

Virtex-5 LXT FPGA Platform
Optimized for High-performance Logic
with Low-power Serial Connectivity (1.0 Volt)

		Part Number	XC5VLX20T	XC5VLX30T	XC5VLX50T	XC5VLX85T	XC5VLX110T	XC5VLX155T	XC5VLX220T	XC5VLX330T
		EasyPath™ Cost Reduction Solutions ⁽¹⁾	—	—	—	XCEVLXT85T	XCE5VLX110T	XCE5VLX155T	XCE5VLX220T	XCE5VLX330T
Logic Resources	Slices ⁽²⁾	3,120	4,800	7,200	12,960	17,280	24,320	34,560	51,840	
	Logic Cells ⁽³⁾	19,968	30,720	46,080	82,944	110,592	155,648	221,184	331,776	
	CLB Flip-Flops	12,480	19,200	28,800	51,840	69,120	97,280	138,240	207,360	
Memory Resources	Maximum Distributed RAM (Kbits)	210	320	480	840	1,120	1,640	2,280	3,420	
	Block RAM/FIFO w/ECC (36Kbits each)	26	36	60	108	148	212	212	324	
	Total Block RAM (Kbits)	936	1,296	2,160	3,888	5,328	7,632	7,632	11,664	
Clock Resources	Digital Clock Managers (DCM)	2	4	12	12	12	12	12	12	
	Phase Locked Loop (PLL)/PMCD	1	2	6	6	6	6	6	6	
I/O Resources ⁽⁴⁾	Maximum Single-Ended Pins	172	360	480	480	680	680	680	960	
	Maximum Differential I/O Pairs	86	180	240	240	340	340	340	480	
	I/O Standards	HT, LVDS, LVDSSEXT, RSDS, BLVDS, ULVDS, LVPECL, LVCMOS33, LVCMOS25, LVCMOS18, LVCMOS15, LVTTTL, PCI33, PCI66, PCI-X, GTL, GTL+, HSTL I (1.2V,1.5V,1.8V), HSTL II (1.5V,1.8V), HSTL III (1.5V,1.8V), HSTL IV (1.5V,1.8V), SSTL2 I, SSTL2 II, SSTL18 I, SSTL18 II								
Embedded ⁽⁵⁾ Hard IP Resources	DSP48E Slices	24	32	48	48	64	128	128	192	
	PowerPC® 440 Processor Blocks	—	—	—	—	—	—	—	—	
	PCI Express Endpoint Blocks	1	1	1	1	1	1	1	1	
	10/100/1000 Ethernet MAC Blocks	2	4	4	4	4	4	4	4	
	RocketIO™ GTP Low-Power Transceivers	4	8	12	12	16	16	16	24	
	RocketIO™ GTX High-Speed Transceivers	—	—	—	—	—	—	—	—	
Speed Grades	Commercial	-1, -2	-1, -2, -3	-1, -2, -3	-1, -2, -3	-1, -2, -3	-1, -2, -3	-1, -2	-1, -2	
	Industrial	-1, -2	-1, -2	-1, -2	-1, -2	-1, -2	-1, -2	-1, -2	-1	
Configuration	Configuration Memory (Mbits)	6.3	9.4	14.1	23.4	31.2	43.1	55.2	82.7	
Package ^(6,7)		Area	Available User I/Os							
FFA Packages (FF): flip-chip fine-pitch BGA (1.0 mm ball spacing)										
FF324		19 x 19 mm								
FF676		27 x 27 mm								
FF1153		35 x 35 mm								
FF1760		42.5 x 42.5 mm								
FF323		19 x 19mm	172 (4)	172 (4)						
FF665		27 x 27mm		360 (8)	360 (8)					
FF1136		35 x 35mm			480 (12)	480 (12)	640 (16)	640 (16)		
FF1738		42.5 x 42.5mm					680 (16)	680 (16)	680 (16)	960 (24)

- Notes:
1. EasyPath™ solutions provide a conversion-free path for volume production.
 2. A single Virtex-5 CLB comprises two slices, with each containing four 6-input LUTs and four Flip-Flops (twice the number found in a Virtex-4 slice), for a total of eight 6-LUTs and eight Flip-Flops per CLB.
 3. Virtex-5 logic cell ratings reflect the increased logic capacity offered by the new 6-input LUT architecture.
 4. Digitally Controlled Impedance (DCI) is available on I/Os of all devices.
 5. One system monitor block included in all devices.
 6. Available I/O for each device-package combination: number of SelectIO pins (number of RocketIO transceivers).
 7. All products available Pb-free and RoHS-Compliant.