

		Virtex-7 FPGAs															
		Optimized for Highest System Performance and Capacity (1.0V, 0.9V)						(1.0V)									
		Part Number	XC7V585T	XC7V1500T	XC7V2000T	XC7VX330T	XC7VX415T	XC7VX485T	XC7VX550T	XC7VX690T	XC7VX980T	XC7VX1140T	XC7VH290T	XC7VH580T	XC7VH870T		
Logic Resources	EasyPath™ Cost Reduction Solutions ⁽¹⁾	XCE7V585T	XCE7V1500T	XCE7V2000T	XCE7VX330T	XCE7VX415T	XCE7VX485T	XCE7VX550T	XCE7VX690T	XCE7VX980T	XCE7VX1140T	—	—	—	—		
	Slices	91,050	229,050	305,400	51,000	64,400	75,900	86,600	108,300	153,000	178,000	44,375	90,700	136,900	—		
	Logic Cells	582,720	1,465,920	1,954,560	326,400	412,160	485,760	554,240	693,120	979,200	1,139,200	284,000	580,480	876,160	—		
	CLB Flip-Flops	728,400	1,832,400	2,443,200	408,000	515,200	607,200	692,800	866,400	1,224,000	1,424,000	355,000	725,600	1,095,200	—		
Memory Resources	Maximum Distributed RAM (Kbits)	6,938	16,163	21,550	4,388	6,525	8,175	8,725	10,888	13,838	17,700	4,425	8,850	13,275	—		
	Block RAM/FIFO w/ ECC (36Kbits each)	795	969	1,292	750	880	1,030	1,180	1,470	1,500	1,880	470	940	1,410	—		
	Total Block RAM (Kbits)	28,620	34,884	46,512	27,000	31,680	37,080	42,480	52,920	54,000	67,680	16,920	33,840	50,760	—		
Clocking	CMTs (1 MMCM + 1 PLL)	18	18	24	14	12	14	20	20	18	24	6	12	18	—		
	Maximum Single-Ended I/O	850	850	1,200	700	600	700	600	1,000	900	1,100	300	600	650	—		
I/O Resources	Maximum Differential I/O Pairs	408	408	576	336	288	336	288	480	432	528	144	288	312	—		
	DSP48E1 Slices	1,260	1,620	2,160	1,120	2,160	2,800	2,880	3,600	3,600	3,360	840	1,680	2,520	—		
Embedded Hard IP Resources	Gen2 PCI Express Interface Blocks	3	3	4	—	—	4	—	—	—	—	—	—	—	—		
	Gen3 PCI Express Interface Blocks	—	—	—	2	2	—	2	3	3	4	1	2	3	—		
	Agile Mixed Signal (AMS) / XADC	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	Configuration AES / HMAC Blocks	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	GTX 12.5Gb/s Transceivers ⁽²⁾	36	36	36	—	—	56	—	—	—	—	—	—	—	—		
	GTH 13.1Gb/s Transceivers ⁽³⁾	—	—	—	28	48	—	80	80	72	96	24	48	72	—		
	GTZ 28.05Gb/s Transceivers	—	—	—	—	—	—	—	—	—	—	8	8	16	—		
Speed Grades	Commercial	-1, -2	-1, -2	-1, -2	-1, -2	-1, -2	-1, -2	-1, -2	-1, -2	-1, -2	-1, -2	-1, -2	-1, -2	-1, -2	-1, -2		
	Extended ⁽⁴⁾	-2L, -3	-2L, -2G	-2L, -2G	-2L, -3	-2L, -3	-2L, -3	-2L, -3	-2L, -3	-2L, -3	-2L, -2G	-2L, -2G	-2L, -2G	-2L, -2G	-2L, -2G		
	Industrial	-1, -2	-1	-1	-1	-1, -2	-1, -2	-1, -2	-1, -2	-1	-1	—	—	—	—		
Configuration	Configuration Memory (Mbits)	153.9	319.9	426.6	106.1	131.5	154.7	219.2	219.2	269.4	367.2	91.8	183.6	275.4	—		
	Package ⁽⁵⁾	Area	Available User I/O: 3.3V SelectIO™ Pins, 1.8V SelectIO Pins (GTX, GTH Transceivers)										1.8V SelectIO Pins (GTH, GTZ)				
		Flip chip, fine pitch BGA (1.0 mm ball spacing)															
Footprint Compatible	FFG1157	35 x 35 mm	0, 600 (20, 0)			0, 600 (0, 20)		0, 600 (0, 20)		0, 600 (20, 0)		0, 600 (0, 20)					
	FFG1761	42.5 x 42.5 mm	100, 750 (36, 0)			50, 650 (0, 28)		0, 700 (28, 0)		0, 850 (0, 36)							
	FLG1761	42.5 x 42.5 mm	0, 850 (36, 0)														
	FHG1761	45 x 45 mm	0, 850 (36, 0)														
	FLG1925	45 x 45 mm	0, 1200 (16, 0)														
	FFG1158	35 x 35 mm				0, 350 (0, 48)		0, 350 (48, 0)		0, 350 (0, 48)		0, 350 (0, 48)					
Footprint Compatible	FFG1926	45 x 45 mm								0, 720 (0, 64)		0, 720 (0, 64)					
	FLG1926	45 x 45 mm										0, 720 (0, 64)					
	FFG1927	45 x 45 mm				0, 600 (0, 48)		0, 600 (56, 0)		0, 600 (0, 80)		0, 600 (0, 80)					
Footprint Compatible	FFG1928	45 x 45 mm										0, 480 (0, 72)					
	FLG1928	45 x 45 mm										0, 480 (0, 96)					
Footprint Compatible	FFG1930	45 x 45 mm						0, 700 (24, 0)		0, 1000 (0, 24)		0, 900 (0, 24)					
	FLG1930	45 x 45 mm										0, 1100 (0, 24)					
		Ceramic flip chip, fine pitch BGA (1.0 mm ball spacing)															
	HCG1155	35 x 35 mm										300 (24, 8)		400 (24, 8)			
	HCG1931	45 x 45 mm												600 (48, 8)		650 (48, 8)	
	HCG1932	45 x 45 mm												300 (48, 8)		300 (72, 16)	

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FFG: 1.0mm Flip-chip fine-pitch; FLG: 1.0mm Flip-Chip Fine Pitch (SSI); HCG: 1.0mm Ceramic Flip-Chip Fine Pitch

- Notes: 1. EasyPath™ solutions provide a fast and conversion-free path for cost reduction. 2. 12.5 Gb/s support in "-3E", "-2GE" speed/temperature grade; 10.3125 Gb/s support in "2C", "-2LE", and "-2I" speed grade. 3. 13.1 Gb/s support in "-3E", "-2GE" speed grade; 11.3 Gb/s support in "2C" and "-2LE" speed/temperature grades; 10.3125 Gb/s in "-2I" speed/temperature grades. 4. See data sheet for information on low-power operating modes. 5. Leaded package options ("FFxxxx"/"FLxxxx"/"FHxxxx"/"HCxxxx") available for all packages. 6. Please contact your Xilinx representative for the latest information.

Important: Verify all data in this document with the device data sheets found at www.xilinx.com/7

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