Titanium FPGA Selector Guide

Titanium FPGAs are fabricated on a 16 nm process, delivering high performance with the lowest possible power and a small physical size. They feature the innovative Quantum® compute fabric that, with its enhanced compute capability, makes Titanium FPGAs ideal for embedded hardware acceleration applications. With a wide range of logic element (LE) densities from 35K to 1M, and compatibility with the Efinix RISC-V SoCs, they can help you turn a tiny chip into an accelerated embedded compute system.

Titanium Family Features



35K to 1,000K Logic Elements | 10 Kb Embedded RAM Blocks | DSP Blocks | PLLs | High-Voltage I/O (HVIO) | High-Speed I/O (HSIO) | Hardened RISC-V Block | MIPI D-PHY 2.5 Gbps | LPDDR4/4x Controller & PHY | Transceivers 16G/25.8G

Titanium Ordering Codes

You can use HSIO pairs for a various differential standards such as LVDS (1.5 Gbps), differential HSTL/SSTL, or MIPI RX and TX data/clock lanes (1.5 Gbps).

FPGA	LEs	RAM (Mbits)	RAM Blocks (10 Kb)	DSP Blocks	Package	Pins	HVIO	HSIO	PLLs	2.5G MIPI D-PHY	Hardened RISC-V Block	LPDDR4/4x	Transceivers	PCIe® Gen4	25.8G Transceivers	Temperature	Speed Grade	Ordering CodeW
Ti35	36,176	1.53	153	93	FBGA	100[1]	–	61	3	–	–	–	–	–	–	C	3, 3L, 4, 4L	Ti35F100C3/3L/4/4L
																		Ti35F100S3F2C3/3L/4/4L
																I	3, 3L	Ti35F100I3/3L
																		Ti35F100S3F2I3/3L
						225	23	140	4	–	–	–	–	–	–	C	3, 3L, 4, 4L	Ti35F225C3/3L/4/4L
																I	3, 3L	Ti35F225I3/3L
						256	27	142	4	–	–	–	–	–	–	C	3, 3L, 4, 4L	Ti35F256C3/3L/4/4L
																I	3, 3L	Ti35F256I3/3L
Ti60	62,016	2.6	256	160	WLCSP	64	–	34	2	–	–	–	–	–	–	C	3	Ti60W64C3
					FBGA	100[1]	–	61	3	–	–	–	–	–	–	C	3, 3L, 4, 4L	Ti60F100C3/3L/4/4L
																		Ti60F100S3F2C3/3L/4/4L
																I	3, 3L	Ti60F100I3/3L
																		Ti60F100S3F2I3/3L
						225	23	140	4	–	–	–	–	–	–	C	3, 3L, 4, 4L	Ti60F225C3/3L/4/4L
																I	3, 3L	Ti60F225I3/3L
																Q	3	Ti60F225Q3
						256	27	142	4	–	–	–	–	–	–	C	3, 3L, 4, 4L	Ti60F256C3/3L/4/4L
																I	3, 3L	Ti60F256I3/3L

1. The F100 pin package is available as a regular package as well as a SIP that incorporates SPI flash and HyperRAM in addition to the FPGA.

FPGA	LEs	RAM (Mbits)	RAM Blocks (10 Kb)	DSP Blocks	Package	Pins	HVIO	HSIO	PLLs	2.5G MIPI D-PHY	Hardened RISC-V Block	LPDDR4/4x	Transceivers	PCIe® Gen4	25.8G Transceivers	Temperature	Speed Grade	Ordering CodeW
Ti90	92,534	6.88	688	336	FBGA	361	20	110	8	2 TX 2 RX	–	x16	–	–	–	C	3, 3L, 4, 4L	Ti90J361C3/3L/4/4L
																I		Ti90J361I3/3L/4/4L
						400	74	200	8	–	–	–	–	–	–	C	3, 3L, 4, 4L	Ti90G400C3/3L/4/4L
																I		Ti90G400I3/3L/4/4L
						484	27	116	8	4 TX 4 RX	–	x16 x32	–	–	–	C	3, 3L, 4, 4L	Ti90J484C3/3L/4/4L
																I		Ti90J484I3/3L/4/4L
																Q	3	Ti90J484Q3
						529	48	210	8	–	–	x16 x32	–	–	–	C	3, 3L, 4, 4L	Ti90G529C3/3L/4/4L
																I		Ti90G529I3/3L/4/4L
Ti120	123,379	9.18	918	448	FBGA	361	20	110	8	2 TX 2 RX	–	x16	–	–	–	C	3, 3L, 4, 4L	Ti120J361C3/3L/4/4L
																I		Ti120J361I3/3L/4/4L
						400	74	200	8	–	–	–	–	–	–	C	3, 3L, 4, 4L	Ti120G400C3/3L/4/4L
																I		Ti120G400I3/3L/4/4L
						484	27	116	8	4 TX 4 RX	–	x16 x32	–	–	–	C	3, 3L, 4, 4L	Ti120J484C3/3L/4/4L
																I		Ti120J484I3/3L/4/4L
																Q	3	Ti120J484Q3
						529	48	210	8	–	–	x16 x32	–	–	–	C	3, 3L, 4, 4L	Ti120G529C3/3L/4/4L
																I		Ti120G529I3/3L/4/4L
Ti135	133,844	9.95	972	486	FBGA	529	51	176	12	–	Quad Core	x16 x32	–	–	–	C	3, 3L, 4, 4L	Ti135C529C3/3L/4/4L
																I		Ti135C529I3/3L/4/4L
Ti180	176,256	13.11	1,280	640	FBGA	361	20	110	8	2 TX 2 RX	–	x16	–	–	–	C	3, 3L, 4, 4L	Ti180J361C3/3L/4/4L
																I		Ti180J361I3/3L/4/4L
						400	74	200	8	–	–	–	–	–	–	C	3, 3L, 4, 4L	Ti180G400C3/3L/4/4L
																I		Ti180G400I3/3L/4/4L
						484	27	116	8	4 TX 4 RX	–	x16 x32	–	–	–	C	3, 3L, 4, 4L	Ti180J484C3/3L/4/4L
																I		Ti180J484I3/3L/4/4L
																Q	3	Ti180J484Q3
						529	48	210	8	–	–	x16 x32	–	–	–	C	3, 3L, 4, 4L	Ti180G529C3/3L/4/4L
																I		Ti180G529I3/3L/4/4L
Ti200	198,288	14.75	1,440	720	FBGA	529	51	176	12	–	Quad Core	x16 x32	–	–	–	C	3, 3L, 4, 4L	Ti200C529C3/3L/4/4L
																I		Ti200C529I3/3L/4/4L
Ti375	370,137	27.53	2,688	1,344	FBGA	529	51	176	12	–	Quad Core	x16 x32	–	–	–	C	3, 3L, 4, 4L	Ti375C529C3/3L/4/4L
																I		Ti375C529I3/3L/4/4L

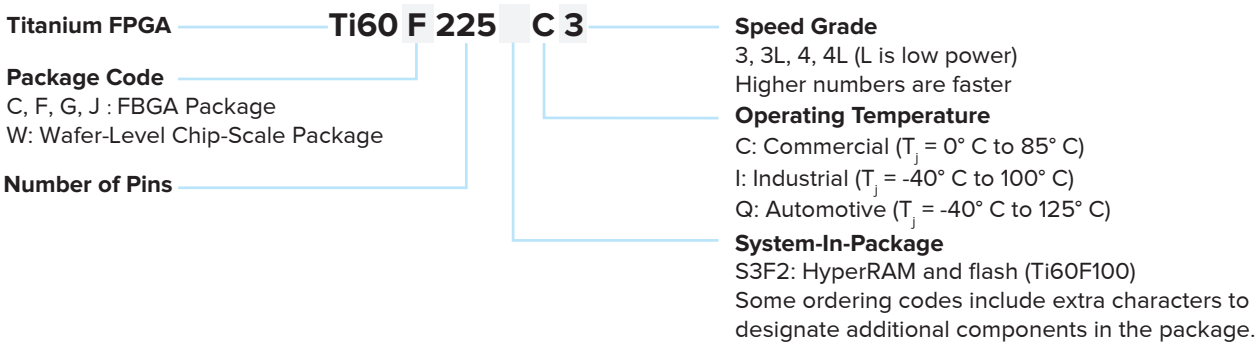
Package Dimensions

Package	Pitch	Dimensions (mm)
64-ball FBGA	0.4	3.5x3.4
100-ball FBGA	0.5	5.5x5.5
225-ball FBGA	0.65	10x10

Package	Pitch	Dimensions (mm)
256-ball FBGA	0.8	13x13
361-ball FBGA	0.65	13x13
400-ball FBGA	0.8	16x16

Package	Pitch	Dimensions (mm)
484-ball FBGA	0.8	18x18
529-ball FBGA	0.8	19x19

Example Ordering Code



Product Longevity

At Efinix we are committed to supplying our customers with a stable supply of supported products throughout their product life cycle. We are committed to supporting our Titanium family of FPGAs in customer designs until at least 2037. Contact your local sales representative for more information on product life cycles.

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