	DsPHYTER - Single 10/100 Ethernet Transceiver [Preliminary]	LQFP
DP83850C	100Mb/s TX/T4 Repeater Interface Controller (100RIC)	PQFP,Die
DP83858	100Mb/s TX/T4 Repeater Interface Controller (100RIC8)	PQFP

10Mbit/s (Ethernet)

Part Number	Description	Package
DP83901A	SNIC Serial Network Interface Controller	PLCC(MCM)
DP83902A	ST-NIC Serial Network Interface Controller for Twisted Pair	PLCC,LQFP,PQFP
DP83905	AT/LANTIC AT Local Area Network Twisted-Pair Interface	PQFP
DP83907	AT/LANTIC II [Preliminary]	PQFP
DP8390D	NIC Network Interface Controller	MDIP,PLCC(MCM)
DP83910A	CMOS SNI (Serial Network Interface)	MDIP,PLCC
DP83924B	Quad 10 Mb/s Ethernet Physical Layer - 4TPHY	PQFP
DP8392C	Coaxial Transceiver Interface	MDIP,PLCC
DP83916	SONIC-16 Systems-Oriented Network Interface Controller	PQFP
DP83932C-20	MHz SONIC Systems-Oriented Network Interface Controller	PQFP
DP83932C-25	MHz SONIC Systems-Oriented Network Interface Controller	PQFP
DP83932C-33	MHz SONIC Systems-Oriented Network Interface Controller	PQFP
DP83934	SONIC-T Systems-Oriented Network Interface Controller with Twisted Pair Interface	PQFP
DP83936AVUL-20	Full Duplex SONIC-T Systems - Oriented Network Interface Controller with Twisted Pair Interface	PQFP
DP83936AVUL-25	Full Duplex SONIC-T Systems - Oriented Network Interface Controller with Twisted Pair Interface	PQFP
DP83936AVUL-33	Full Duplex SONIC-T Systems - Oriented Network Interface Controller with Twisted Pair Interface	PQFP
DP83950B	RIC Repeater Interface Controller	PQFP
DP83953	(RIC2A) Repeater Interface Controller with Security Features,Internal Drivers and Integrated Filters	PQFP
DP83959	8-Port Lite Ethernet Repeater Interface Controller	PQFP

FDDI

Part Number	Description	Package
DP83257	Player & Device Enhanced FDDI Physical Layer Controller	PQFP
DP83266	MACSI Device (FDDI Media Access Controller and System Interface) [Preliminary]	PQFP

INTERFACE

Intersil RS-232 Products

Standard 5V RS-232 Drivers and Receivers

Part Number	Power Supply	No. of Drivers	No. of Recivers	Shut Down	Recvive Disable	No. of Pins	Kbits/Sec	Special Features
HIN200	+5V	5	0	Yes	No	20	120	Uses 0.1uF Caps
HIN201	+5V/+12V	2	2	No	No	16	120	Uses 0.1uF Caps
HIN202	+5V	2	2	No	No	16	120	Uses 0.1uF Caps
HIN204	+5V	4	0	No	No	16	120	Uses 0.1uF Caps
HIN206	+5V	4	3	Yes	Yes	24	120	Uses 0.1uF Caps
HIN207	+5V	5	3	No	No	24	120	Uses 0.1uF Caps
HIN208	+5V	4	4	No	No	24	120	Uses 0.1uF Caps
HIN209	+5V/+12V	3	5	No	Yes	24	120	Uses 0.1uF Caps
HIN211	+5V	4	5	Yes	Yes	28	120	Uses 0.1uF Caps
HIN213	+5V	4	5	Yes	Yes	28	120	Uses 0.1uF Caps
HIN230	+5V	5	0	Yes	No	20	120	-
HIN231	+5V/+12V	2	2	No	No	16	120	-
HIN232								
ICL232	+5V	2	2	No	No	16	120	-
HIN234	+5V	4	0	No	No	16	120	-
HIN236	+5V	4	3	Yes	Yes	24	120	-
HIN237	+5V	5	3	No	No	24	120	-
HIN238	+5V	4	4	No	No	24	120	-
HIN239	+5V/+12V	3	5	No	Yes	24	120	-
HIN240	+5V	5	5	Yes	Yes	44	120	-
HIN241	+5V	4	5	Yes	Yes	28	120	-

15kV ESD-Protected, RS-232 Drivers and Receivers (0.1uFCapacitors)

Part Number	Power Supply	No. of Drivers	No. of Recivers	Shut Down	Recvive Disable	No. of Pins	Kbits/Sec	Special Features
HIN202E	+5V	2	2	No	No	16	230	Uses 0.1uF Caps
HIN203E	+5V	2	2	No	No	20	230	Caps on Leadframe
HIN205E	+5V	5	5	Yes	Yes	24	230	Caps on Leadframe
HIN207E	+5V	5	3	No	No	24	230	Uses 0.1uF Caps
HIN208E	+5V	4	4	No	No	24	230	Uses 0.1uF Caps
HIN211E	+5V	4	5	Yes	Yes	28	230	Uses 0.1uF Caps
HIN213E	+5V	4	5	Yes	Yes	28	230	Uses 0.1uF Caps
HIN232E	+5V	2	2	No	No	16	230	Uses 0.1uF Caps
HIN233E	+5V	2	2	No	No	20	230	Caps on Leadframe
HIN235E	+5V	5	5	Yes	Yes	24	230	Caps on Leadframe
HIN236E	+5V	4	3	Yes	Yes	24	230	Uses 0.1uF Caps
HIN237E	+5V	5	3	No	No	24	230	Uses 0.1uF Caps
HIN238E	+5V	4	4	No	No	24	230	Uses 0.1uF Caps
HIN241E	+5V	4	5	Yes	Yes	28	230	Uses 0.1uF Caps
HIN14C89E	+5V	0	4	No	No	14	230	Uses 0.1uF Caps

230Kbps RS-232 Drivers and Receivers

Part Number	Power Supply	No. of Drivers	No. of Recivers	Shut Down	Recvive Disable	No. of Pins	Kbits/Sec	Special Features
HIN202A	+5V	2	2	No	No	16	230	Uses 0.1uF Caps
HIN203A	+5V	2	2	No	No	20	230	Caps on Leadframe
HIN205A	+5V	5	5	Yes	Yes	24	230	Caps on Leadframe
HIN206A	+5V	4	3	Yes	Yes	24	230	Uses 0.1uF Caps
HIN207A	+5V	5	3	No	No	24	230	Uses 0.1uF Caps
HIN208A	+5V	4	4	No	No	24	230	Uses 0.1uF Caps
HIN211A	+5V	4	5	Yes	Yes	28	230	Uses 0.1uF Caps
HIN213A	+5V	4	5	Yes	Yes	28	230	Uses 0.1uF Caps
HIN232A	+5V	2	2	No	No	16	230	Uses 0.1uF Caps
HIN233A	+5V	2	2	No	No	20	230	Caps on Leadframe
HIN235A	+5V	5	5	Yes	Yes	24	230	Caps on Leadframe
HIN236A	+5V	4	3	Yes	Yes	24	230	Uses 0.1uF Caps
HIN237A	+5V	5	3	No	No	24	230	Uses 0.1uF Caps
HIN238A	+5V	4	4	No	No	24	230	Uses 0.1uF Caps
HIN241A	+5V	4	5	Yes	Yes	28	230	Uses 0.1uF Caps

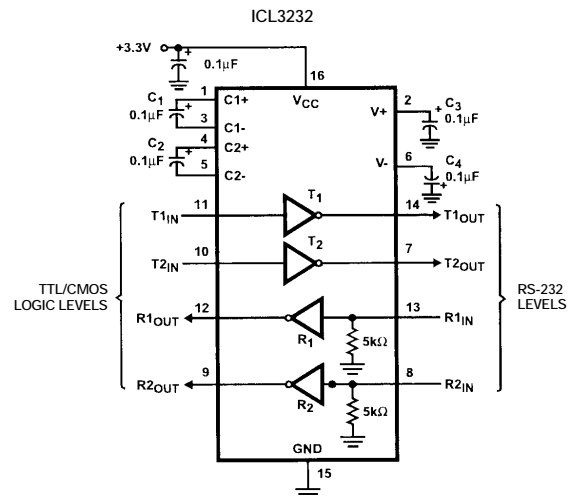
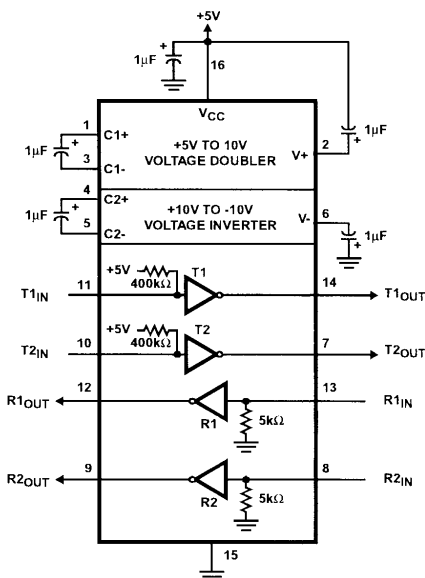
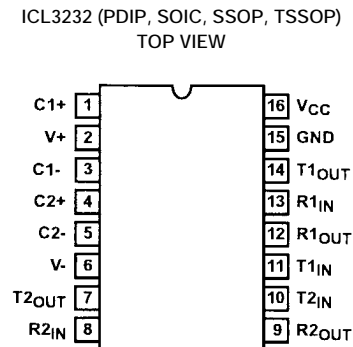
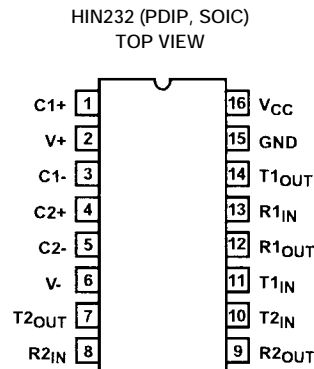
Caps on Leadframe RS-232 Drivers and Receivers

Part Number	Power Supply	No. of Drivers	No. of Receivers	Shut Down	Recv Disable	No. of Pins	Kbits/Sec	Special Features
HIN203	+5V	2	2	No	No	20	120	Caps on Leadframe
HIN205	+5V	5	5	Yes	Yes	24	120	Caps on Leadframe
HIN233	+5V	2	2	No	No	20	120	Caps on Leadframe
HIN235	+5V	5	5	Yes	Yes	24	120	Caps on Leadframe

3V, 250kbps RS-232 Drivers and Receivers

Part Number	Power Supply	No. of Drivers	No. of Receivers	Shut Down	Recv Disable	No. of Pins	Kbits/Sec	Special Features
ICL3221	+3V to +5.5V	1	1	Yes	Yes	16	250	1uA Auto Powerdown
ICL3222	+3V to +5.5V	2	2	Yes	Yes	18/20	250	1uA Powerdown ICC
ICL3223	+3V to +5.5V	2	2	Yes	Yes	20	250	1uA Auto Powerdown
ICL3232	+3V to +5.5V	2	2	No	No	16/20	250	-
ICL3241	+3V to +5.5V	3	5	Yes	Yes	28	250	1uA Powerdown ICC
ICL3243	+3V to +5.5V	3	5	Yes	No	28	250	1uA Auto Powerdown

HIN232, ICL3232 Pin Diagram



RS-232 Products-Cross Reference Guide

HIN201-213 Interface Family

INTERSIL P/N	PINS	PKG TYPE	ADI	MAXIM	SIPEX	LTC
HIN201CP	14	PDIP-N		MAX201CPD		
HIN201CB	16	SOIC-W		MAX201CWE	SP232ACT	
HIN201IP	14	PDIP-N		MAX201EPD		
HIN201IB	16	SOIC-W		MAX201EWE	SP231AET	
HIN202ACA	16	SSOP				
HIN202ACB	16	SOIC-W				
HIN202ACBN	16	SOIC-N				
HIN202ACP	16	PDIP-N				
HIN202CA	16	SSOP				
HIN20CP	16	PDIP-N	ADM202JN	MAX202CPE	SP232ACP	LT1181CN
HIN202CB	16	SOIC-W	ADM202JRW	MAX202CWE	SP232ACT	LT1181CS
HIN202CBN	16	SOIC-N	ADM202JRN	MAX202CSE	SP232ACN	LT1381CS
HIN202IA	16	SSOP				
HIN202IP	16	PDIP-N		MAX202	SP232AEP	
HIN202IB	16	SOIC-W		MAX202EWE	SP232AET	LT1181IS
HIN202IBN	16	SOIC-N		MAX202ESE	SP232AEN	
HIN202ECP	16	PDIP-N		MAX202ECPE	SP200ECP	STC1044/61
HIN202ECB	16	SOIC-W		MAX202ECWE	SP202ECT	
HIN202EIP	16	PDIP	ADM202EAN/232AAN	MAX202EEPE	SP202EEP	
HIN202ECA	16	SSOP				
HIN202EIA	16	SSOP				
HIN202EIB	16	SOIC-W	ADM202EARW/232AARW	MAX202EEWE	SP202EET	LT1271AISW
HIN202ECBN	16	SOIC-N		MAX202ECSE	SP202ECN	LT1232CN8
HIN202EIBN	16	SOIC-N	ADM202EARN/232AARN	MAX202EESE	SP202EEN	LT1381IS
HIN203CB	20	SOIC-W		MAX203CWP	SP233ACT	
HIN203CP	20	PDIP	ADM203JN	MAX203CPP	SP233ACP	
HIN205ACP	24	PDIP		MAX205EPG		
HIN205CP	24	PDIP		MAX205CPG	SP205CP	
HIN205ECP	24	PDIP		MAX205ECPG		
HIN206ACA	24	SSOP	ADM206ARS	MAX206EAG		
HIN206ACB	24	SOIC-W		MAX206EWG		
HIN206ACP	24	PDIP				
HIN206CP	24	PDIP-N	ADM206AN	MAX206CNG	SP206CP	
HIN206CB	24	SOIC-W	ADM206AR	MAX206CWG	SP206CT	
HIN206CA	24	SSOP		MAX206CAG	SP206CA	
HIN206IP	24	PDIP-N	ADM206AN	MAX206ENG	SP2063E	
HIN206IB	24	SOIC-W	ADM206AR	MAX206EWG	SP206ET	
HIN206IA	24	SSOP		MAX206EAG	SP206EA	
HIN206ECP	24	PDIP-N		MAX206ECNG		
HIN206ECB	24	SOIC-W		MAX206ECWG		
HIN206ECA	24	SSOP		MAX206ECAG		
HIN206EIP	24	PDIP-N		MAX206EENG		
HIN206EIB	24	SOIC-W	ADM206EAR	MAX206EEWG		
HIN206EIA	24	SSOP		MAX206EEAG		
HIN207ACA	24	SSOP				
HIN207ACB	24	SOIC-W				
HIN207ACP	24	PDIP				
HIN207CP	24	PDIP-N		MAX207CNG	SP207CP	
HIN207CB	24	SOIC-W		MAX207CWG	SP207CT	
HIN207CA	24	SSOP		MAX207CAG	SP207CA	
HIN207IP	24	PDIP-N	ADM207AN	MAX207ENG	SP207 E	
HIN207IB	24	SOIC-W	ADM207AR	MAX207EWG	SP207ET	
HIN207IA	24	SSOP	ADM207ARS	MAX207EAG	SP207EA	
HIN207ECP	24	PDIP-N		MAX207ECNG	SP207ECP	
HIN207ECB	24	SOIC-W		MAX207ECWG	SP207ECT	
HIN207ECA	24	SSOP		MAX207ECAG	SP207ECA	
HIN207EIP	24	PDIP-N	ADM207EAN	MAX207EENG	SP207EEP	
HIN207EIB	24	SOIC-W	ADM207EAR	MAX207EEWG	SP207EET	
HIN207EIA	24	SSOP	ADM207EARS	MAX207EEAG	SP207EEA	
HIN208ACA	24	SSOP		MAX208ECAG		
HIN208ACB	24	SOIC-W		MAX208ECWG		
HIN208ACP	24	PDIP-N		MAX208ECGN		
HIN208CP	24	PDIP-N		MAX208CNG	SP208CP	
HIN208CB	24	SOIC-W		MAX208CWG	SP208CT	
HIN208CA	24	SSOP		MAX208CAG	SP208CA	

INTERSIL P/N	PINS	PKG TYPE	ADI	MAXIM	SIPEX	LTC
HIN208IP	24	PDIP-N	ADM208AN	MAX208ENG	SP208EP	
HIN208IB	24	SOIC-W	ADM208AR	MAX208EWG	SP208ET	
HIN208IA	24	SSOP	ADM208ARS	MAX208EAG	SP208EA	
HIN208ECP	24	PDIP-N		MAX208ECNG	SP208ECP	
HIN208ECB	24	SOIC-W		MAX208ECWG	SP208ECT	
HIN208ECA	24	SSOP		MAX208ECAG	SP208ECA	
HIN208EIP	24	PDIP-N	ADM208EAN	MAX208EENG	SP208EEP	
HIN208EIB	24	SOIC-W	ADM208EAR	MAX208EEWG	SP208EET	
HIN208EIA	24	SSOP	ADM208EARS	MAX208EEAG	SP208EEA	
HIN211ACA	28	SSOP		MAX211ECAI		
HIN211ACB	28	SOIC-W		MAX211ECWI		
HIN211CB	28	SOIC-W		MAX211CWI	SP211CT	
HIN211CA	28	SSOP		MAX211CAI	SP211CA	
HIN211IB	28	SOIC-W	ADM211AR	MAX211EWI	SP211ET	
HIN211IA	28	SSOP	ADM211ARS	MAX211EAI	SP211EA	
HIN211ECB	28	SOIC-W		MAX211ECWI	SP211ECT	
HIN211ECA	28	SSOP		MAX211ECAI	SP211ECA	
HIN211EIB	28	SOIC-W	ADM211EAR	MAX211EEWI	SP211EET	
HIN211EIA	28	SSOP	ADM211EARS	MAX211EEAI	SP211EEA	
HIN213ACA	28	SSOP		MAX213ECAI		
HIN213ACB	28	SOIC-W		MAX213ECWI		
HIN213CB	28	SOIC-W		MAX213CWI	SP213CT	
HIN213CA	28	SSOP		MAX213CAI	SP213CA	
HIN213IB	28	SOIC-W	ADM213AR	MAX213EWI	SP213ET	
HIN213IA	28	SSOP	ADM213ARS	MAX213EAI	SP213EA	
HIN213ECB	28	SOIC-W		MAX213ECWI	SP213ECT	
HIN213ECA		SSOP		MAX213ECAI	SP213ECA	
HIN213IB	28	SOIC-W	ADM213EAR	MAX213EEWI	SP213EET	
HIN213IA	28	SSOP	ADM213EARS	MAX213EEAI	SP213EEA	

HIN230-241 Interface Family

INTERSIL P/N	PINS	PKG TYPE	ADI	MAXIM	SIPEX	NATIONAL	LTC
HIN230CB	20	SOIC-W	ADM230LJR	MAX230CWP	SP230ACT		
HIN230IB	20	SOIC-W	ADM230LAR	MAX230EWP	SP230AET		
HIN231CP	14	PDIP	ADM231LJN	MAX230CPD			
HIN231IP	14	PDIP	ADM231LAN	MAX230EPD			
HIN231CB	16	SOIC-W	ADM231LJR	MAX230CWE			
HIN231IB	16	SOIC-W	ADM231LAR	MAX230EWE			
HIN232CP	16	PDIP	ADM232LJN	MAX232CPE		DS14C232CN	LT1081CN
HIN232CB	16	SOIC-W	ADM232LJR	MAX232CWE		DS14C232CWM	LT1081CS
HIN232ECA	16	SSOP					
HIN232ECB	16	SOIC-W		MAX232ECWE	SP232ECT		LT1081CSW
HIN232ECBN	16	SOIC-N		MAX232ECSE	SP232ECN		LT1081CS
HIN232ECP	16	PDIP		MAX232ECPE	SP232ECP		LT1081CN
HIN232IP	16	PDIP	ADM232LAN	MAX232EPE	SP232AEP	DS14C232TN	LT1081IN
HIN232IB	16	SOIC-W	ADM232LAR	MAX232EWE	SP232AET	DS14C232TWM	LT1081IS
HIN232ACP	16	PDIP		MAX232ACPE			LT1081ACN
HIN232ACB	16	SOIC-W		MAX232ACWE			
HIN232ACBN	16	SOIC-N		MAX232ACSE			
HIN232ACA	16	SSOP					
HIN232CBA	16	SOIC-W	ADM232LJR	MAX232CWE	SP232ACT	DS14232CWM	LT1081CS
HIN232CPE	16	PDIP	ADM232LJN	MAX232CPE	SP232ACP	DS14232CN	LT1081CN
HIN234CB	16	SOIC-W	ADM234LJR	MAX234CWE	SP234ACT		
HIN234IB	16	SOIC-W	ADM234LAR	MAX234EWE	SP234AET		
HIN236ACP	24	PDIP					

HIN230-241 Interface Family

INTERSIL P/N	PINS	PKG TYPE	ADI	MAXIM	SIPEX	NATIONAL
HIN236ACB	24	SOIC-W				
HIN236CP	24	PDIP	ADM236LJN	MAX236CNG	SP236ACS	
HIN236CB	24	SOIC-W	ADM236LJR	MAX236CWG	SP236ACT	
HIN236ECA	24	SSOP				
HIN236ECB	24	SOIC-W				
HIN236ECP	24	PDIP				
HIN236IP	24	PDIP	ADM236LAN	MAX236ENG	SP236AES	
HIN236IB	24	SOIC-W	ADM236LAR	MAX236EWG	SP236AET	
HIN237ACB	24	SOIC-W				
HIN237ACP	24	PDIP				
HIN237CP	24	PDIP	ADM237LJN	MAX237CNG	SP237ACP	DS14C237N
HIN237CB	24	SOIC-W	ADM237LJR	MAX237CWG	SP237ACT	DS14C237WM
HIN237ECA	24	SSOP				
HIN237ECB	24	SOIC-W				
HIN237ECP	24	PDIP				
HIN237IP	24	PDIP	ADM237LAN	MAX237ENG	SP237AES	DS14C237
HIN237IB	24	SOIC-W	ADM237LAR	MAX237EWG	SP237AET	DS14C237TWM
HIN238ACA	24	SSOP				
HIN238ACB	24	SOIC-W				
HIN238ACP	24	PDIP				
HIN238CP	24	PDIP	ADM238LJN	MAX238CNG	SP238ACS	DS14C238N
HIN238CB	24	SOIC-W	ADM238LJR	MAX238CWG	SP238ACT	DS14C238WM
HIN238CA	24	SSOP				
HIN238CB	24	SOIC-W				
HIN238CP	24	PDIP				
HIN238IP	24	PDIP	ADM238LAN	MAX238ENG	SP238AES	DS14C238TN
HIN238IB	24	SOIC-W	ADM238LAR	MAX238EWG	SP238AET	DS14C238TWM
HIN239CB	24	SOIC--W	ADM239LJR	MAX239CWG	SP239ACT	DS14C239WM
HIN239CP	24	PDIP	ADM239LJN	MAX239CNQ	SP239ACS	DS14C239N
HIN239IB	24	SOIC-W	ADM239LAR	MAX239EWG	SP239AET	DS14C239TWM
HIN239IP	24	PDIP	ADM239LAN	MAX239ENG	SP239AES	DS14C239TN
HIN240CN	24	MQFP		MAX240CMH	SP240ACF	
HIN241ACA	24	SSOP		MAX241ECAI		
HIN241ACB	24	SOIC-W		MAX241ECWI		
HIN241CB	24	SOIC-W	ADM241LJR	MAX241CWI	SP241ACT	DS14C241WM
HIN241ECA	24	SSOP		MAX241ECAI		
HIN241ECB	24	SOIC-W		MAX241ECWI		
HIN241IB	24	SOIC-W	ADM241LAR	MAX241EWI	SP241AET	DS14C241TWM
HIN241CA	24	SSOP	ADM241LJRS	MAX241CAI	SP241ACA	
HIN241IA	24	SSOP	ADM241LARS	MAX241EAI		
ICL3222CB	24	SOIC			SP312ACT	
ICL3222CP	24	PDIP			SP312ACP	
ICL3222ECA	24	SSOP			SP312ECA	
ICL3222ECB	24	SOIC			SP312ECT	
ICL3222ECP	24	PDIP			SP312ECP	

Line Receiver Interface

INTERSIL P/N	PINS	PKG TYPE	ADI	MAXIM	SIPEX	NATIONAL
HIN14C89ECP	14	PDIP	MC1489P, AP	MAX1489ECPD	SN75189N, AN	DS14C89AN
HIN14C89ECBN	14	SOIC	MC1489D, AD	MAX1489ECS	SN75189D, AD	DS14C89AM

3.0V RS-232 Interface Family

INTERSIL P/N	PINS	PKG TYPE	ADI	LTC	MAXIM	SIPEX
ICL3207CA	24	SSOP			MAX207CAG	SP207CA
ICL3207CB	24	SOIC-W			MAX207CWG	SP207CT
ICL3217CA	24	SSOP			MAX207CAG	SP207CA
ICL3217CB	24	SOIC-W			MAX207CWG	SP207CT
ICL3221CA	16	SSOP			MAX3221CAE	
ICL3221CV	16	TSSOP			MAX3221CUE	
ICL3222CA	20	SSOP	ADM3222ARS		MAX3221CAP	
ICL3222CB	18	SOIC	ADM3222ARW	LT1385CS	MAX3221CWN	SP312ACT
ICL3222CP	18	PDIP	ADM3222AN		MAX3221CPN	SP312ACP
ICL3222CV	20	TSSOP	ADM3222ARU		MAX3221CUP	
ICL3223CA	20	SSOP			MAX3223CAP	
ICL3223CP	20	PDIP			MAX3223CPP	
ICL3223CV	20	TSSOP			MAX3223CUP	
ICL3224CA	20	SSP			MAX3224CAP	
ICL3224CP	20	PDIP			MAX3224CPP	
ICL3225CA	20	SSOP			MAX3225CAP	
ICL3225CP	20	PDIP			MAX3225CPP	
ICL3226CA	16	SSOP			MAX3226CAE	
ICL3227CA	16	SSOP			MAX3227CAE	
ICL3232CA	16	SSOP				
ICL3232CB	16	SOIC-W	ADM3202ARW		MAX3232CWE	
ICL3232CP	16	PDIP	ADM3202AN		MAX3232CPE	
ICL3232CV	16	TSSOP	ADM3202ARU		MAX3232CUE	
ICL3237	28	SSOP			MAX3237CAI	
ICL3238	28	SSOP			MAX3238CAI	
ICL3241	28	SSOP			MAX3241CAI	
ICL3241	28	SOIC-W			MAX3241CWI	
ICL3241	28	TSSOP			MAX3241CUI	
ICL3243	28	SSOP			MAX3243CAI	
ICL3243	28	SOIC-W			MAX3243CWI	
ICL3243	28	TSSOP			MAX3243CUI	
ICL3244	28	SSP			MAX3244CAI	
ICL3244	28	SOIC-W			MAX3244CWI	
ICL3244	28	SSOP			MAX3244EEAI	
ICL3244	28	SOIC-W			MAX3244EEWI	
ICL3245	28	SSOP			MAX3245CAI	
ICL3245	28	SOIC-W			MAX3245CWI	
ICL3245	28	SSOP			MAX3245ECAI	
ICL3245	28	SOIC-W			MAX3245ECWI	

National Semiconductor RS-422/423/485 Interface Products

RS-422/423 Line Drivers and Receivers

Part Number	Description	Package	No. of Drivers	No. of Receivers	Supply Voltage	Process
DS1691A	RS-422/RS-423 Line Drivers With TRI-STATE Outputs	Cerdip	2/4		±5 V or +5 V	Bipolar
DS26C31M	CMOS Quad TRI STATE Differential Line Drivers	LCC,Cerdip,Cerpack, Ceramic SOIC	4		5 V	CMOS
DS26C31T	CMOS Quad TRI-STATE Differential Line Drivers	SOIC NARROW,MDIP,Die,Wafer	4		5 V	CMOS
DS26C32AM	CMOS Quad Differential Line Receivers	LCC,Cerdip,Cerpack, Ceramic SOIC		4	5 V	CMOS
DS26C32AT	CMOS Quad Differential Line Receivers	SOIC NARROW,MDIP		4	5 V	CMOS
DS26F31M	Quad High Speed Differential Line Drivers	LCC,Cerdip,Cerpack	4		5 V	LFAST
DS26F32M	Quad Differential Line Receivers	LCC,Cerdip,Cerpack,Die,Wafer		4	5 V	LFAST
DS26LS31C	Quad High Speed Differential Line Drivers	Die,Wafer	4		5 V	Bipolar
DS26LS31M	Quad High Speed Differential Line Drivers	LCC,Cerdip,Cerpack	4		5 V	Bipolar
DS26LS32C	Quad Differential Line Receivers	Die		4	5 V	Bipolar
DS26LS32M	Quad Differential Line Receivers	LCC,Cerdip,Cerpack		4	5 V	Bipolar
DS26LS33M	Quad Differential Line Receivers	Cerdip		4	5 V	Bipolar
DS26LV31T	3V Enhanced CMOS Quad Differential Line Driver	SOIC NARROW,Wafer	4		3.3 V	CMOS

RS-422/423 Drivers and Receivers(cont.)

Part Number	Description	Package	No. of Drivers	No. of Receivers	Supply Voltage	Process
DS26LV32AT	3V Enhanced CMOS Quad Differential Line Receiver	SOIC NARROW		4	3.3 V	CMOS
DS26LV32AT	3V Enhanced CMOS Quad Differential Line Receiver	SOIC NARROW		4	3.3 V	CMOS
DS3486	Quad RS-422/RS-423 Line Receiver	SOIC NARROW,MDIP		4	5 V	Bipolar
DS3487	Quad TRI-STATE Line Driver	SOIC NARROW,MDIP	4		5 V	Bipolar
DS34C86T	Quad CMOS Differential Line Receiver	SOIC NARROW,MDIP		4	5 V	CMOS
DS34C87T	CMOS Quad TRI-STATE Differential Line Driver	SOIC NARROW,MDIP	4		5 V	CMOS
DS34LV86T	3V Enhanced CMOS Quad Differential Line Receiver	SOIC NARROW		4	3.3 V	CMOS
DS34LV87T	Enhanced CMOS Quad Differential Line Driver	SOIC NARROW	4		3.3 V	CMOS
DS3691	RS-422/RS-423 Line Drivers With TRI-STATE Outputs	SOIC NARROW,MDIP	2/4		± 5 V or +5 V	Bipolar
DS78C120	Dual CMOS Compatible Differential Line Receiver	Cerdip,Die		2	5 V to 15 V	Bipolar
DS78C20	Dual CMOS Compatible Differential Line Receivers	Cerdip		2	5 V to 15 V	Bipolar
DS78LS120	Dual Differential Line Receivers (Noise-Filtering and Fail-Safe)	Cerdip,Cerpack		2	5 V to 15 V	Bipolar
DS88C20	Dual CMOS Compatible Differential Line Receivers	MDIP(MCM)		2	5 V to 15 V	Bipolar
DS8921	Differential Line Drivers and Receiver Pair	SOIC NARROW,MDIP,Die,Wafer	1	1	5 V	Bipolar
DS8922	TRI-STATE RS-422 Dual Differential Line Drivers and Receiver Pair	SOIC NARROW,MDIP	2	2	5 V	Bipolar
DS8925	Local Talk Dual Driver/Triple Receiver	SOIC NARROW	2	3	± 5 V	Bipolar
DS89C21	Differential CMOS Line Driver and Receiver Pair	SOIC NARROW,Die	1	1	5 V	CMOS
DS89C386	Twelve Channel CMOS Differential Line Receiver	SSOP		12	5 V	CMOS
DS89C387	Twelve Channel CMOS Differential Line Driver	SSOP	12		5 V	CMOS
DS9636A	RS-423 Dual Programmable Slew Rate Line Driver	Cerdip	2		± 12 V	Bipolar
DS9637A	Dual Differential Line Receiver	Cerdip		2	5 V	Bipolar
DS9638	RS-422 Dual High Speed Differential Line Driver	SOIC NARROW,MDIP,Die,Wafer,Cerdip	2		5 V	Bipolar

RS-485 Line Drivers and Receivers

Part Number	Description	Package	No. of Drivers	No. of Receivers	Supply Voltage	Process
DS1487	Low Power RS-485/1/4 Unit Load Multipoint Transceiver	SOIC NARROW,MDIP	1	1	5 V	CMOS
DS16F95	EIA-485/EIA-422A Differential Bus Transceivers	Cerdip,LCC,Cerpack,Ceramic SOIC,Die	1	1	5 V	LFAST
DS36276	FailSafe Multipoint Transceiver	SOIC NARROW	1	1	5 V	Bipolar
DS36277	Dominant Mode Multipoint Transceiver	SOIC NARROW,MDIP	1	1	5 V	Bipolar
DS3695	Multipoint RS-485/RS-422 Transceivers	MDIP	1	1	5 V	Bipolar
DS36950	Quad Differential Bus Transceiver	PLCC	4	4	5 V	LFAST
DS36954	Quad Differential Bus Transceiver	SOIC WIDE,PLCC	4	4	5 V	LFAST
DS3695A	Multipoint RS485/RS422 Transceivers	SOIC NARROW	1	1	5 V	Bipolar
DS3695AT	Multipoint RS485/RS422 Transceivers	SOIC NARROW	1	1	5 V	Bipolar
DS3695T	Multipoint RS-485/RS-422 Transceivers	MDIP	1	1	5 V	Bipolar
DS3696	Multipoint RS-485/RS-422 Transceivers	MDIP	1	1	5 V	Bipolar
DS3696A	Multipoint RS485/RS422 Transceivers	SOIC NARROW	1	1	5 V	Bipolar
DS3697	Multipoint RS-485/RS-422 Repeater	MDIP	1	1	5 V	Bipolar
DS36C278	Low Power Multipoint TIA/EIA-485 Transceiver	SOIC NARROW,MDIP	1	1	5 V	CMOS
DS36C279	Low Power TIA/EIA-485 Transceiver with Sleep Mode	SOIC NARROW	1	1	5 V	CMOS
DS36C280	Slew Rate Controlled CMOS TIA/EIA-485 Transceiver	SOIC NARROW	1	1	5 V	CMOS
DS36F95	EIA-485/EIA-422A Differential Bus Transceivers	Cerdip,SOIC NARROW	1	1	5 V	LFAST
DS481	Low Power RS-485/RS-422 Multipoint Transceiver with Sleep Mode	SOIC NARROW	1	1	5 V	CMOS
DS485	Low-Power RS-485/RS-422 Multipoint Transceiver	SOIC NARROW,MDIP	1	1	5 V	CMOS
DS75176B	Multipoint RS-485/RS-422 Transceivers	SOIC NARROW,MDIP,Die	1	1	5 V	Bipolar
DS75176BT	Multipoint RS-485/RS-422 Transceivers	SOIC NARROW,MDIP	1	1	5 V	Bipolar
DS96172	RS-485/RS-422 Quad Differential Line Drivers	MDIP	4		5 V	Bipolar
DS96173	RS-485/RS-422 Quad Differential Line Receivers	MDIP		4	5 V	Bipolar
DS96174	RS-485/RS-422 Quad Differential Line Drivers	MDIP	4		5 V	Bipolar
DS96175	RS-485/RS-422 Quad Differential Line Receivers	MDIP		4	5 V	Bipolar
DS96176	RS-485/RS-422 Differential Bus Transceiver	MDIP	1	1	5 V	Bipolar
DS96177	RS-485/RS-422 Differential Bus Repeater	MDIP	1	1	5 V	Bipolar
DS96F172M	EIA-485/EIA-422 Quad Differential Drivers	Cerpack,LCC,Cerdip	4		5 V	LFAST
DS96F173M	RS-485/RS-422 Quad Differential Receiver	LCC,Cerdip,Cerpack		4	5 V	LFAST
DS96F174C	EIA-485/EIA-422 Quad Differential Drivers	Cerdip,MDIP	4		5 V	LFAST
DS96F174M	EIA-485/EIA-422 Quad Differential Drivers	LCC,Cerdip,Cerpack	4		5 V	LFAST
DS96F175C	RS-485/RS-422 Quad Differential Receiver	Cerdip		4	5 V	LFAST
DS96F175M	RS-485/RS-422 Quad Differential Receiver	LCC,Cerdip,Cerpack		4	5 V	LFAST