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Clock Generator / Synthesizer Clock Multiplexer

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Part Number	Description	Core Voltage (V)	No. of Inputs	Input Type Single-Ended (SE) Differential (D) Crystal (C)	Max / Min Input Frequency (MHz)	No. of Outputs	Output Type Single- Ended (SE) Differential (D)	Max / Min Output Frequency (MHz)	Output Voltage (V)	Center Spread (CS) Down Spread (DS)	Programmable	Package
552- 02	Low Skew 2 Input Mux and 1 to 8 Clock Buffer	2.5 - 5.0	2	SE	200 / 0	8	SE	200 / 0	2.5 - 5.0			TSSOP16
580- 01	Glitch Free Clock Multiplexer	2.5 - 5.0	2	SE	220 / 2	2	SE	220 / 2	2.5 - 5.0			SOIC16
581- 01	Zero Delay Glitch Free Clock Multiplexer	3.3 - 5.0	2	SE	200 / 6	4	SE	200 / 6	3.3 - 5.0			TSSOP16
581- 02	Zero Delay Glitch Free Clock Multiplexer	3.3 - 5.0	2	SE	200 / 6	4	SE	200 / 6	3.3 - 5.0			TSSOP16

Jitter Attenuator – VCXO

1575- 01	Clock Recovery PLL	3.3	2	SE		3	SE		3.3			TSSOP16
MK1581- 01	Low Phase Noise T1 / E1 Clock Generator	3.3	1	SE, C	0.008	1	SE	2.048 / 1.544	3.3			TSSOP16
MK2058- 01	Communication Clock Jitter Attenuator	3.3	2	SE	27 / 0.003	1	SE	27 / 0.003	3.3			SOIC20
MK2059- 01	VCXO-Based Frame Clock Frequency Translator	3.3	2	SE	0.008	1	SE	25.92 / 1.544	3.3			
2059- 02	Clock Multiplier and Jitter Attenuator	3.3	2	SE	27 / 0.008	1	SE	27 / 10.368	3.3			TSSOP16
MK2069- 01	VCXO-Based Line Card Clock Synchronizer	3.3	3	SE	170 / 0.001	3	SE	160 / 0.5	3.3			TSSOP56
MK2069- 03	VCXO-Based Clock Translator with High Multiplication	3.3	1	SE	13.5 / 0.001	3	SE	160 / 0.5	3.3			TSSOP56
MK2069- 04	VCXO-Based Universal Clock Translator	3.3	1	SE	170 / 0.001	3	SE	160 / 0.5	3.3			TSSOP56
3726- 02	High Performance VCXO	3.3	1		36	1	SE	36	3.3			SOIC8

Programmable Clock – Programmable Skew

5T9890	EEPROM Programmable 2.5V Programmable Skew PLL Clock Driver	2.5	2	SE, D	250 / 4.17	10	SE, D	250 / 12.5	1.8 - 2.5		EEPROM, Programmable Skew	VFQFPN68
5T9891	EEPROM Programmable 2.5V Programmable Skew PLL Clock Driver	2.5	2	SE, D	250 / 4.17	6	SE, D	250 / 12.5	1.8 - 2.5		EEPROM, Programmable Skew	VFQFPN68

Programmable Clock – Clock Synthesizers

308	Serial Programmable Quad PLL Versaclock Synthesizer	3.3	1	SE, C	50 / 2	9	SE	200 / 0.25	3.3	CS, DS	Serial Programmable	SSOP20
348	Quad PLL Field Programmable Versaclock Synthesizer	3.3	1	SE, C	50 / 2	9	SE	200 / 0.25	3.3	CS, DS	EPROM	SSOP20
307- 01/2	Serial Programmable Clock Source	3.3 - 5.0	1	SE, C	50 / 5	2	SE	200 / 0.25	3.3 - 5.0	CS, DS	Serial Programmable	SOIC16, TSSOP16
307- 03	Serial Programmable Clock Source	3.3	1	SE, C	300 / 0.01	3	SE	270 / 0.0002	3.3	CS, DS	Serial Programmable	TSSOP16
525-01/02/11/12	User Configurable Clock Source	3.3 - 5.0	1	SE, C	50 / 2	2	SE	200 / 0.75	3.3 - 5.0	CS, DS	Pin Programmable	SSOP28
525- 03	PECL Input User Configurable Clock Source	3.3 - 5.0	1	D	250 / 0.5	1	D	250 / 1	3.3 - 5.0	CS, DS	Pin Programmable	SSOP28
525- 04	User Configurable PECL Clock Source	3.3 - 5.0	1	SE, C	50 / 2	1	D	250 / 1	3.3 - 5.0	CS, DS	Pin Programmable	SSOP28
251	Field Programmable SS Versaclock Synthesizer	3.3	1	SE, C	150 / 3	1	SE	200	3.3	CS, DS	Spread Spectrum, EPROM	SOIC8
252	Field Programmable Dual Output Spread Spectrum Versaclock Synthesizer	3.3	1	SE, C	150 / 3	2	SE	200	3.3	CS, DS	Spread Spectrum, EPROM	SOIC8
28X, 29X	Triple PLL Field Programmable Spread Spectrum Clock Synthesizer	3.3	1	SE, C	166 / 3	3, 4, 6, 8	SE	200 / 0.314	1.8 - 3.3	CS, DS	Spread Spectrum, EPROM	TSSOP16, 20



Clock Generator / Synthesizer

Programmable Clock – Clock Synthesizers (continued)

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Part Number	Description	Core Voltage (V)	No. of Inputs	Input Type Single-Ended (SE) Differential (D) Crystal (C)	Max / Min Input Frequency (MHz)	No. of Outputs	Output Type Single- Ended (SE) Differential (D)	Max / Min Output Frequency (MHz)	Output Voltage (V)	Center Spread (CS) Down Spread (DS)	Programmable	Package
309	Serial Programmable Triple PLL Spread Spectrum Versaclock Synthesizer	3.3	1	SE, C	50 / 2	9	SE	200	3.3	CS, DS	Serial Programmable	SSOP20
341	Field Programmable Spread Spectrum Versaclock Synthesizer	3.3	1	SE, C	50 / 2	1	SE	200	3.3	CS, DS	Spread Spectrum, EPROM	SOIC8
342	Field Programmable Dual Output Spread Spectrum Versaclock Synthesizer	3.3	1	SE, C	50 / 2	2	SE	200	3.3	CS, DS	Spread Spectrum, EPROM	SOIC8
343	Field Programmable Triple Output Spread Spectrum Versaclock Synthesizer	3.3	1	SE, C	50 / 2	3	SE	200	3.3	CS, DS	Spread Spectrum, EPROM	SOIC8
345	Triple PLL Field Programmable Spread Spectrum Versaclock Synthesizer	3.3	1	SE, C	50 / 2	9	SE	200	3.3	CS, DS	Spread Spectrum, EPROM	SSOP20
5V9885C	3.3V EEPROM Programmable Clock Generator	3.3	1	SE, D, C	400 / 1	8	SE, D	550 / 0.0049	3.3	CS, DS	EEPROM	TQFP32, VFQFPN32
MK1716- 01	Serial Programmable PCI SS Versaclock Synthesizer	3.3	1	SE, C	50 / 2	9	SE	133 / 0.25	3.3	CS, DS	Spread Spectrum	SSOP28
5V49EE501 / 02 / 03 / 04	VersaClock III Quad PLL w/ Spread Spectrum	3.3	2	SE, C	200 / 1	5	SE, D	200/500/0.0049	3.3/2.5/1.8	CS, DS	I ² C EEPROM	24 QFN
5V49EE701 / 02 / 03 / 04	VersaClock III Quad PLL w/ Spread Spectrum	3.3	2	SE, C	200 / 1	7	SE, D	200/500/0.0049	3.3/2.5/1.8	CS, DS	I ² C EEPROM	28 QFN
5V49EE901 / 02 / 03 / 04	VersaClock III Quad PLL w/ Spread Spectrum	3.3	2	SE, C	200 / 1	9	SE, D	200/500/0.0049	3.3/2.5/1.8	CS, DS	I ² C EEPROM	32 QFN / 28 TSSOP

Programmable Clock – VCXO

27X	Triple PLL Field Programmable VCXO	3.3	1	C	27 / 5	3, 4, 6	SE	200 / 0.314	1.8 - 3.3		EPROM, VCXO	TSSOP16, 20
5V19EE403 / 04	VersaClock III Quad PLL w/ VCXO & Spread Spectrum	3.3	2	SE, C	200 / 1	4	SE	200 / 0.0049	3.3	CS, DS	I ² C EEPROM	24 QFN
5V19EE603 / 04	VersaClock III Quad PLL w/ VCXO & Spread Spectrum	3.3	2	SE, C	200 / 1	6	SE	200 / 0.0049	3.3/2.5/1.8	CS, DS	I ² C EEPROM	28 QFN
5V19EE901 / 02 / 03 / 04	VersaClock III Quad PLL w/ VCXO & Spread Spectrum	3.3	2	SE, C	200 / 1	9	SE, D	200/500/0.0049	3.3/2.5/1.8	CS, DS	I ² C EEPROM	32 QFN / 28 TSSOP

Programmable Clock – Zero Delay Buffer

5T9820	EEPROM Programmable 2.5V Zero Delay PLL Clock Driver	2.5	1	SE, D	250 / 4.17	10	SE, D	250 / 12.5	1.8 - 2.5		EEPROM, ZDB	VFQFPN68
5T9821	EEPROM Programmable 2.5V Zero Delay Differential Clock Driver	2.5	1	SE, D	250 / 4.17	6	SE, D	250 / 12.5	1.8 - 2.5		EEPROM, ZDB	VFQFPN68
527- 01	User Configurable Zero Delay Buffer	3.3 - 5.0	1	SE	200 / 0.6	2	SE	160 / 4	3.3		Pin Programmable	SSOP28
527- 02	User Configurable PECL Input Zero Delay Buffer	3.3 - 5.0	1	D	200 / 1.5	2	SE	160 / 4	3.3		Pin Programmable	SSOP28
527- 03	User Configurable PECL Output Zero Delay Buffer	3.3 - 5.0	1	SE	200 / 1.5	1	D	160 / 2.5	3.3		Pin Programmable	SSOP28
527- 04	User Configurable PECL Zero Delay Buffer	3.3 - 5.0	1	D	200 / 1.5	2	D	160 / 2.5	3.3		Pin Programmable	SSOP28

Spread Spectrum – Clock Generator

18X-XX	Low EMI Clock Generator	3.3 - 5.0	1	SE, C	75 / 28, 28 / 8	1	SE	75 / 28, 28 / 8	3.3 - 5.0	CS, DS		SOIC8
4231-03	Low EMI Clock Generator	5.0	1	SE, C	33 / 10	1	SE	33 / 10	5.0	CS, DS		SOIC8
7151- X0	Spread Spectrum Clock Generator	3.3	1	SE, C	33.4 / 16.5	1	SE	133.4 / 8.3	3.3	CS, DS		SOIC8
7152- X0	Spread Spectrum Clock Generator	3.3	1	SE, C	134 / 16.6	1	SE	134 / 16.6	3.3	CS, DS		SOIC8



Clock Generator / Synthesizer

Spread Spectrum – Clock Generator (continued)

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Part Number	Description	Core Voltage (V)	No. of Inputs	Input Type Single-Ended (SE) Differential (D) Crystal (C)	Max / Min Input Frequency (MHz)	No. of Outputs	Output Type Single- Ended (SE) Differential (D)	Max / Min Output Frequency (MHz)	Output Voltage (V)	Center Spread (CS) Down Spread (DS)	Programmable	Package
MK1493-05	Differential Spread Spectrum Clock Driver	3.3	1	SE	14.31818	2	SE, D	14.31818	3.3	CS, DS		TSSOP16
MK1705A	ATI Low EMI Clock Generator	3.3 - 5.0	1	SE	167 / 40	1	SE	167 / 40	3.3 - 5.0	CS		SOIC8
MK1704A	Low EMI Clock Generator	3.3 - 5.0	1	SE	140 / 30	1	SE	140 / 30	3.3 - 5.0	CS, DS		SOIC8
MK1714-01	Spread Spectrum Multiplier Clock	3.3 - 5.0	1	SE, C	140 / 5	1	SE	150 / 20	3.3 - 5.0	CS, DS		SSOP20
MK1714-02	Spread Spectrum Multiplier Clock	3.3 - 5.0	1	SE, C	150 / 10	2	SE	150 / 10	3.3 - 5.0	CS, DS		SSOP20
MK1725	Quad Output Spread Spectrum Clock Generator	3.3	1	SE, C	34 / 20	4	SE	136 / 20	3.3	CS, DS		TSSOP16
MK1726-08	Spread Spectrum Clock Generator	3.3	1	SE, C	32 / 16	2	SE	32 / 16	3.3	DS		SOIC8
MK1728A-01	2.5V Low EMI Clock Generator	2.5	1	SE, C	36 / 4	1	SE	36 / 4	3.3	CS, DS		SOIC8
MK1709	Low EMI Clock Generator	3.3	1	SE, C	167 / 40	1	SE	167 / 40	3.3	CS		SOIC8, TSSOP8
MK1707D	Low EMI Clock Generator	3.3	1	SE, C	108 / 25	1	SE	108 / 25	3.3	CS		SOIC8
MK1707	Low EMI Clock Generator	3.3	1	SE, C	167 / 80	1	SE	167 / 80	3.3	CS, DS		SOIC8
MK1726-11	Low EMI Clock Generator	3.3	1	SE, C	32 / 16	1	SE	32 / 16	3.3	CS, DS		SOIC8, TSSOP8
MK1726-01A	Low EMI Clock Generator	3.3	1	SE, C	32 / 4	1	SE	32 / 4	3.3	CS, DS		SOIC8, TSSOP8
MK5811C	Spread Spectrum Clock Generator	3.3	1	SE, C	32 / 4	1	SE	32 / 4	3.3	CS, DS		SOIC8
MK5812	Spread Spectrum Clock Generator	3.3	1	SE, C	32 / 4	1	SE	64 / 8	3.3	CS, DS		SOIC8
MK5814D	Spread Spectrum Clock Generator	3.3	1	SE, C	32 / 4	1	SE	128 / 16	3.3	CS, DS		SOIC8
MK5818	Spread Spectrum Clock Generator	3.3	1	SE, C	16 / 8	2	SE	16 / 8	3.3	DS		SOIC8
5V50009	Spread Spectrum Clock Generator	3.3	1	SE, C	40 / 20	2	SE	40 / 20	3.3	DS		SOIC8
5V50013	Spread Spectrum Clock Generator	3.3	1	SE	140 / 50	1	SE	140 / 50	3.3	CS		SOIC8, TSSOP8
5V50015	Spread Spectrum Clock Generator	3.3	1	SE	200 / 135	1	SE	200 / 135	3.3	CS		SOIC8, TSSOP8
5V50017	Spread Spectrum Clock Generator	3.3	1	SE	60 / 15	1	SE	60 / 15	3.3	DS		SOIC8

VCXO

722	Low Cost 27 MHz 3.3V VCXO	3.3	1	C	28 / 16.2	1	SE	28 / 16.2	3.3			SOIC8
726A	12 to 36 MHz TSOT6 VCXO	3.3	1	C	36 / 12	1	SE	36 / 12	3.3			TSOT6
728	Low Cost 27 MHz 3.3V VCXO	3.3	1	C	13.5	1	SE	27	3.3			SOIC8
MK2049-34A	3.3V Communication Clock VCXO	3.3	1	SE	0.008	3	SE	77.76 / 1.544	3.3			SOIC20
MK2049-36	3.3V Communication Clock PLL	3.3	1	SE	0.008	3	SE	77.76 / 1.544	3.3			SOIC20
MK2049-45A	3.3V Communication Clock PLL	3.3	1	SE	50 / 10	3	SE		3.3			SOIC20
MK2727	Low Cost 27 MHz VCXO	5.0	1	C	13.5	1	SE	27	5.0			SOIC8
MK2732-06	Low Phase Noise VCXO and Multiplier	5.0	1	C	13.248, 13.5	3	SE		5.0			TSSOP16
MK277X-15 / 16	VCXO and Set-Top Clock Source	5.0	1	C	13.5	8, 7	SE		5.0			SSOP20, 28
MK3711D	Low Cost 8 to 16 MHz 3.3V VCXO	3.3	1	C	16 / 8	1	SE	16 / 8	3.3			SOIC8
MK3720D	27 MHz and 54 MHz 3.3V VCXO	3.3	1	C	13.5	3	SE	13.5, 27, 54	3.3			SOIC8



Clock Generator / Synthesizer

VCXO (continued)

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Part Number	Description	Core Voltage (V)	No. of Inputs	Input Type Single-Ended (SE) Differential (D) Crystal (C)	Max / Min Input Frequency (MHz)	No. of Outputs	Output Type Single- Ended (SE) Differential (D)	Max / Min Output Frequency (MHz)	Output Voltage (V)	Center Spread (CS) Down Spread (DS)	Programmable	Package
MK3721D	Low Cost 16.2 to 28 MHz 3.3V VCXO	3.3	3	C	28 / 16.2	1	SE	28 / 16.2	3.3			SOIC8
MK3722 / 24	VCXO Plus Audio Clock for STB	3.3	3	C	27	2	SE		3.3			TSSOP16
MK3727H / D	Low Cost 3.3V VCXO	3.3	3	C	18 / 12	1	SE	36 / 24	3.3			SOIC8
MK3732-10	VCXO and Multiplier	3.3	3	C	28 / 16	3	SE	162 / 13.5	3.3			SOIC16
MK3732-17	ADSL VCXO Clock Source	3.3	3	C		6	SE		3.3			SOIC16
MK3732-22	Blu-Ray Disc VCXO	3.3	3	C	13.5	2	SE		3.3			SSOP20
MK3754D	Low Cost 54 MHz 3.3V VCXO	3.3	3	C	13.5	1	SE		3.3			SOIC8
MK3771-17	VCXO and HDTV Set-Top Clock Source	3.3	3	C	13.5	8	SE		3.3			SSOP28
477-05	Quad PLL with VCXO for HDTV	3.3	3	C	27	5	SE		3.3			SSOP28

Video Clock

MK1574-01A / B	Frame Rate Communications PLL	3.3 - 5.0	1	SE	0.008	4	SE		3.3 - 5.0			SOIC16
MK2712	NTSC / PAL Clock Source	3.3 - 5.0	1	SE	27	1	SE		3.3 - 5.0			SOIC8
MK2716	HDTV Clock Synthesizer	3.3 - 5.0	1	SE, C	27	1	SE		3.3 - 5.0			SOIC8
MK2745-21	DVD / MPEG Clock Source	3.3 - 5.0	1	SE, C	27	5	SE		3.3 - 5.0			SOIC16
MK2745-24	DVD / MPEG Clock Source	3.3 - 5.0	1	SE, C	27	6	SE		3.3 - 5.0			SOIC16
MK2761A	Set - Top Clock Source	3.3	1	SE, C	27	7	SE		3.3			SOIC16
660	Digital Video Clock Source	3.3	1	SE, C		2	SE		3.3			TSSOP16
1523	Video Clock Synthesizer with I ² C Programmable Delay	3.3	2	SE	100 / 0.015734	3	SE	250 / 12.5	3.3			SOIC24
1524A	Dual Output Phase Controlled SSTL 3 / PECL Clock Generator	3.3	2	SE	100 / 0.008	4	SE, D	250 / 12.5	3.3			SOIC24
1526	Video Clock Synthesizer	3.3	3, 2	SE	100 / 0.008	3	SE	110 / 0.008	3.3			TSSOP16
1527	Video Clock Synthesizer	3.3	2	SE	100 / 0.008	2	SE	110, 60 / 2.5	3.3			TSSOP16
1562B	User Programmable Differential Output Graphics Clock Generator (Parallel Programming)	5.0	1	SE, C	20 / 5	3	SE, D	200	5			SOIC16
1574B	User Programmable Laser Engine Pixel Clock Generator	5.0	1	SE, C	20 / 5	1	SE	130	3.3			SOIC16
2008B	SMPTE Time Code Receiver / Generator	5.0	2	SE		2	SE		3.3 - 5.0			PLCC44, TQFP44
650-12	MPEG Clock Synthesizer	3.3 - 5.0	1	SE, C	27	6	SE		3.3 - 5.0			SSOP20
650-22	PRV and STB Clock Source	3.3	1	SE, C	27	7	SE		3.3			SSOP20
664-01	Digital Video Clock Source	3.3	1	SE, C		1	SE		2.5 - 3.3			TSSOP16
664-02	PECL Digital Video Clock Source	3.3	1	SE, C		1	D		2.5 - 3.3			TSSOP16
664-03	Digital Video Clock Source	3.3	1	SE, C		1	SE		2.5 - 3.3			TSSOP16
667-01	HDTV Clock Synthesizer	3.3	1	SE, C	27	2	SE	74.175824 / 27	3.3			SOIC8



Clock Generator / Synthesizer
Audio Clock

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Part Number	Description	Core Voltage (V)	No. of Inputs	Input Type Single-Ended (SE) Differential (D) Crystal (C)	Max / Min Input Frequency (MHz)	No. of Outputs	Output Type Single-Ended (SE) Differential (D)	Max / Min Output Frequency (MHz)	Output Voltage (V)	Center Spread (CS) Down Spread (DS)	Programmable	Package
661	Precision Audio Clock Source	3.3	1	SE, C	27	2	SE		3.3			TSSOP16
662-03	HDTV Audio Clock Source	3.3	1	SE	74.25 / 74.175824	1	SE		3.3			SOIC8
MK2703B/04	PLL Audio Clock Synthesizer	3.3 - 5.0	1	SE, C	27	2	SE		3.3 - 5.0			SOIC8
MK2705	Audio Clock Source	3.3	1	SE, C	27	1	SE		1.8 - 3.3			SOIC8
MK372X	VCXO Plus Audio Clock for STB	3.3	1	C	27	2	SE		3.3			TSSOP16
MK1413	MPEG Audio Clock for STB	3.3	1	C	27	2	SE		3.3			TSSOP16
5V60014	Low Phase Noise Zero Delay Buffer	3.3	1	SE	38/10	2	SE	38/10	3.3			MSOP8

Zero Delay Buffer

2305B/8B/0B	3.3V Zero Delay Clock Multiplier	3.3	1	SE	133 / 10	5, 8, 9	SE	133 / 10	3.3			SOIC8, TSSOP16, SOIC16
23S05/08/09	3.3V Zero Delay Clock Buffer, Spread Spectrum Compatible	3.3	1	SE	133 / 10, 200 / 10	5, 8, 9	SE	133 / 10, 200 / 10	2.5 - 3.3			SOIC8, TSSOP16, SOIC16
MK2302-01	Multiplier and Zero Delay Buffer	3.3 - 5.0	1	SE	168 / 10	2	SE	168 / 10	3.3 - 5.0			SOIC8
MK2304-01	Zero Delay, Low Skew Buffer	3.3	1	SE	133 / 10	4	SE	133 / 10	3.3			SOIC8
571	Low Phase Noise Zero Delay Buffer	3.3 - 5.0	1	SE	160 / 10	2	SE	160 / 10	3.3 - 5.0			SOIC8
574	Zero Delay, Low Skew Buffer	3.3 - 5.0	1	SE	160 / 20	4	SE	160 / 20	3.3 - 5.0			SOIC8
2402	Multiplier and Zero Delay Buffer	3.3 - 5.0	1	SE	80 / 10	1	SE	80 / 10	3.3 - 5.0			SOIC8
527-01	Clock Slicer User Configurable Zero Delay Buffer	3.3	1	SE	200 / 0.6	2	SE	160 / 4	3.3		Pin Programmable	SSOP28
527-02	Clock Slicer User Configurable PECL Input Zero Delay Buffer	3.3	1	SE, D	200 / 1.5	1	D	160 / 2.5	3.3		Pin Programmable	SSOP28
527-03	Clock Slicer User Configurable PECL Output Zero Delay Buffer	3.3	1	SE	200 / 1.5	1	D	160 / 2.5	3.3		Pin Programmable	SSOP28
527-04	Clock Slicer User Configurable PECL Input Zero Delay Buffer	3.3	1	SE, D	200 / 1.5	1	D	160 / 2.5	3.3		Pin Programmable	SSOP28
570X	Multiplier and Zero Delay Buffer	3.3 - 5.0	1	SE	170 / 10	2	SE	170 / 10	3.3 - 5.0			SOIC8
670-01/02/03/04	Low Phase Noise Zero Delay Buffer and Multiplier	3.3 - 5.0	1	SE	160, 210 / 5	2	SE	160, 210 / 5	3.3 - 5.0			SOIC16
671-01	Zero Delay Low Skew Buffer and Multiplier	3.3 - 5.0	1	SE	80 / 5	8	SE	160 / 5	3.3 - 5.0			SOIC16
671-03	3.3V Zero Delay, Low Skew Buffer	3.3	1	SE	133 / 10	8	SE	133 / 10	3.3			SOIC16
671-15	Zero Delay Low Skew Buffer	3.3	1	SE	66 / 33	8	SE	66 / 33	3.3			TSSOP24
672 - 01/02	Quadclock Quadrature Delay Buffer	3.3 - 5.0	1	SE	150 / 5	5	SE	84 / 15, 135 / 15	3.3 - 5.0			SOIC16
673-01	PLL Building Block	3.3 - 5.0	1	SE	8 / 0.001	2	SE	100 / 0.25	3.3 - 5.0			SOIC16
680-01	Networking Clock Synthesizer and Zero Delay Buffer	3.3	2	SE	25	9	SE		3.3			TSSOP24
5P61006	1.8V DDR2 / 800 Zero Delay Buffer	1.8	1	D	425 / 125	1	D	425 / 125	1.8			TSSOP8
5V60014	Low Phase Noise Zero Delay Buffer	3.3	1	SE	38 / 10	2	SE	38 / 10	3.3			MSOP8



Clock Generator / Synthesizer

Clock Generator / Synthesizer

www.IDT.com/go/timing

Part Number	Description	Core Voltage (V)	No. of Inputs	Input Type Single-Ended (SE) Differential (D) Crystal (C)	Max / Min Input Frequency (MHz)	No. of Outputs	Output Type Single- Ended (SE) Differential (D)	Max / Min Output Frequency (MHz)	Output Voltage (V)	Center Spread (CS) Down Spread (DS)	Programmable	Package
409/411	PC Peripheral Clock	3.3	1	SE, C	14.31818	3	SE		3.3			SOIC8
1493-17	Clock Synthesizer for Portable Systems	1.8	1	SE, C	27	5	SE		1.8 - 2.5			QFN20
487-25	Quad PLL for DTV	3.3	1	SE, C	27	5	SE		3.3			TSSOP16
650-01	System Peripheral Clock Source	3.3 - 5.0	1	SE, C	14.31818	8	SE		3.3 - 5.0			SSOP20
650-14	Networking System Clock	3.3 - 5.0	1	SE, C	25	8	SE		3.3 - 5.0			SSOP20
650-21	System Peripheral Clock Source	3.3 - 5.0	1	SE, C	25	7	SE		3.3 - 5.0			SSOP20
650-27	Networking Clock Source	3.3	1	SE, C	25, 12.5	7	SE		3.3			SSOP20
650-36	Networking and PCI Clock Source	3.3	1	SE, C	25	4	SE		3.3			TSSOP16
650-40	Ethernet Switch Clock Source	3.3	1	SE, C	25 / 25	2	SE		2.5 - 3.3			TSSOP16
650-41	Spread Spectrum Clock Synthesizer	3.3	1	SE, C	25 / 25	2	SE		2.5	CS, DS		TSSOP16
650-44	Spread Spectrum Clock Synthesizer	3.3	1	SE, C	25 / 25	3	SE		2.5	CS, DS		TSSOP16
650-47	Spread Spectrum Clock Synthesizer	3.3	1	SE, C	25 / 25	1	SE		2.5	CS, DS		TSSOP16
MK1491-06	AMD Geode Clock Source	3.3	1	SE, C	14.31818	10	SE		3.3			SOIC28, SSOP28
MK1491-09	AMD Geode GX2 Clock Source	3.3	1	SE, C	14.31818	12	SE		3.3	DS		SSOP28
MK2746-01	USB-DVR Clock Source	3.3	1	SE, C	27	5	SE		3.3			TSSOP16
MK3200	32.768 kHz Clock Oscillator	2.5 - 5.0	1	SE	0.032768	1	SE		2.5 - 5.0			SOIC8, MSOP8
MK74CG117B	16 Output Low Skew Clock Generator	3.3	1	SE, C	20 / 8	16	SE	90 / 8	3.3			SSOP48

Clock Multiplier

5XX	LOCO PLL Clock Multiplier	3.3 - 5.0	1	SE, C	50 / 2	1, 2	SE	200 / 4, 160 / 4	3.3 - 5.0			SOIC8, MSOP8
5V40501	LOCO PLL Clock Multiplier	3.3	1	SE, C	50 / 2	1	SE	100 / 4	3.3			SOIC8, MSOP8
513/514	LOCO PLL Clock Generator	3.3 - 5.0	1	SE, C	14.31818, 14	2	SE		3.3 - 5.0			SOIC8, die
613	Low Phase Noise Clock Multiplier	3.3	1	SE, C	25	2	SE	156.25 / 125	2.5 - 3.3			SOIC16
663	PLL Building Block	3.3 - 5.0	1	SE	8 / 0.001	1	SE	120 / 0.25	3.3 - 5.0			SOIC8
507-01	PECL Clock Synthesizer	3.3 - 5.0	1	SE, C	52 / 5	1	D	200 / 10	3.3 - 5.0			SOIC16
525-01/02/11/12	User Configurable Clock Source	3.3 - 5.0	1	SE, C	50 / 2	2	SE	200 / 0.75	3.3 - 5.0		Pin Programmable	SSOP28
525-03	PECL Input User Configurable Clock Source	3.3 - 5.0	1	D	250 / 0.5	1	D	250 / 1	3.3 - 5.0		Pin Programmable	SSOP28
525-04	User Configurable PECL Clock Source	3.3 - 5.0	1	SE, C	50 / 2	1	D	250 / 1	3.3 - 5.0		Pin Programmable	SSOP28
548-05	T1 / E1 Clock Multiplier	3.3 - 5.0	1	SE	2.048 / 1.544	2	SE	49.152 / 24.704	3.3 - 5.0			TSSOP16
601-01/02	Low Phase Noise Clock Multiplier	3.3 - 5.0	1	SE, C	27 / 10	2, 1	SE	156 / 10	2.5 - 5.0			SOIC16, SSOP20
601-21	Low Phase Noise PECL Clock Multiplier	3.3	1	SE, C	27 / 10	1	D	220 / 10				TSSOP16
601-25	Low Phase Noise Clock Multiplier	3.3	1	SE, C	27 / 10	5	SE	156 / 10	3.3			SSOP20



Quick Reference Guide

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Clock Generator / Synthesizer Fan-out Buffer

www.IDT.com/go/timing

Part Number	Description	Core Voltage (V)	No. of Inputs	Input Type Single-Ended (SE) Differential (D) Crystal (C)	Max / Min Input Frequency (MHz)	No. of Outputs	Output Type Single- Ended (SE) Differential (D)	Max / Min Output Frequency (MHz)	Output Voltage (V)	Center Spread (CS) Down Spread (DS)	Programmable	Package
524	Low Skew 1 to 4 Clock Buffer	2.5 - 5.0	1	SE, C	200 / 0	4	SE	200 / 0	2.5 - 5.0			SOIC8
5V551	1 to 4 Clock Buffer	3.3	1	SE	160 / 0	4	SE	160 / 0	3.3			SOIC8
5T30553	Low Skew 1 to 4 Clock Buffer	2.5 - 3.3	1	SE	200 / 0	4	SE	200 / 0	2.5 - 3.3			SOIC8
621	Low Skew 1 to 4 Clock Buffer	1.2 - 1.8	1	SE	200 / 0	4	SE	200 / 0	1.2 - 1.8			SOIC8, DFN8
651	Low Skew 1 to 4 Clock Buffer	1.5 - 2.5	1	SE	166 / 0	4	SE	166 / 0	1.5 - 2.5			SOIC8
2304NZ-1	Low Skew PCI / PCI-X Buffer	3.3	1	SE	140 / 0	4	SE	140 / 0	3.3			TSSOP8
2309NZ	9 Output 3.3V Clock Buffer	3.3	1	SE	133 / 0	9	SE	133 / 0	3.3			TSSOP16, SOIC16
49FCT20805	2.5V CMOS Dual 1 to 5 Clock Driver	2.5	2	SE	166 / 0	11	SE	166 / 0	2.5			SSOP20
49FCT3805D/E	3.3V CMOS Dual 1 to 5 Clock Driver	3.3	2	SE	166 / 0	11	SE	166 / 0	3.3			SSOP20
49FCT805BT/CT	Fast CMOS Buffer / Clock Driver	5.0	2	SE	100 / 0	11	SE	100 / 0	5.0			SOIC20, SSOP20, QSOP20, LC20, Cerdip
554-01A	Low Skew 1 to 4 Clock Buffer PECL in, PECL out	3.3 - 5.0	1	D	200 / 0	4	D	200 / 0	3.3 - 5.0			TSSOP16
556-03	Quad LVDS Oscillator / Buffer	2.5	1	C	25 / 25	4	D	25 / 25	2.5			TSSOP16
5V2305	2.5V to 3.3V High Performance Clock Buffer	2.5 - 3.3	1	SE	200 / 0	5	SE	200 / 0	2.5 - 3.3			TSSOP16, VFQFPN16
5V2310	Fan-out Buffer	3.3	1	SE	200 / 0, 0.032768	10, 4	SE, SE	200 / 0, 0.032768	2.5 - 3.3			TSSOP24, VFQFPN24
74FCT20807	2.5V 1 to 10 Clock Driver	2.5	1	SE	150 / 0	10	SE	150 / 0	2.5			SSOP20, QSOP20
LV810	Buffer / Clock Driver 1 to 10	1.5 - 2.5	1	SE	133 / 1	10	SE	133 / 1	1.5 - 2.5			SSOP20, QSOP20
MK74CB218B	Dual 1 to 8 Buffalo Clock Driver	1.8 - 3.3	2	SE	200 / 0	16	SE	200 / 0	2.5 - 3.3			SSOP28
508	PECL to CMOS Converter	2.5 - 5.0	1	D	250 / 0	1	SE	250 / 0	2.5 - 5.0			SOIC16

Non-PLL Clock Divider

542	Clock Divider	3.3 - 5.0	1	SE	156 / 0	2	SE	156 / 0	3.3 - 5.0			SOIC8
5V40090	Clock Divider	3.3	1	SE	156 / 0	2	SE	156 / 0	3.3 - 5.0			SOIC8
548A -03	Low Skew Clock Inverter and Divider	3.3	1	SE	160 / 0	3	SE	160 / 0	3.3			SOIC16
558-01	PECL / CMOS to CMOS Clock Driver	3.3 - 5.0	2	SE, D	250 / 0	4	SE	250 / 0	2.5 - 5.0			TSSOP16
558A- 02	LVHSTL / CMOS to CMOS Clock Driver	3.3	1	D	250 / 0	4	SE	250 / 0	3.3			TSSOP16
674-01	User Configurable Divider	3.3 - 5.0	2	SE	235 / 0	2	SE	235 / 0	3.3 - 5.0			TSSOP28



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Clock Generator / Synthesizer Real Time Clock

www.IDT.com/go/timing

Part Number	Description	Core Supply Voltage (VDD)	Integrated 32 kHz crystal	Interface	Memory Type	Time of Day Alarms	Time-Keeping Current (nA)	Package
1337G	Real-Time Clock with I ² C Serial Interface	1.8V to 5.5V	No	I ² C	N/A	2	425	SOIC 8, TSSOP 8, VQFPN 16
1338-18	I ² C RTC with 56-Byte NV RAM	1.8V to 5.5V	No	I ² C	NV SRAM	0	800	SOIC 8, TSSOP 8
1338-31	I ² C RTC with 56 Byte NV RAM	2.7V to 5.5V	No	I ² C	NV SRAM	0	800	SOIC 8, TSSOP 8
1339-2	Real-Time Clock with I ² C Serial Interface	1.8V to 5.5V	No	I ² C	N/A	2	400	SOIC 8, TSSOP 8
1339-31	Real-Time Clock with I ² C Serial Interface	2.7V to 5.5V	No	I ² C	N/A	2	400	SOIC 8, TSSOP 8

Spread Injection PLL Clock Buffer

Part Number	Description	Package	Supply Volts VCC (V)	Temperature
9DS400A	4 output PCIe PLL with spread injection	TSSOP 28	3.3 V	C
9DS800A	8 output PCIe PLL with spread injection	TSSOP 48	3.3 V	C

Interface Products Analog Switch

www.IDT.com/go/timing

Part Number	Description	Core Voltage (V)	No. of Inputs	Input Type Single-Ended (SE) Differential (D) Crystal (C)	Max / Min Input Frequency (MHz)	No. of Outputs	Output Type Single- Ended (SE) Differential (D)	Max / Min Output Frequency (MHz)	Output Voltage (V)	Center Spread (CS) Down Spread (DS)	Programmable	Package
AS3699A	0.5 Ohm Low Voltage, Quad SPDT Analog Switch	1.65 - 4.3	8	SE	50	4	SE	50	VDD / 0			QFN16
AS4624	0.5 Ohm Low Voltage, Single SPDT Analog Switch	1.8 - 5.5	2	SE		1	SE		VDD / 0			SOT6
AS4684A	0.5 Ohm Low Voltage, Dual SPDT Analog Switch	1.8 - 5.5	4	SE		2	SE		VDD / 0			UCSP12

USB Switch

US4717A	Low Voltage, High BW, Dual SPDT Analog Switch	1.65 - 5.5	4	SE	90	2	SE	90	VDD / 0			DFN10, ChipScale
US8030	Low Power Dual DPDT Hi-Speed USB 2.0	3.0 - 4.3	4	SE	480	2	SE	480	3.0 - 3.6			µMLP10, DFN10
US8032	Low Power Dual SPST Hi-Speed USB 2.0	3.0 - 3.6	2	SE	480	2	SE	480	3.0 - 3.6			MSOP8, SOIC8
US8031	Low Power Dual SPST Hi-Speed USB 2.0	3.0 - 4.3	2	SE	480	2	SE	480	3.0 - 3.6			MicroPak8, US10
HS221	Hybrid SPDT Switch with Negative Signal Handling	1.8	4	SE	480	2	SE	160(A), 480(D)	-1.5 - 1.5(A), 2.7 - 5(D)			µMLP10
HS231	Hybrid SPTT Switch with Negative Signal Handling	1.8	6	SE	480	2	SE	160(A), 480(D)	-1.5 - 1.5(A), 2.7 - 5(D)			QFN16
HS421	Low Power Dual SPST Hi-Speed USB 2.0 (480 MBPS Switch)	2.7 - 4.3	4	SE	160	4	SE	160(D)	VDD / 0			QFN16

Touch Screen Controller

MK712	Touch Screen Controller											SSOP28, SOIC28
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C = Commercial



Quick Reference Guide

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Interface Products

10/ 100 Ethernet Phy

www.IDT.com/go/timing

Part Number	Description	Core Voltage (V)	No. of Inputs	Input Type Single-Ended (SE) Differential (D) Crystal (C)	Max / Min Input Frequency (MHz)	No. of Outputs	Output Type Single- Ended (SE) Differential (D)	Max / Min Output Frequency (MHz)	Output Voltage (V)	Center Spread (CS) Down Spread (DS)	Programmable	Package
1893CF	3.3V 10Base-T / 100Base-TX Integrated PHYceiver™											SSOP48
1893CY-10	3.3V 10Base-T / 100Base-TX Integrated PHYceiver™											10 x 10 mm TQFP64
1893CK-40	3.3V 10Base-T / 100Base-TX Integrated PHYceiver™											6 x 6 mm MLF

High Performance Clock Solutions: Clock Generation

Fixed Frequency Oscillators

www.HiperClocks.com

Part Number Prefix	Description	Characteristics
83x, 85x	Crystal Oscillator (XO) ICs with Integrated Fan-out Buffers	Crystal input, 1 to 16 outputs, LVCMOS, LVPECL or LVDS outputs
M26x, M27x, M28x	5 mm x 7 mm SAW Oscillator Modules	Free running oscillator with LVCMOS outputs up to 250 MHz, LVPECL or LVDS outputs up to 700 MHz, 0.3 ps jitter

Clock Synthesizers

84x	General Purpose Frequency Synthesizers	PLL based clock synthesizers, LVCMOS, LVPECL, LVDS, HSTL, or HCSSL outputs
84x, MPC924xx	Spread Spectrum Clocks	Center or down spread with selectable spread percentage
84x	FemtoClocks Synthesizers	Low phase noise synthesizers
84x	Frequency Margining Synthesizers	Adjustable output frequency
MPC98x, 84x	QUICCclocks™ for PowerQUICC and PowerPC	Provide typical frequencies for microprocessor and microcontroller clocks

Voltage Controlled Oscillators

81x	Voltage Controlled Crystal Oscillator (VCXO) ICs with Integrated Fan-out Buffers	Sub-picosecond reference for OC-48 SONET, SDH and 10 GbE (jitter attenuation, frequency translation)
84x	Voltage Controlled Crystal Oscillator (VCXO) ICs with Integrated Femtoclock Frequency Multipliers	Same as above
M62x, M65x, M66x, M67x, M68x	Voltage Controlled SAW Oscillator (VCSO) Modules	Sub-picosecond reference for OC-192 / OC-768 SONET, SDH and 10 GbE (jitter attenuation, frequency translation)

High Performance Clock Solutions: Clock Distribution

www.HiperClocks.com

Part Number Prefix	Description	Characteristics
83x	Single-ended Fan-out Buffers and Clock Multiplexers	LVCMOS, LVTTTL output levels, 2 to 27 outputs differential, single-ended and crystal inputs
85x	Differential Fan-out Buffers	LVPECL, LVDS, HSTL, HCSSL outputs, 2 to 21 outputs, differential and single-ended inputs
86x	PLL Zero Delay Buffers	PLL based clock buffers with LVCMOS, LVPECL, LVDS, HSTL, outputs
87x	Programmable Delay	Programmable delay in 10 ps steps
5V99x, 5V99xx, 5T99x, 5T99xx	Programmable Skew	Programmable skew to lead or lag reference clock
MPCx, 87x	Intelligent Dynamic Clock Switches	Clock fault detection with automatic switch to redundant clock



High Performance Clock Solutions: Synchronous Jitter Attenuation and Frequency Translation

www.HiperClocks.com

Part Number Prefix	Description	Characteristics
87x	PCI Express Jitter Attenuation and Frequency Translation	IDCS, SONET, SDH, OTN, Synchronous clocking, VCXO, VCSCO, Surface Acoustic Wave, QUICCclocks™, SAS, SATA, Femtoclocks, Packet timing
M90x, M92x, M10xx, M20xx	Voltage Controlled SAW Oscillator (VCSCO) PLL Modules	Jitter attenuation and frequency translation for OC-192 / OC-768 SONET, SDH, 10 GbE, sub-picosecond jitter, hitless switching, phase buildout
82V30xx, 82V32xx, 82V33xx	Stratum Wide Area Network (WAN) PLLs	Stratum source (up to stratum 2 levels, OC-12) for SONET / SDH, holdover, hitless switching, phase buildout
81x, 84x	Voltage Controlled Crystal Oscillator (VCXO) PLL and Femtoclock Frequency Multiplier	Jitter attenuation and frequency translation up to OC-48 SONET, SDH, 1 / 10 GbE sub-picosecond jitter

PC Motherboard Clocks

Embedded Clocks

www.IDT.com/go/pcclocks

Part Number	Description	Chipset	Core Supply Voltage (VDD)	Output Supply Voltage (VDDO)	Temperature	Package	Embedded	Input Style	Output Style	Yellow Cover Spec.
9E4101	Embedded Industrial Temperature Range CK410 Clock	865, 875	3.3 V	3.3	I	SSOP 56	Yes	CLKIN, XTAL	HSC	CK410
9EMS9633B	Ultra Mobile PC Clock for Embedded Applications	US15W	3.3 V	1.5	C, I	VFQFPN 48	Yes	CLKIN, XTAL	TYPE-SR	CK633
9EPRS475C	Embedded 56-pin System Clock for Embedded AMD-Based Systems	780E, M690T	3.3 V	3.3	C	TSSOP 56	Yes	CLKIN, XTAL	TYPE-SR	N/A
9EPRS488C	Embedded 72-pin System Clock for Embedded AMD-Based Systems	780E, M690T	3.3 V	1.05-3.3	C	VFQFPN 72	Yes	CLKIN, XTAL	TYPE-SR	N/A
9EPRS525A	Embedded 56-pin Industrial Temperature Range CK505 Compatible Clock w/fully integrated Vreg and series resistors on differential outputs	3010, 3210, 910, 915, 945, G41, G45, GL40, GLE960, GM45, GM965, GS45, Q35, Q45, Q965	3.3 V	1.05-3.3	C, I	TSSOP 56	Yes	CLKIN, XTAL	TYPE-SR	CK505D 1.0
9ERS3125B	Embedded 56-pin Industrial Temperature Range CK505 Compatible Clock with 27M SS support	3010, 3210, 910, 915, 945, G41, G45, GL40, GLE960, GM45, GM965, GS45, Q35, Q45, Q965	3.3 V	1.05-3.3	C, I	VFQFPN 56	Yes	CLKIN, XTAL	TYPE-SR	CK505D 1.0
9ERS3165B	Embedded 64-pin Industrial Temperature Range CK505 Compatible Clock with 27M SS support	3010, 3210, 910, 915, 945, G41, G45, GL40, GLE960, GM45, GM965, GS45, Q35, Q45, Q965	3.3 V	1.05-3.3	C, I	VFQFPN 64	Yes	CLKIN, XTAL	TYPE-SR	CK505D 1.0

Desktop

9LP505-1	64-pin CK505 for Desktop P4™ Systems	Q965	3.3 V	3.3	C	TSSOP 64	N/A	CLKIN, XTAL	TYPE-SR	CK505 0.9
9LP525-2	56-pin CK505 for Intel Desktop Systems	Q35, Q965	3.3 V	3.3	C	SSOP 56, TSSOP 56	N/A	CLKIN, XTAL	TYPE-SR	CK505 1.0
9LPRS471	Programmable System Clock Chip for ATI RS790 K8TM based Systems	RS780, RS790	3.3 V	1.05-3.3	C	VFQFPN 64	N/A	CLKIN, XTAL	TYPE-SR	N/A
9LPRS485		RS780, RS790	3.3 V	3.3	C	TSSOP 56	N/A	CLKIN, XTAL	TYPE-SR	N/A
9LPRS525	56-pin CK505 for Intel Systems	3010, 3210, 910, 915, 945, G41, G45, GL40, GLE960, GM45, GM965, GS45, Q35, Q45, Q965	3.3 V	1.05-3.3	C	SSOP 56, TSSOP 56	N/A	CLKIN, XTAL	TYPE-SR	CK505D 1.0
9LRS4157		3100	3.3 V	1.05-3.3	C	VFQFPN 32	N/A	CLKIN, XTAL	TYPE-SR	CK505D 1.1
9LRS4167		3100	3.3 V	1.05-3.3	C	VFQFPN 32	N/A	CLKIN, XTAL	TYPE-SR	CK505D 1.1
CV183-2	PROGRAMMABLE FLEXPC LP/S CLOCK FOR P4 PROCESSOR - 505 YC2 (PCI-E Gen 2)	3010, 3210, 910, 915, 945, G41, G45, GL40, GLE960, GM45, GM965, GS45, Q35, Q45, Q965	3.3 V	3.3	C	TSSOP 64	N/A	CLKIN, XTAL	TYPE-SR	CK505 1.0
CV193	Programmable FLEXPC LP/S Clock for Intel Based Systems	3010, 3210, 910, 915, 945, G41, G45, GL40, GLE960, GM45, GM965, GS45, Q35, Q45, Q965	3.3 V	3.3	C	TSSOP 64	N/A	CLKIN, XTAL	TYPE-SR	CK505 1.0
CV194		3010, 3210, 910, 915, 945, G41, G45, GL40, GLE960, GM45, GM965, GS45, Q35, Q45, Q965	3.3 V	3.3	C	TSSOP 56	N/A	CLKIN, XTAL	TYPE-SR	CK505 1.0

C = Commercial I = Industrial



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PC Motherboard Clocks Mobile

www.IDT.com/go/pcclocks

Part Number	Description	Chipset	Core Supply Voltage (VDD)	Output Supply Voltage (VDDO)	Temperature	Package	Embedded	Input Style	Output Style	Yellow Cover Spec.
9LPRS397	PC Motherboard Clock – Mobile	3010, 3210, 910, 915, 945, G41, G45, GL40, GLE960, GM45, GM965, GS45, Q35, Q45, Q965	3.3 V	1.05-3.3	C	VFQFPN 72	N/A	CLKIN, XTAL	TYPE-SR	
9LPRS476	PC Motherboard Clock – Mobile	RS780, RS790	3.3 V	1.05-3.3	C	VFQFPN 72	N/A	CLKIN, XTAL	TYPE-SR	N/A
9LPRS485	PC Motherboard Clock – Mobile	RS780, RS790	3.3 V	3.3	C	TSSOP 56	N/A	CLKIN, XTAL	TYPE-SR	N/A
9LRS3125B	PC Motherboard Clock – Mobile		3.3 V		I	VFQFPN 56	N/A			
9LRS3165	PC Motherboard Clock – Mobile	3010, 3210, 910, 915, 945, G41, G45, GL40, GLE960, GM45, GM965, GS45, Q35, Q45, Q965	3.3 V	1.05-3.3	C	TSSOP 64, VFQFPN 64	N/A	CLKIN, XTAL	TYPE-SR	CK505D 1.0
9LRS3187	PC Motherboard Clock – Mobile	3100	3.3 V	1.05-3.3	C	VFQFPN 32	N/A	CLKIN, XTAL	TYPE-SR	CK505 1.1

Server

932S208	Programmable Timing Control Hub for Next Gen P4 processor	E7320, E7520	3.3 V	3.3	C	SSOP 56, TSSOP 56	N/A	CLKIN, XTAL	HACL	CK409B
932S421	PCIe Gen 2 & FBD compliant CK410B clock for Intel-based servers	5000, 5100, 5520	3.3 V	3.3	C	SSOP 56, TSSOP 56	N/A	CLKIN, XTAL	HACL	CK410B+
932S422	PCIe Gen 2 & FBD compliant CK410B/CK410B+ clock for Intel-based servers	5000, 5100, 5520	3.3 V	3.3	C	SSOP 56, TSSOP 56	N/A	CLKIN, XTAL	HACL	CK410B+
932S431		5000, 5100, 5520	3.3 V	3.3	C	TSSOP 56	N/A	CLKIN, XTAL	HACL	CK410B+
932S509H		5520	3.3 V	3.3	C	VFQFPN 72	N/A	CLKIN, XTAL	TYPE-SR	CK509B
932S890		RD890	3.3 V	3.3	C	VFQFPN 72	N/A	CLKIN, XTAL	TYPE-SR	N/A
932SQ420B		Romley	3.3 V	3.3	C	TSSOP 64	N/A	CLKIN, XTAL	HACL	CK420BQ
9DB1200	12 Output PCIe Gen 2 & QPI Buffer / Jitter Attenuator	N/A	3.3 V	3.3	C	TSSOP 64	N/A	DIF	HACL	DB1200
9DB401	4 Output PCIe Gen 1 Buffer / Jitter Attenuator	N/A	3.3 V	3.3	C	SSOP 28, TSSOP 28	N/A	DIF	HACL	DB400
9DB403	4 Output PCIe Gen 2 Buffer / Jitter Attenuator	N/A	3.3 V	3.3	C, I	SSOP 28, TSSOP 28	N/A	DIF	HACL	DB400E
9DB403D	DB400 Version 2.0 Intel Yellow Cover compatible part with PCIe Gen 1 and Gen 2 support						N/A			
9DB423	4 Output Differential Buffer for PCIe Gen 1, Gen 2 and QPI	N/A	3.3 V	3.3	C	SSOP 28, TSSOP 28	N/A	DIF	HACL	DB400Q
9DB423B	4 Output Differential Buffer for PCIe Gen 1, Gen 2 and QPI						N/A			
9DB801	8 Output PCIe Gen 1 Buffer / Jitter Attenuator	N/A	3.3 V	3.3	C	SSOP 48, TSSOP 48	N/A	DIF	HACL	DB800
9DB801B	PCIe Buffer						N/A			
9DB803	8 Output PCIe Gen 2 Buffer / Jitter Attenuator	N/A	3.3 V	3.3	C, I	SSOP 48, TSSOP 48	N/A	DIF	HACL	DB800E
9DB823B	8 Output Differential Buffer for PCIe Gen 1, Gen 2 and QPI	N/A	3.3 V	3.3	C	SSOP 48, TSSOP 48	N/A	DIF	HACL	DB800Q
9EX21801A			3.3 V	3.3	C	VFQFPN 72	N/A	DIF	HACL	
9FG1200D	Frequency Gearing Clock for CPU, PCIe Gen 1, Gen 2 & FBD						N/A			
9FG1201H	Frequency Gearing Clock for CPU, PCIe Gen 1, Gen 2 & FBD						N/A			

C = Commercial I = Industrial



Quick Reference Guide

This QRG is a general guide to IDT product categories. Not all IDT products or parts are included. Please check www.IDT.com for detailed product and part information.

PC Motherboard Clocks

Server (continued)

www.IDT.com/go/pcclocks

Part Number	Description	Chipset	Core Supply Voltage (VDD)	Output Supply Voltage (VDDO)	Temperature	Package	Embedded	Input Style	Output Style	Yellow Cover Spec.
9FG1900B							N/A			
9FG1901H							N/A			
9ZX21901B		Romley	3.3 V	3.3	C	VFQFPN 72	N/A	DIF	HSCL	DB1900Z

Telecommunication ICs

Transceivers (Framers with LIUs) for T1 / E1 / J1

www.IDT.com/go/telecom

Part Number Prefix	Description	Vcc (V)	Differentiators	Keywords
82P2288	8 Channel T1 / J1 / E1 Transceiver	1.8 and 3.3	Universal impedance matching with software control, 3 HDLC controllers per channel, dual jitter attenuators per channel, per channel T1, E1, J1 selection	WAN, Long Haul, T1, E1, Transceiver, Framer
82P2284	4 Channel T1 / J1 / E1 Transceiver	1.8 and 3.3	Universal impedance matching with software control, 3 HDLC controllers per channel, dual jitter attenuators per channel, per channel T1, E1, J1 selection	Same as above
82P2282	2 Channel T1 / J1 / E1 Transceiver	1.8 and 3.3	Universal impedance matching with software control, 3 HDLC controllers per channel, dual jitter attenuators per channel, per channel T1, E1, J1 selection	Same as above
82P2281	1 Channel T1 / J1 / E1 Transceiver	1.8 and 3.3	Universal impedance matching with software control, 3 HDLC controllers, dual jitter attenuators	Same as above

Universal (Short Haul / Long Haul) Line Interface Units for T1 / E1 / J1

82V2088	8 Channel T1 / J1 / E1 Short Haul / Long Haul LIU	3.3	Supports T1, E1, J1, software impedance matching, hitless protection switching support, integrated error counters, Arbitrary Waveform Generator	Long Haul, ULIU, Equalizer, T1, E1
82V2084	4 Channel T1 / J1 / E1 Short Haul / Long Haul LIU	3.3	same as above	Same as above
82V2082	2 Channel T1 / J1 / E1 Short Haul / Long Haul LIU	3.3	same as above	Same as above
82V2081	1 Channel T1 / J1 / E1 Short Haul / Long Haul LIU	3.3	same as above	Same as above

E1 Only Line Interface Units

82P2521	21 Channel E1 Only LIU	1.8 and 3.3	Supports E1 only, software impedance matching, hitless protection switching support, integrated error counters, completely independent spare channel for redundancy and monitoring	HDLIU, E1, Short Haul, Cost
82V2058	8 Channel E1 Only LIU	3.3	Supports E1 only, software impedance matching, hitless protection switching support, integrated error counters. Cost saving version available	Same as above
82V2054	4 Channel E1 Only LIU	3.3	Supports E1 only, software impedance matching, hitless protection switching support, integrated error counters	Same as above
82V2052	2 Channel E1 Only LIU	3.3	same as above	Same as above
82V2051	1 Channel E1 Only LIU	3.3	same as above	Same as above

Short Haul T1 / E1 / J1 Line Interface Units

82P2828	28 channel T1 / E1 / J1. Short Haul only	1.8 and 3.3	Supports T1, E1, J1, software impedance matching, hitless protection switching support, integrated error counters, completely independent spare channel for redundancy and monitoring	HDLIU, T1, E1, Short Haul, Cost
82P2821	21 channel T1 / E1 / J1. Short Haul only	1.8 and 3.3	same as above	Same as above
82P2816	16 channel T1 / E1 / J1. Short Haul only	1.8 and 3.3	same as above	Same as above

C = Commercial

**Telecommunication ICs****Short Haul T1 / E1 / J1 Line Interface Units** (continued)www.IDT.com/go/telecom

Part Number Prefix	Description	Vcc (V)	Differentiators	Keywords
82V2048E	8 channel T1 / E1 / J1. Short Haul only	3.3	Supports T1, E1, J1, software impedance matching, hitless protection switching support, integrated error counters. Cost saving version available	Same as above
82V2044E	4 channel T1 / E1 / J1. Short Haul only	3.3	same as above	Same as above
82V2042E	2 channel T1 / E1 / J1. Short Haul only	3.3	Supports T1, E1, J1, software impedance matching, hitless protection switching support, integrated error counters	Same as above
82V2041E	1 channel T1 / E1 / J1. Short Haul only	3.3	same as above	Same as above

T1 / E1 / J1 Framer

82V2108	Octal T1 / E1 / J1 framer	3.3	Combined T1 / J1 and E1 framers with global selection	T1, E1, Framer
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Inverse Multiplexing over ATM

82V2604	4 channel IMA controller	3.3	Port group assignments on-the-fly, per-link IMA bypass for UNI ports	IMA, ATM, UNI, Minilink
82V2608	8 channel IMA controller	3.3	same as above	Same as above
82V2616	16 channel IMA controller	3.3	same as above	Same as above

M13 Multiplexers

82V8313	Integrated M13 Multiplexer with T3 Framer		Low power version of industry standard part. T1 / E1 configurable to M12	M13, M12, T1, E1, T3 Multiplexer
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Timeslot Interchange Products

728981	128 x 128 TSI switch	5.0	Zarlink pin compatible	TSI, TDM, PCM, Switch, Rate matching
72V8981	128 x 128 TSI switch	3.3	Low power version of 728981	Same as above
72V8988	128 x 128 TSI switch	3.3	Constant delay mode	Same as above
72V70180	128 x 128 TSI switch	3.3	Constant delay mode	Same as above
728980	256 x 256 TSI switch	5.0	Zarlink pin compatible	Same as above
728985	256 x 256 TSI switch	5.0	Constant delay mode, Zarlink pin compatible	Same as above
72V8980	256 x 256 TSI switch	3.3	Low power version of 728980, Zarlink pin compatible	Same as above
72V8985	256 x 256 TSI switch	3.3	Constant delay mode, low power version of 728985, Zarlink pin compatible	Same as above
72V70190	256 x 256 TSI switch	3.3	Constant delay mode	Same as above
72V70200	512 x 512 TSI switch	3.3	Constant delay mode	Same as above
72V70800	512 x 512 TSI switch	3.3	Constant delay mode	Same as above
72V70210	1K x 1K TSI switch	3.3	Constant delay mode	Same as above
72V70810	1K x 1K TSI switch	3.3	Constant delay mode	Same as above
7290820	2K x 2K TSI switch	3.3	Constant delay mode, Zarlink pin compatible	Same as above
72V90823	2K x 2K TSI switch	3.3	Constant delay mode, Zarlink pin compatible	Same as above
72V71623	2K x 2K TSI switch	3.3	Constant delay mode, rate matching	Same as above
72V70840	4K x 4K TSI switch	3.3	Constant delay mode	Same as above
72V71643	4K x 4K TSI switch	3.3	Constant delay mode, rate matching	Same as above



Telecommunication ICs

Timeslot Interchange Products (continued)

www.IDT.com/go/telecom

Part Number Prefix	Description	Vcc (V)	Differentiators	Keywords
72V71650	8K x 8K TSI switch	3.3	Constant delay mode	Same as above
72V73250	8K x 8K TSI switch	3.3	Constant delay mode	Same as above
72V71660	16K x 16K TSI switch	3.3	Constant delay mode	Same as above
72V73260	16K x 16K TSI switch	3.3	Constant delay mode	Same as above
72V73263	16K x 16K TSI switch	3.3	Constant delay mode, rate matching	Same as above
72V73273	32K x 32K TSI switch	3.3	Constant delay mode, rate matching	Same as above

PCM Voice Codecs

821024	Quad PCM voice codecs	5.0	Non-programmable	Codec, Voice
821034	Quad PCM voice codecs	5.0	Semi-programmable	Same as above
821054	Quad PCM voice codecs	5.0	Fully programmable	Same as above

Packet Switch Products

88K8483	3 x SPI-4 Switch	3.3 and 1.2	Packet Mode, 128 channels
88P8344	4 x SPI-3 to SPI-4 Switch	3.3 and 1.8	256 channels
88P8342	2 x SPI-3 to SPI-4 Switch	3.3 and 1.8	128 channels
88P8341	SPI-3 to SPI-4 Switch	3.3 and 1.8	64 channels

Bus Switch Products

www.IDT.com/go/busswitch

Device	Vcc (V)	Voltage Translation	VIN Tolerance Level	RON @ VIN = 0V	RON @ VIN=2.4 V	Differentiators	Keywords
Quick Switch	4.75 to 5.25	5.0 to 3.3	5.0	< 7 Ohms	< 15 Ohms	Octals and double density, hot-swap, bus-isolation, mux / demux, Analog Switch	Bus Switch
VH Quick Switch	2.3 to 3.6	None	5.0 tolerant I/O	< 4 Ohms	Approx. 4 Ohms	High bandwidth (up to 500 MHz), octals and double density, hot-swap, bus-isolation, mux / demux, Rail-to-Rail switching	Bus Switch (VH)
CBTLV	2.3 to 3.6	None	4.6	< 5 Ohms	< 15 Ohms	Octals and double density, hot-swap, bus-isolation, mux / demux, Rail-to-Rail switching	Bus Switch (CBTLV)

Digital Logic Products

www.IDT.com/go/logic

Device	Bus Width	Offerings	Device Types	Vcc (V)	Differentiators	Keywords
ALVC / LVC	Octals (LVC only), double density, wide (32 Bit)	High drive (24 mA) light drive (12 mA), balanced drive, bus hold, series resistors	Line drivers, transceivers, registers, latches, flip-flops, mux / demux, counters	3.3+ / -0.3	ALVC = 3.0 ns prop delay, LVC = 4.1 ns prop delay, 5V I/O tolerant (LVC only)	ALVC / LVC
FCT	Octal and double density	High drive (24 mA) available	Line drivers, transceivers, registers, latches, flip-flops, mux / demux, counters	3.3+ / -0.3; 5.0+ / -0.25 (Octal); 5.0+ / -0.5 (D. Density)	Various speed grades available, 5V – 3.3V Translator	FCT



Display and Video Solutions Products HQV® Video Processing – Reon-VX™ Video Processors

www.IDT.com/go/display

Part Number	Description	No. of Channels	HQV NR	Output Resolution	Supply Volts VCC (V)	Package	Temperature
SXVX-110	Reon-VX Display Device	2	No	SXGA / 720p	1.2 V	SBGA 0	C
SXVX-200	Reon-VX Display Device	2	Yes	WUXGA / 1080p	1.2 V	SBGA 0	C
SXVX-210	Reon-VX Display Device	2	Yes	WUXGA / 1080p	1.2 V	SBGA 0	C
SXVX-50	Reon-VX Display Device	1	Yes	WUXGA / 1080p	1.2 V	SBGA 0	C
SXVX-51	Reon-VX Display Device	1	Yes	WUXGA / 1080p	1.2 V	SBGA 0	C

HQV® Video Processing – Vida™ Video Processors

Part Number	Description	Input Type	Input Speed	Output Type	Output Speed	Package	Temperature
VHD1900	Advanced HQV Video Processor	TTL	165 MHz	TTL	165 MHz	TQFP 128	C

LCD Display Power

Part Number	Description	Supply Voltage	Boost Voltage	FET Size (A)	Maximum Output Current (mA)	Von	Voff	Vlogic	No. of VCOM	No. of Gamma	Package
VPA1000	Low Voltage 0.5x regulated step-down charge pump	2.7V – 5.5V			300			1.2V			TSOT 6
VPA2000	TFT-LCD Power Supply w/ VCOM	2.7V – 5.5V	Up to 20V	2.1 A		6V to 40V	-40V to 0V	2.5V and 1.2V	1	0	QFN 24

PanelPort™ Display Solutions – DisplayPort TCON with LED Backlight Control

Part Number	Description	Bit Rate	No. of Lanes	Embedded LED Driver	Output Type	Package	Speed	Temperature	Voltage
VPP1606	Embedded DP TCON with LED backlight	HBR and LBR	Single	Yes	RSDS or mini-LVDS	VFQFPN 64	NA	C	1.2V

PanelPort Display Solutions – DisplayPort TCON for Monitors & Notebooks

Part Number	Description	Input Type	Output Type	Supply Volts VCC (V)	Package	Input Frequency (MHz)
VPP1600	LCD Timing Controller with Integrated DisplayPort Receiver			1.2 V	TQFP 100	

PanelPort Display Solutions – DisplayPort Receivers

VPP1101	DisplayPort receiver			1.2 V	TQFP 128, VFQFPN 132	
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PanelPort Display Solutions – ViewXpand™ Multi-Monitor Controller IC

Part Number	Description	Input Type	Output Type	No. of Outputs	Plug and Play	Bus Powered	Power Consumption	Package	Supply Volts VCC (V)
VMM1300	Multi-Monitor Controller IC	DisplayPort	DisplayPort	3	Yes	Yes	1.1 W	VFQFPN 148	1.2 V

PanelPort Display Solutions – LinkXtend™ DisplayPort-based Link Extender

Part Number	Description	Interface	Repeater Function	Switching Function	Package	Temperature
VLX1000	LinkXtend DisplayPort Link Extender	DisplayPort	Y	N	CABGA 81	C

C = Commercial



Display and Video Solutions Products HDMI 1.3 Transmitters

www.IDT.com/go/display

Part Number	Description	Bits per color	Input Type	Output Type	Package	Supply Volts VCC (V)
V936	HDMI Transmitter	12	LVTTTL	HDMI	TQFP 100	1.8 V

LVDS Interface Products – LVDS Transmitters: 24 bits per pixel

Part Number	Description	Pixel Rate	Bits Per Color	Total Bits	No. of LVDS Pairs	Supply Volts VCC (V)	Package	Temperature
V385						3.3 V	TSSOP 56	C
V385A	8 bit LVDS display interface transmitter	12-90 MHz	8	28	5 (7 to 1 serializer + clock)	3.3 V	TSSOP 56	C

LVDS Interface Products – LVDS Transmitters: 30 bits per pixel

V103	10 bit LVDS display interface transmitter	8 - 135 MHz	10	35	7 (7 to 1 serializer + clock)	3.3 V	PQFP 64	C
V103A	Triple 10-bit LVDS Transmitter for Video					3.3 V	PQFP 64	C

LVDS Interface Products – LVDS Transmitters: Dual – 30 bits per pixel

Part Number	Description	Bits per color	Input Type	Output Type	Supply Volts VCC (V)	Input Frequency (MHz)	Package
V105A	Dual-Channel, Triple 10-Bit LVDS Transmitter	10	LVTTTL	LVDS	3.3 V	10, 20-150 MHz	TQFP 144

LVDS Interface Products – LVDS Receivers: 24 bits per pixel

Part Number	Description	Pixel Rate	Bits Per Color	Total Bits	No. of LVDS Pairs	Supply Volts VCC (V)	Package	Temperature
V386	8-bit LVDS Receiver for Video		8			3.3 V	TSSOP 56	C
VP386	8 bit LVDS display interface receiver	15-100 MHz	8	28	5 (7 to 1 de-serializer + clock)	3.3 V	TSSOP 56	C

LVDS Interface Products – LVDS Receivers: 30 bits per pixel

V104	10 bit LVDS Receiver for Video	8 - 90 MHz	10	35	7 (7 to 1 de-serializer + clock)	5.0 V	PQFP 64	C
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Video Multiplexers / Switches – Analog Video Switches

Part Number	Description	Input Type	Output Type	Supply Volts VCC (V)	Input Frequency (MHz)	Output Frequency (MHz)	Package	Temperature
VS330	4-port 2-channel video analog mux / demux	RGB, composite video		5.0 V	600	600	QSOP 16, SOIC 16	C
VS512	5-port 2-channel video analog mux / demux	RGB, composite video		5.0 V	600	600	QSOP 24	C

Video Multiplexers / Switches – HDMI Multiplexer / Switches

VS421A	2 to 1 HDMI switch	HDMI 1.1 or 1.2a	HDMI 1.1 or 1.2a	5.0 V	1.65 Gbps	1.65 Gbps	QSOP 48, TSSOP 48, VFQFPN 42	C
VSE431	3 to 1 HDMI switch w/ 8 db equalizer	HDMI 1.1 or 1.2a	HDMI 1.1 or 1.2a	3.3 V	1.65 Gbps	1.65 Gbps	TQFP 80	C

White LED Drivers

Part Number	Description	FET Voltage (Max)	No. of LEDs (Max)	Iout (Max/Channel)	Iout (Max Total)	Input Voltage	Supply Voltage	Package	No. of Channels
VPA1100	Boost Switch for White LED	40V			200 mA	9V to 21V	2.7V to 5.5V	DFN 8	1

C = Commercial



Quick Reference Guide

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Embedded Host Bridges (EHB)

Host Bridge for PowerPC

www.IDT.com/go/EHB

Part Number	Description	Memory Interface	PCI Interface	Pkg. Dimensions	Secondary PCI Masters	Other Ports	Power (Max & Typical)	Processors Supported	Package	Speed	Temperature	Voltage
Tsi107C	Host Bridge	133 MHz DRAM or SRAM	66 MHz / 32 bit PCI	33 x 33 mm	5	DMA, I ² C	2.5W typ, 3.0W max	PowerPC 603e, MPC7xx	FCBGA 503	100 MHz, 66 MHz	J	2.5V/3.3V
Tsi107D	Host Bridge	133 MHz DRAM or SRAM	66 MHz / 32 bit PCI	33 x 33 mm	5	DMA, I ² C	2.5W typ, 3.0W max	PowerPC 603e, MPC7xx	FCBGA 503	133 MHz, 100 MHz, 66 MHz	J, L	2.5V/3.3V
Tsi108	Host Bridge	DDR2-400	133 MHz PCI-X or 66 MHz PCI (64 bit)	33 x 33 mm	7	2 GigE, DMA, HLP, Interrupts, I ² C	2.5W typ, 3.7W max	PowerPC 750xx, MPC74xx	FCBGA 1023	200 MHz	C	1.2V/1.8V/3.3V
Tsi109	Host Bridge	DDR2-400 Power saving modes	133 MHz PCI-X or 66 MHz PCI (64 bit)	33 x 33 mm	7	2 GigE, DMA, HLP, Interrupts, I ² C	2.5W typ, 3.7W max	PowerPC 750xx, MPC74xx	FCBGA 1023	200 MHz	C, I	1.2V/1.8V/3.3V
Tsi110	Host Bridge	DDR2 @333 MHz Power saving modes	133 MHz PCI-X or 66 MHz PCI (64 bit)	33 x 33 mm	7	2 GigE, DMA, HLP, Interrupts, I ² C	2.27W typ, 3.5W max	PowerPC 750xx, MPC74xx	FCBGA 1023	167 MHz	C	1.2V/1.8V/3.3V

PowerSpan II™

Part Number	Description	Memory Interface	PCI Interface	Pkg. Dimensions	Secondary PCI Masters	Other Ports	Power (Max & Typical)	Processors Supported	Package	Speed	Temperature	Voltage
CA91L8200B	PowerPC to PCI Bus Switch (Dual PCI)	No – Use PowerPro	Dual PCI: 66 MHz / 64 bit; 66 MHz / 32-bit	37.5 x 37.5 mm	7	DMA, I ² C, 8 configurable interrupt pins	3.0W max	PowerQUICC II, MPC7xx, Wintegra, Winpath	TEPBGA 480	100 MHz	C, I	2.5V/3.3V/5V
CA91L8260B	PowerPC to PCI Bus Switch (Single PCI)	No – Use PowerPro	66 MHz / 64 bit PCI	35 x 35 mm	7	DMA, I ² C, 8 configurable interrupt pins	1.9W max	PowerQUICC II, MPC7xx, Wintegra, Winpath	TEPBGA 420	100 MHz	C, I	2.5V/3.3V/5V

Power Pro

CA91L750	Memory Controller	SDRAM Bus 64/72 bit Data 100 MHz & 8-64 bit Flash		23 x 23 mm	0	Dedicated 8 bit Flash I ² C	1.5W max	PowerQUICC II, PowerPC 603e/740/750	PBGA 376	100 MHz	I	2.5V/3.3V
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QSpan II™

CA91L862A	Freescale Processor -to- PCI System Interconnect Bridge		32 bit Address and Data, 33 MHz	27 x 27 mm	7	DMA, I ² C / FIFO	0.9W max	PowerQUICC II (MPC860, 8xx), QUICC (MC68360) & MC68040	PBGA 256	50 MHz	I	3.3V/5V
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C = Commercial I = Industrial
 J = Junction temperature of 0 - 105C
 L = Junction temperature of 0 - 85C



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FIFO Products

www.IDT.com/go/FIFO

Category	Bus Width	Density	Max. Speed	Vcc (V)	Package	Differentiators	Part Number Prefix	Keywords
TeraSync™	x9, x18, x36, x72	32 Kbit – 18 Mbit	225 MHz	2.5	BGA	Low power, LVTTTL, HSTL and eHSTL I/Os	72T18xxx, 72T36xxx, 72T72xxx	FIFO, Sync FIFO, Synchronous FIFO, First-in First-out
TeraSync DDR	x10, x20, x40	640 Kbit – 5 Mbit	250 MHz	2.5	PBGA	Double Data Rate (DDR), selectable I/Os, Quad / Dual FIFO available	72T20xxx, 72T40xxx	FIFO, Sync FIFO, Synchronous FIFO, First-in First-out
SuperSync™ II	x9, x18, x36, x72	16 Kbit – 4 Mbit	166 MHz	3.3	TQFP, BGA	Bus-matching, rate matching, 8 programmable flags	72V2xxx, 72V36xxx, 72V72xxx	FIFO, Sync FIFO, Synchronous FIFO, First-in First-out
SuperSync™	x9, x18	128 Kbit – 4 Mbit	100 MHz	3.3, 5.0	TQFP, STQFP	Retransmit, 5V tolerant I/Os, 2 programmable flags	72V2xxx, 72xxx	FIFO, Sync FIFO, Synchronous FIFO, First-in First-out
SyncFIFO	x8, x9, x18, x36	512 bit – 64 Kbit	100 MHz	3.3, 5.0	ThinDip, QFP, PLCC, STQFP, BGA	DualSync FIFOs available (2 FIFOs in one package)	72V2xx, 72xxx, 728xx, 722xx, 72V36xxx, 7236xxx	FIFO, Sync FIFO, Synchronous FIFO, First-in First-out
Bi-directional	x18, x36	9 Kbit – 4 Mbit	100 MHz	3.3, 5.0	TQFP, PLCC	Bus matching, triple-bus option available	726xx, 7236xx, 72V36xxx	FIFO, Bi-directional FIFO
Asynchronous	x9	2 Kbit – 512 Kbit	12 ns	3.3, 5.0	ThinDip, PLCC, TSSOP, SOIC	Dual Async FIFOs available (2 FIFOs in one package)	72V0x, 720x, 72V8x, 728x, 72125, 724xx	FIFO, Async FIFO, Asynchronous FIFO
Multi-Queue	x9, x18, x36	0.5 Mbit – 4 Mbit	200 MHz	1.8, 2.5, 3.3	BGA	4-128 queues, bus-matching, LVTTTL, HSTL and eHSTL I/O	72V / T51xxx	FIFO, Sync FIFO, Synchronous FIFO, First-in First-out, Multi-Queue
Multi-Queue DDR	x9, x18, x20, x36, x40	5 Mbit – 10 Mbit	200 MHz	1.8, 2.5	BGA	Bus marching, HSTL and eHSTL I/Os, 128 queues, port selectable SDR / DDR, 13 Gbps	72T517xx	FIFO, Sync FIFO, Synchronous FIFO, First-in First-out, Multi-Queue
Sequential Flow Controller (SFC)	x48 (x12, x24, x48) x36 (x9, x18, x36)	Up to 1 Gbit	166 MHz	2.5	BGA	Memory controller utilizing DDR SDRAM, 2.5V / 3.3V LVTTTL, error detection and correction	72T6xx	FIFO, Sync FIFO, Synchronous FIFO, First-in First-out, SFC
QuadMux - DDR	x10, x20, x40	1 Mbit – 5 Mbit	200 MHz	2.5	BGA	Mux, demux, broadcast, DDR capable, 5 ind. clock domains port selectable SDR / DDR	72T55xxx	FIFO, Sync FIFO, Synchronous FIFO, First-in First-out

Advanced Memory Buffers

www.IDT.com/go/AMB

Category	Description	Part Number Prefix	Keywords
Advanced Memory Buffer (AMB)	Advanced memory buffer for fully buffered DIMMs; interfaces with DDR2-533 / 667 DRAM	AMB0480A5, AMB0482C1, AMB0680L4	FBD, FB-DIMM, FBDIMM, AMB, fully buffered DIMM, Advanced Memory Buffer, Server, Memory, DIMM
Advanced Memory Buffer (AMB)	Advanced memory buffer for fully buffered DIMMs; interfaces with DDR2-533 / 667 / 800 DRAM	AMB0582C1, AMB0780L4	FBD, FB-DIMM, FBDIMM, AMB, fully buffered DIMM, Advanced Memory Buffer, Server, Memory, DIMM
Advanced Memory Buffer (AMB)	Advanced memory buffer for fully buffered DIMMs; interfaces with DDR2-533 / 667 DRAM with quad rank support	AMB0483D0, AMB0680L4	FBD, FB-DIMM, FBDIMM, AMB, fully buffered DIMM, Advanced Memory Buffer, Server, Memory, DIMM, Quad Rank
Advanced Memory Buffer (AMB)	Advanced memory buffer for fully buffered DIMMs; interfaces with DDR2-533 / 667 / 800 DRAM with quad rank support	AMB0780L4	FBD, FB-DIMM, FBDIMM, AMB, fully buffered DIMM, Advanced Memory Buffer, Server, Memory, DIMM, Quad Rank



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PLL and Registers

www.IDT.com/go/RDIMM

Category	Part Number Prefix	DIMM Type	SDRAM Type	Keywords
PLL	CSP2510C	PC133	SDR	SDR PLL, SDR
PLL	CSPT857C, CSPT857D, 95V857A	PC-1600 / 2100 / 2700 / 3200	DDR1-200 / 266 / 333 / 400	DDR PLL, DDR
PLL	CSPU877, CSPUA877, 97ULPA877A, 97ULP877A, 97ULP877B	PC2-3200 / 4300 / 5300	DDR2-400 / 533 / 667	DDR2 PLL, DDR2
PLL	CSPUA877A, 98ULPA877A	PC2-3200 / 4300 / 5300 / 6400	DDR2-400 / 533 / 667 / 800	DDR2 PLL, DDR2
PLL	98UAE877A	PC2-3200 / 4300 / 5300 / 6400	DDR2-400 / 533 / 667	1.5V DDR2 PLL, 1.5V DDR2
Registers	7ALVCF162835A	PC133	SDR Register	DDR Register, Register
Registers	74SSTVF16857, 74SSTVN16859C, SSTVA16859	PC-1600 / 2100 / 2700 / 3200	DDR1-200 / 266 / 333 / 400	DDR2 Register, Register
Registers	74SSTU3286X, SSTUF3286X, SSTU3286X	PC2-3200 / 4300	DDR2-400 / 533	DDR2 Register, Register
Registers	SSTUAF3286X, SSTUB3286X	PC2-3200 / 4300 / 5300	DDR2-400 / 533 / 667	DDR2 Register, Register
Registers	74SSTUAE32866A	PC2-3200 / 4300 / 5300	DDR2-400 / 533 / 667	1.5V DDR2 Register, 1.5V Register
Registers	74SSTUBF3286X	PC2-3200 / 4300 / 5300 / 6400	DDR2-400 / 533 / 667 / 800	DDR2 Register, Register
Integrated PLL and Register	SSTE32882XXX	PC3-6400 / 8500 / 10600	DDR3-800 / 1066 / 1333 / 1600	DDR3, Integrated PLL, Integrated PLL and Register

Multi-Port Products

www.IDT.com/go/multiport

Category	Bus Width	Density	Max. Speed	Vcc (V)	Package	Differentiators	Keywords
Synchronous	x8, x9, x16, x18, x36	36 Kbit to 36 Mbit	200 MHz	1.8, 2.5, 3.3, 5.0	PLCC, TQFP, RTQFP, FPBGA, BGA	Selectable 3.3V / 2.5V I/Os, PL / FT, dual clock JTAG	Dual-Port, Dual-Port RAM, Multi-Port RAM, Sync Dual-Port
Asynchronous	x8, x9, x16, x18, x36	8 Kbit to 18 Mbit	10 ns	1.8, 2.5, 3.3, 5.0	PLCC, PDIP, TQFP, STQFP, SBDIP, LCC, Flatpack	Selectable voltage I/Os (x18, x36), commercial through mil temps available, JTAG, low-power versions	Dual-Port, Dual-Port RAM, Multi-Port RAM, Async Dual-Port
Bank-switchable	x18, x36	4 Mbit to 9 Mbit	200 MHz	3.3, 5.0	TQFP, BGA, FBGA	Most cost effective DP, 65-bank Sync	Dual-Port, Dual-Port RAM, Multi-Port RAM, Sync Dual-Port, BSDP
Low Power, Async	x16	64 Kbit, 128 Kbit, 256 Kbit	55 ns	1.8, 2.5, 3.0	FBGA	Two or three independent ports, 1.8, 2.5 and 3.0V I/O, very low power, selectable ADM and non-ADM operation, power management	Dual-Port, Dual-Port RAM, Multi-Port RAM, Async Dual-Port, Low Power Dual-Port, ADM
Low Power, Sync	x16	128 Kbit, 256 Kbit	50 MHz	1.8	FBGA	Two independent ports, very low power, selectable ADM and non-ADM operation, power management	Dual-Port, Dual-Port RAM, Multi-Port RAM, Sync Dual-Port, Low Power Dual-Port, ADM
FourPort, Sync	x18	0.5 Mbit to 1 Mbit	200 MHz	3.3	BGA	LVTTTL I/O interface, width and depth expandable, JTAG	FourPort RAM, Quad-Port, Multi-Port
FourPort, Async	x8	16 Kbit to 32 Kbit	20 ns	5.0	TQFP, PQFP	Four-ported memory	FourPort RAM, Quad-Port, Multi-Port
SARAM	x16	64 Kbit to 128 Kbit	20 ns	5.0	TQFP, PGA	Sequential access random access memory (SARAM)	SARAM
M2I	x16	256 Kbit	50 MHz	1.8	BGA	Muxed data and address, low power	Dual-Port, Dual-Port RAM, Multi-Port RAM, Async Dual-Port, Low Power Dual-Port



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PC Audio

www.IDT.com/go/PCaudio

Category	Base Part Numbers	Package Option	Additional Description	Keywords
10ch HD Audio codecs	92HD73E	48QFP	10 DAC, 4 ADC, 9 port. Dual SPDIF Out. WLP Premium Desktop compliant	HD Audio, 10ch, DUAL SPDIF
8ch HD Audio codecs	92HD73D	48QFP	8 DAC, 4 ADC, 9 port. Dual SPDIF Out. WLP Premium Desktop compliant	HD Audio, 8ch, DUAL SPDIF
	92HD206	48QFP	8 DAC, 4 ADC, 4 port. WLP Premium Notebook compliant	HD Audio, 8ch
6ch HD Audio codecs	92HD89C	40QFN, 48QFP	6 DAC, 4 ADC, 7 port. Dual SPDIF Out, WLP Premium Desktop compliant, ECR 15b	HD Audio, 6ch, DUAL SPDIF, Desktop
	92HD83C	48QFN	6 DAC, 4 ADC, Class A / B amp. DUAL capless HP amp. WLP Premium Desktop compliant, ECR 15b	HD Audio, 6ch, Class A / B, Capless HP
	92HD73C	48QFP	6 DAC, 4 ADC, 9 port. Dual SPDIF Out. WLP Premium Desktop compliant	HD Audio, 6ch, DUAL SPDIF
4ch HD Audio codecs	92HD81B	48QFN	4 DAC, 4 ADC, Class A / B amp, Capless HP amp. WLP Premium Desktop compliant, ECR 15b	HD Audio, 4ch, Class A / B, DUAL Capless HP
	92HD75B	32QFN, 48QFN	4 DAC, 4 ADC, 5 port. WLP Premium Desktop compliant. Versions: B1 (32QFN) has 1.5V HD Audio signaling, B2 (32QFN) has 3.3V HD Audio signaling, B3 (48QFN) has switchable 1.5V and 3.3V HD Audio Signaling	HD Audio, 4ch, 1.5V or 3.3V HDA Signaling
	92HD71B	48QFP, 48QFN	4 DAC, 4 ADC, 6 or 4 port. Dual SPDIF Out. WLP Premium Notebook compliant Versions: B8: 6 port, 103 dB performance, B7: 6 port, 95 dB. B5: 4 port, 95 dB, no analog mixer	HD Audio, 8ch
2ch HD Audio codecs	STAC9200	48QFP, 32QFN	Classic 2ch basic codec	HD Audio, 2ch
AC97 codecs	STAC9750 / 51	48QFP	Classic 2ch basic codec. AC97 2.2 compliant	AC97 2ch
	STAC9752 / 53	48QFP	2ch AC97 rev 2.3 compliant codec, advanced features	AC97 2ch
	STAC9752A / 53A	48QFP	2ch AC97 rev 2.3 compliant codec, advanced features, adds stereo microphone	AC97 2ch
	STAC9766 / 67	48QFP	2ch AC97 rev 2.3 compliant codec, advanced features, +100 dB performance, adds stereo microphone	AC97 2ch
	STAC9758 / 59	48QFP	6ch AC97 rev 2.3 compliant codec	AC97 6ch

PCI Express® Solutions

PCI Express (PCIe®) Switches – I/O Expansion Switches

www.IDT.com/go/PCIExpress

Part Number	Description	Lanes	Ports	PCIe Revision	Package Size (mm)	Package Type	Keywords
89HPES3T3	3-lane, 3-port PCIe I/O Expansion Switch	3	3	1.1	10 x 10, 13 x 13	132-pin QFN, 144-ball BGA	PCI Express, PCIe, Switch, I/O Connectivity, I/O Expansion, Fan-out, Aggregation
89HPES4T4	4-lane, 4-port PCIe I/O Expansion Switch	4	4	1.1	10 x 10, 13 x 13	132-pin QFN, 144-ball BGA	Same as above
89HPES4T4G2	4-lane, 4-port PCIe Gen2 I/O Expansion Switch	4	4	2.0	19 x 19	324-ball BGA	Same as above
89HPES5T5	5-lane, 5-port PCIe I/O Expansion Switch	5	5	1.1	15 x 15	196-ball BGA	Same as above
89HPES6T5	6-lane, 5-port PCIe I/O Expansion Switch	6	5	1.1	15 x 15	196-ball BGA	Same as above
89HPES6T6G2	6-lane, 6-port PCIe Gen2 I/O Expansion Switch	6	6	2.0	19 x 19	324-ball BGA	Same as above
89HPES8T5A	8-lane, 5-port PCIe I/O Expansion Switch	8	5	1.1	15 x 15	196-ball BGA	Same as above
89HPES12N3A	12-lane, 3-port PCIe I/O Expansion Switch	12	3	1.1	19 x 19	324-ball BGA	Same as above
89HPES12T3G2	12-lane, 3-port PCIe Gen2 I/O Expansion Switch	12	3	2.0	19 x 19	324-ball BGA	Same as above
89HPES16T4	16-lane, 4-port PCIe I/O Expansion Switch	16	4	1.1	23 x 23	484-ball BGA	Same as above
89HPES16T4G2	16-lane, 4-port PCIe Gen2 I/O Expansion Switch	16	4	2.0	23 x 23	288-ball BGA	Same as above
89HPES16T4AG2	16-lane, 4-port PCIe Gen2 I/O Expansion Switch	16	4	2.0	19 x 19	324-ball BGA	Same as above
89HPES16T7	16-lane, 7-port PCIe I/O Expansion Switch	16	7	1.1	25 x 25	320-ball BGA	Same as above
89HPES24N3A	24-lane, 3-port PCIe I/O Expansion Switch	24	3	1.1	27 x 27	420-ball BGA	Same as above



PCI Express Solutions

PCI Express (PCIe) Switches – I/O Expansion Switches (continued)

www.IDT.com/go/PCIExpress

Part Number	Description	Lanes	Ports	PCIe Revision	Package Size (mm)	Package Type	Keywords
89HPES24T3G2	24-lane, 3-port PCIe Gen2 I/O Expansion Switch	24	3	2.0	19 x 19	324-ball BGA	Same as above
89HPES24T6	24-lane, 6-port PCIe I/O Expansion Switch	24	6	1.1	27 x 27	420-ball BGA	Same as above
89HPES24T6G2	24-lane, 6-port PCIe Gen2 I/O Expansion Switch	24	6	2.0	19 x 19	324-ball BGA	Same as above
89HPES32T8	32-lane, 8-port PCIe I/O Expansion Switch	32	8	1.1	31 x 31	500-ball BGA	Same as above
89HPES32T8G2	32-lane, 8-port PCIe Gen2 I/O Expansion Switch	32	8	2.0	23 x 23	484-ball BGA	Same as above
89HPES48T12	48-lane, 12-port PCIe I/O Expansion Switch	48	12	1.1	35 x 35	1156-ball BGA	Same as above
89HPES48T12G2	48-lane, 12-port PCIe Gen2 I/O Expansion Switch	48	12	2.0	27 x 27	676-ball BGA	Same as above

PCI Express (PCIe) Switches – Inter-Domain Switches

89HPES8NT2	8-lane, 2-port PCIe Inter-Domain Switch	8	2	1.0a	19 x 19	324-ball BGA	PCI Express, PCIe, Switch, Inter-Domain, Non-transparent Bridging, NTB
89HPES12NT3	12-lane, 3-port PCIe Inter-Domain Switch	12	3	1.0a	19 x 19	324-ball BGA	Same as above
89HPES16NT2	16-lane, 2-port PCIe Inter-Domain Switch	16	2	1.0a	23 x 23	484-ball BGA	Same as above
89HPES24NT3	24-lane, 3-port PCIe Inter-Domain Switch	24	3	1.0a	27 x 27	420-ball BGA	Same as above

PCI Express (PCIe) Switches – System Interconnect Switches

89HPES16H16	16-lane, 16-port PCIe System Interconnect Switch	16	16	1.1	23 x 23	484-ball BGA	PCI Express, PCIe, Switch, System Interconnect
89HPES22H16	22-lane, 16-port PCIe System Interconnect Switch	22	16	1.1	23 x 23	484-ball BGA	Same as above
89HPES22H16G2	22-lane, 16-port PCIe Gen2 System Interconnect Switch	22	16	2.0	35 x 35	1156-ball BGA	Same as above
89HPES32H8	32-lane, 8-port PCIe System Interconnect Switch	32	8	1.1	31 x 31	900-ball BGA	Same as above
89H32H8G2	32-lane, 8-port PCIe Gen2 System Interconnect Switch	32	8	2.0	23 x 23	484-ball BGA	Same as above
89HPES34H16	34-lane, 16-port PCIe System Interconnect Switch	34	16	1.1	35 x 35	1156-ball BGA	Same as above
8934H16G2	34-lane, 16-port PCIe Gen2 System Interconnect Switch	34	16	2.0	35 x 35	1156-ball BGA	PCI Express, PCIe, Switch, System Interconnect
89HPES48H12	48-lane, 12-port PCIe System Interconnect Switch	48	12	1.1	35 x 35	1156-ball BGA	Same as above
89H48H12G2	48-lane, 12-port PCIe Gen2 System Interconnect Switch	48	12	2.0	27 x 27	676-ball BGA	Same as above
89H48H12AG2	48-lane, 12-port PCIe Gen2 System Interconnect Switch	48	12	2.0	35 x 35	1156-ball BGA	Same as above
89HPES64H16	64-lane, 16-port PCIe System Interconnect Switch	64	16	1.1	35 x 35	1156-ball BGA	Same as above
89H64H16G2	64-lane, 16-port PCIe Gen2 System Interconnect Switch	64	16	2.0	35 x 35	1156-ball BGA	Same as above
89H64H16AG2	64-lane, 16-port PCIe Gen2 System Interconnect Switch	64	16	2.0	35 x 35	1156-ball BGA	Same as above



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PCI Express Solutions PCI Express Bridges

www.IDT.com/go/PCIExpress

Part Number	Primary Bus	Secondary Bus	Transparency Mode	PCIe Lanes	PCIe Generation	PCIe Revision	Package Size	Package	Speed	Temperature	Voltage
Tsi381	PCIe x1	32-bit, PCI 33/66 MHz	Non-transparent / Transparent / Opaque	1	Gen1	1.0a	13 x 13 mm	CABGA 144	66 MHz	I	1.2V
Tsi382	PCIe x1	32-bit, PCI 33/66 MHz	Non-transparent / Transparent / Opaque	1	Gen1	1.0a	10 x 10 mm, 20 x 20 mm	CABGA 144, TQFP 176	66 MHz	C, I	1.2V
Tsi384	PCIe x4	64-or-32-bit, PCI-X 133 MHz	Non-transparent / Transparent / Opaque	1	Gen1	1.0a	17 x 17 mm	PBGA 256	133 MHz	I	1.2V

PCI / PCI-X Bridges

Part Number	Primary Bus	Secondary Bus	Transparency Mode	Package Size	Package	Speed	Temperature	Voltage
Tsi310A	64-or-32-bit, PCI-X 133 MHz	64-or-32-bit, PCI-X 133 MHz	Transparent / Opaque	31 x 31 mm	SBGA 304	133	C	
Tsi340	32-bit, PCI 33/66 MHz	32-bit, PCI 33/66 MHz	Transparent	23 x 17 mm	TQFP 128	66 MHz	C	5.0 V
Tsi350	32-bit, PCI 33/66 MHz	32-bit, PCI 33/66 MHz	Transparent	17 x 17 mm, 31 x 31 mm	PQFP 208	66 MHz	C	3V/5V
Tsi350A	32-bit, PCI 33/66 MHz	32-bit, PCI 33/66 MHz	Transparent	17 x 17 mm, 31 x 31 mm	PBGA 256, PQFP 208	66 MHz	C	3V/5V
Tsi352	32-bit, PCI 33/66 MHz	32-bit, PCI 33/66 MHz	Transparent	32 x 32 mm	PQFP 160	66 MHz	C	5.0 V

Hyper Transport / PCI Bridges

Part Number	Primary Bus	Secondary Bus	Package Size	Package	Speed	Temperature	Voltage
Tsi301	64-bit, PCI 33 / 66 MHz	8-bit, HyperTransport 400MHz	35 x 35 mm	SBGA 352	400 MHz	C	
Tsi308	64- or 32-bit, PCI-X 133 MHz	8-bit, HyperTransport 600MHz	27 x 27 mm	TEPBGA 388	600 MHz	C	1.8 V

PCI Express Clocking Solutions

Part Number	Description	Core Voltage (V)	No. of Inputs	Input Type Single-Ended (SE) Differential (D) Crystal (C)	Max / Min Input Frequency (MHz)	No. of Outputs	Output Type Single-Ended (SE) Differential (D)	Max / Min Output Frequency (MHz)	Output Voltage (V)	Center Spread (CS) Down Spread (DS)	SMBus	Package
557-01	PCI Express Clock Source	3.3	1	SE, C	25	1	D	100	3.3	N/A	No	TSSOP16
557-03	PCI Express Clock Source	3.3	1	SE, C	25	2	D	25, 100, 125, 200	3.3	CS, DS	No	TSSOP16
557-05A	Quad Differential PCI Express Clock Source	3.3	1	SE, C	25	4	D	100, 200	3.3	DS	No	TSSOP20
557-06	1 to 4 HCSL Clock Buffer with 2 to 1 input MUX	3.3	2	SE, C	200 / 0	4	D	200 / 0	3.3	N/A	No	TSSOP20
557-08	2 to 1 Multiplexer Chip for PCI Express	3.3	2	D	200 / 0	1	D	200 / 0	3.3	N/A	No	TSSOP16
9DB102	2 Output PCI Express (Gen 2) Zero Delay Buffer with CLKREQ# function	3.3	1	D	101 / 99	2	D	101 / 99	3.3	N/A	Yes	QSOP20, TSSOP20
9DB106	6 Output PCI Express (Gen 2) Zero Delay Buffer with 4 output enables	3.3	1	D	101 / 99	6	D	101 / 99	3.3	N/A	Yes	SSOP28, TSSOP28
9DB1200	12 Output PCI Express (Gen 1 and 2) Buffer with output enables and Power Down function	3.3	1	D	400 / 100	12	D	400 / 100	3.3	N/A	Yes	TSSOP64

C = Commercial I = Industrial



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PCI Express® Solutions

PCI Express Clocking Solutions (continued)

www.IDT.com/go/PCIExpress

Part Number	Description	Core Voltage (V)	No. of Inputs	Input Type Single-Ended (SE) Differential (D) Crystal (C)	Max / Min Input Frequency (MHz)	No. of Outputs	Output Type Single- Ended (SE) Differential (D)	Max / Min Output Frequency (MHz)	Output Voltage (V)	Center Spread (CS) Down Spread (DS)	SMBus	Package
9DB401	4 Output PCI Express (Gen 1) Buffer with 4 output enables and Power Down function	3.3	1	D	400 / 50	4	D	400 / 50	3.3	N/A	Yes	SSOP28, TSSOP28
9DB403	4 Output PCI Express (Gen 1 and 2) Buffer with 4 output enables and Power Down function	3.3	1	D	400 / 50	4	D	400 / 50	3.3	N/A	Yes	SSOP28, TSSOP28
9DB801	8 Output PCI Express (Gen 1) Buffer with 8 output enables and Power Down function	3.3	1	D	400 / 50	8	D	400 / 50	3.3	N/A	Yes	SSOP48, TSSOP48
9DB803	8 Output PCI Express (Gen 1 and 2) Buffer with 8 output enables and Power Down function	3.3	1	D	400 / 50	8	D	400 / 50	3.3	N/A	Yes	SSOP48, TSSOP48
9DBL411	Low Voltage 4 Output Fan-out Buffer for PCI Express (Gen 1 and Gen 2) with no termination needed	3.3	1	D	400 / 33	4	D	400 / 33	3.3	N/A	No	TSSOP20, VFQFP20
9FG104D	Frequency Timing Generator with 14 or 25 MHz crystal and 4 HCSL outputs for PCI Express (Gen 1 and 2)	3.3	1	SE, C	14.318, 25	4	1 SE, 4 D	400 / 100	3.3	CS, DS	Yes	SSOP28, TSSOP28
9FG107D	Frequency Timing Generator with 14 or 25 MHz crystal and 7 HCSL outputs for PCI Express (Gen 1), 3 PCI outputs at 33 MHz and reference frequency output	3.3	1	SE, C	14.318, 25	7	4 SE, 7 D	400 / 100	3.3	CS, DS	Yes	TSSOP48
9FG108D	Frequency Timing Generator with 14 or 25 MHz crystal and 8 HCSL outputs for PCI Express (Gen 1 and 2) and reference frequency output	3.3	1	SE, C	14.318, 25	8	1 SE, 8 D	400 / 100	3.3	CS, DS	Yes	SSOP48, TSSOP48
9DBL1200	Low Voltage 12 Output PCI Express (Gen 1 and 2) Buffer with output enables and Power Down function (commercial and industrial temperature)	3.3	1	D	400 / 100	12	D	400 / 100	3.3	N/A	Yes	TSSOP64
9EX21801	18 Output PCIe G2 / QPI Differential Buffer with 2:1 input mux	3.3	2	D	140 / 90	18	D	140 / 90	3.3	N/A	Yes	MLF72

Serial RapidIO® Solutions

RapidIO Switches

www.IDT.com/go/SRIO

Part Number	Description	S-RIO Specification	Max 4x Ports	Max 1x Ports	Throughput	Cut Through Latency	Multicast Architecture	Package	Temperature
80KSW0002	16-Port Serial RapidIO Switch	1.3	4	16	40 Gbps	190ns	Yes	FCBGA 324	C, I
80KSW0003	8-Port Serial RapidIO Switch	1.3	2	8	20 Gbps	190ns	Yes	FCBGA 324	C, I
80KSW0004	12-Port Serial RapidIO Switch	1.3	3	12	30 Gbps	190ns	Yes	FCBGA 324	C, I
80KSW0005	10 4x Port Serial RapidIO Switch	1.3	10	16	100 Gbps	190ns	Yes	FCBGA 676	C, I
80KSW0006	6 4x Port Serial RapidIO Switch	1.3	6	16	60 Gbps	190ns	Yes	FCBGA 676	C, I
Tsi564A	4 x4 / 8 x1 Serial RapidIO Switch	1.2	4	8	40 Gbps	110ns	No	FCBGA 399	C, I
Tsi568A	8 x4 / 16 x1 Serial RapidIO Switch	1.2	8	16	80 Gbps	110ns	No	FCBGA 675	C, I
Tsi572	2 x4 / 8 x1 Serial RapidIO Switch	1.3	2	8	30 Gbps	110ns	Yes	TEPBGA 399	C, I

C = Commercial I = Industrial



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Serial RapidIO® Solutions

RapidIO Switches (continued)

www.IDT.com/go/SRIO

Part Number	Description	S-RIO Specification	Max 4x Ports	Max 1x Ports	Throughput	Cut Through Latency	Multicast Architecture	Package	Temperature
Tsi574	4 x4 / 8 x1 Serial RapidIO Switch	1.3	4	8	40 Gbps	110ns	Yes	TEPBGA 399	C, I
Tsi576	2 x4 + 8 x1 / 12 x1 Serial RapidIO Switch	1.3	2	12x1 or 8x1 with 2x4	40 Gbps	110ns	Yes	FCBGA 399	C, I
Tsi577	4 x4 / 16 x1 Serial RapidIO Switch	1.3	4	16	40 Gbps	110ns	Yes	TEPBGA 399	C, I
Tsi578	8 x4 / 16 x1 Serial RapidIO Switch	1.3	8	16	80 Gbps	110ns	Yes	FCBGA 675	C, I
Tsi620	3 x4 / 6 x1 Serial RapidIO Switch	1.3	3	6	50 Gbps	110ns	Yes	TEPBGA 675	C, I

Functional InterConnects (FICs)

Part Number	Part Description	S-RIO Specification	CPRI Specification	No. of Ports	Package	Temperature
80HFC1000	CPRI to S-RIO Functional Interconnect Bridge	1.3	2.1	4	CABGA 324	C, I
80HFC1001	CPRI to TDM Functional Interconnect Bridge		2.1	5	CABGA 324	C, I
80HFC1002	1 x 4 S-RIO to QDRII Functional Interconnect Bridge	1.3		2	FCBGA 484	C, I

Serial Buffer Devices

Part Number	Part Description	S-RIO Specification	No. of Ports	Package	Temperature
80KSBR201	2 x4 with 72-Mbit S-RIO Sequential Buffer	1.3	3	FCBGA 484	C, I

SRAM Products

www.IDT.com/go/SRAM

Device	Density	Max Speed	Temperature	VCC (V)	Package	Differentiators	Keywords
Asynchronous	16 Kbit to 4 Mbit	10 ns	C, I, M	2.5, 3.3, 5	TPDIP, SOJ, SOIC, TQFP, TSOP, BGA, LCC, CERDIP	Long term support for legacy 5V and 3.3V devices	Asynchronous SRAM
Synchronous	1 Mbit to 9 Mbit	200 MHz	C, I	3.3	TQFP, BGA, FBGA	2.5V I/O options, x18, x32, x36, pipelined burst and flow through options	PBSRAM
ZBT®	4 Mbit to 18 Mbit	200 MHz	C, I	2.5, 3.3	TQFP, BGA, FBGA	2.5V I/O options, x18, x36, pipelined burst and flow through options	ZBT SRAM
QDR / DDR	18 Mbit	200 MHz	C, I	1.80	FBGA	Available in x18, x36 widths, DDR available in separate I/O option	QDR SRAM

Integrated Communication Processor Products

www.IDT.com/go/commprocessors

Part Number Prefix	Frequency (MHz)	Core / I/O Voltage (V)	Caches	Memory Controller	Integrated I/O	Keywords
79RC32332	100, 133, 150	2.5 / 3.3 or 3.3 / 3.3	8 / 2-KB I/D	32-bit SDRAM, 8-, 16-, 32-bit ROM / Flash / SRAM / dual-port / peripheral	PCI V2.1 32-bits, UART	Integrated Communication Processor, processor, MIPS, CPU
79RC32334	100, 133, 150	3.3 / 3.3	8 / 2-KB I/D	32-bit SDRAM, 8-, 16-, 32-bit ROM / Flash / SRAM / dual-port / peripheral	PCI V2.1 32-bits, UART	Same as above
79RC32336	150	2.5 / 3.3	8 / 2-KB I/D	32-bit SDRAM, 8-, 16-, 32-bit ROM / Flash / SRAM / dual-port / peripheral	PCI V2.2 32-bits, Two 10 / 100 Ethernet MAC, PCMCIA V2.1, UA RT, SPI	Same as above
79RC32351	100, 133	2.5 / 3.3	8 / 2-KB I/D	32-bit SDRAM, 8-, 16-, 32-bit ROM / Flash / SRAM / dual-port / peripheral	Ethernet, ATM, UA RT, PIO	Same as above
79RC32355	100, 133, 150	2.5 / 3.3	8 / 2-KB I/D	32-bit SDRAM, 8-, 16-, 32-bit ROM / Flash / SRAM / dual-port / peripheral	Ethernet, ATM, I ² C, TDM, UA RT, PIO	Same as above

C = Commercial I = Industrial



Integrated Communication Processor Products (continued)

www.IDT.com/go/comprocessors

Part Number Prefix	Frequency (MHz)	Core / I/O Voltage (V)	Caches	Memory Controller	Integrated I/O	Keywords
79RC32365	150	2.5 / 3.3	8 / 2-KB I/D	32-bit SDRAM, 8-, 16-, 32-bit ROM / Flash / SRAM / dual-port / peripheral	PCI V2.2 32-bits, Two 10 / 100 Ethernet MAC, PCMCIA V2.1, UA RT, SPI	Same as above
79RC32434	266, 300, 350, 400	1.2 / 3.3	8 / 8-KB I/D	16-bit DDR, 8-bit ROM / Flash / SRAM / dual-port / peripheral	PCI V2.2 32-bits, 10 / 100 Ethernet MAC, UA RT, I ² C, SPI	Same as above
79RC32438	200, 233, 266, 300	1.2 / 3.3	16 / 16-KB I/D	16-, 32-bit DDR, 8-, 16-bit ROM / Flash / SRAM / dual-port / peripheral	PCI V2.2 32-bits, Two 10 / 100 Ethernet MAC, Dual UA RT, I ² C, SPI, 32 GPIO	Same as above

PureTouch® Capacitive Button/Slider/Scroll Controllers

www.IDT.com/go/touch

Touch Controller LDS6000 Family – Touch Controller

Part Number	Description	Touch Sensors	LED Driver	Built-in Slider / Scroll	Built-in LED Effects	I/O Voltage	Package	Interface
LDS6000	15 Channel Touch Controller	Up to 15		Yes		1.65–3.6V	SSOP 28, VFQFPN 28	SPI or I ² C
LDS6003	6 Channel Touch Controller	Up to 6		Yes		1.65–3.6V	SSOP 28, VFQFPN 28	SPI or I ² C
LDS6005	10 Channel Touch Controller	Up to 10		Yes		1.65–3.6V	SSOP 28, VFQFPN 28	SPI or I ² C

Touch Controller LDS6000 Family – Touch Controller with Integrated Haptics Driver

LDS6010	15 Channel Touch Controller with Haptics Driver for Portable Applications	Up to 15		Yes		1.65–3.6V	VFQFPN 40	SPI or I ² C
LDS6018	15 Channel Touch Controller with Haptics Driver for Non-Portable Applications	Up to 15		Yes		1.65–3.6V	VFQFPN 40	SPI or I ² C

Touch Controller LDS6000 Family – Touch Controller with Integrated LED Driver

LDS6020	13 Channel Touch Controller with Integrated Keypad LED Driver	Up to 13	Up to 8	Yes	Yes	1.65–3.6V	SSOP 28, VFQFPN 28	SPI or I ² C
LDS6023	6 Channel Touch Controller with Integrated Keypad LED Driver	Up to 6	Up to 3	Yes	Yes	1.65–3.6V	SSOP 28, VFQFPN 28	SPI or I ² C
LDS6025	10 Channel Touch Controller with Integrated Keypad LED Driver	Up to 10	Up to 5	Yes	Yes	1.65–3.6V	SSOP 28	SPI or I ² C
LDS6028	15 Channel Touch Controller with Integrated Keypad LED Driver	Up to 15	Up to 8	Yes	Yes	1.65–3.6V	VFQFPN 40	SPI or I ² C

Touch Controller LDS6000 Family – Touch Controller with Integrated LED Driver and Haptics Driver

LDS6040	15 Channel Touch Controller with Integrated Keypad LED Driver and Haptics Driver for Portable Applications	Up to 15	Up to 8	Yes	Yes	1.65–3.6V	VFQFPN 40	SPI or I ² C
LDS6048	15 Channel Touch Controller with Integrated Keypad LED Driver and Haptics Driver for Non-Portable Applications	Up to 15	Up to 8	Yes	Yes	1.65–3.6V	VFQFPN 40	SPI or I ² C

Touch Controller LDS6100 / LDS6120 Family – Touch Controller

Part Number	Description	Touch Sensors	DCM Outputs	LED Driver	Built-in Slider / Scroll	Built-in LED Effects	Full hysteresis / debounce config	I/O Voltage	Package	Interface
LDS6100	20 Channel Touch Controller	Up to 20	Up to 10		Yes		Yes	1.65–3.6V	SSOP 28, VFQFPN 28	I ² C, SMBus, SPI
LDS6104	8 Channel Touch Controller	Up to 8	Up to 4		Yes		Yes	1.65–3.6V	SSOP 28, VFQFPN 28	I ² C, SMBus, SPI
LDS6107	13 Channel Touch Controller	Up to 13	Up to 5		Yes		Yes	1.65–3.6V	SSOP 28, VFQFPN 28	I ² C, SMBus, SPI
LDS6108	16 Channel Touch Controller	Up to 16	Up to 8		Yes		Yes	1.65–3.6V	VFQFPN 40	I ² C, SMBus, SPI



Quick Reference Guide

This QRG is a general guide to IDT product categories. Not all IDT products or parts are included. Please check www.IDT.com for detailed product and part information.

PureTouch® Capacitive Button/Slider/Scroll Controllers

Touch Controller LDS6100 / LDS6120 Family – Touch Controller with Integrated Haptics Driver

www.IDT.com/go/touch

Part Number	Description	Touch Sensors	DCM Outputs	LED Driver	Built-in Slider / Scroll	Built-in LED Effects	Full hysteresis / debounce config	I/O Voltage	Package	Interface
LDS6120	20 Channel Touch Controller with Integrated LED Driver	Up to 13	Up to 10	Up to 10	Yes	Yes	Yes	1.65–3.6V	VFQFPN 40	I ² C, SMBus, SPI
LDS6124	8 Channel Touch Controller with Integrated LED Driver	Up to 6	Up to 4	Up to 6	Yes	Yes	Yes	1.65–3.6V	SSOP 28, VFQFPN 28	I ² C, SMBus, SPI
LDS6126	11 Channel Touch Controller with Integrated LED Driver	Up to 10	Up to 5	Up to 6	Yes	Yes	Yes	1.65–3.6V	SSOP 28, VFQFPN 28	I ² C, SMBus, SPI
LDS6228	16 Channel Touch Controller with Integrated LED Driver	Up to 15	Up to 8	Up to 8	Yes	Yes	Yes	1.65–3.6V	VFQFPN 40	I ² C, SMBus, SPI

VersaModule Eurocard (VME)

Universe™ IID

www.IDT.com/go/VME

Part Number	Description	Package	Pkg. Dimensions	Primary Bus	Secondary Bus	Other Capabilities	Power (Max & Typical)	Speed	Temperature	Voltage
CA91C142D	VME to PCI Bridge	PBGA 313	35 x 35mm	VME64	PCI 33 MHz 64 bit	Fully featured DMA controller	3.2W max / 2.2W typ	25 MHz, 33 MHz	C, E, I	5.0 V

PCI-X to VME Bridge

Tsi148	VME to PCI-X Bridge	PBGA 456	27 x 27mm	VME64 or 2eVME or 2eSST VME	PCI-X 50-133 MHz / PCI 33–66 MHz / 64 bit	Fully featured DMA controller	1.8W max / 0.9 typ	133 MHz	C, I	3.3V
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C = Commercial E = Extended I = Industrial

