



Virtex-II and Virtex Series FPGAs

The combination of Virtex™-II and Virtex series FPGAs offer you unprecedented capability and flexibility. The Virtex-II devices, the first of the new platform FPGAs, deliver enhanced system memory and lightning-fast DSP through a flexible IP-immersion fabric. Virtex-II devices – with densities ranging from 40,000 up to 10 million system gates – offer new capabilities, including SystemI/O, XCITE, triple DES encryption, and digital clock managers to address system-level design issues.

The Virtex series FPGAs, consisting of Virtex-E, Virtex-EM, and Virtex devices, offer unique features to meet different application requirements.

- The Virtex-E family offers the highest logic gate count available for any FPGA, ranging from 50,000 up to 3.2 million system gates. The Virtex-E family supports 20 I/O standards, including LVPECL, LVDS, and Bus LVDS.

- The Virtex-EM (Extended Memory) family consists of two devices that have high RAM-to-logic ratios that target specific applications, such as gigabit-per-second network switches and high definition graphics.

- The Virtex family consists of devices that range from 50,000 up to one million logic gates. This family supports 17 I/O standards and offers 5 V PCI compliance.

See www.xilinx.com for more information.

FPGA Product Selection Matrix																
DEVICES	KEY FEATURES	DENSITY							FEATURES							
		Logic Cells	Maximum Logic Gates	Typical System Gate Range	Max. RAM Bits	CLB Matrix	CLBs	Flip-Flops	Max. I/Os	Output Drive (mA)	PCI Compliant	1.5 Volt	1.8 Volt	2.5 Volt	3.3 Volt	5.0 Volt
XC2V40	Virtex-II Family: Density/ Performance/ Leadership BRAM Distributed RAM System I/O XCITE Up to 12 DCMs	576	6.9K	40K	78K	8x8	64	256	88	2/24	Y	X	–	I/O	*	–
XC2V80		1152	13.8K	80K	160K	16x8	128	512	120	2/24	Y	X	–	I/O	*	–
XC2V250		3456	41.5K	250K	480K	24x16	384	1536	200	2/24	Y	X	–	I/O	*	–
XC2V500		6912	82.9K	500K	672K	32x24	768	3072	264	2/24	Y	X	–	I/O	*	–
XC2V1000		11520	138K	1M	880K	40x32	1280	5120	432	2/24	Y	X	–	I/O	*	–
XC2V1500		17280	207K	1.5M	1104K	48x40	1920	7680	528	2/24	Y	X	–	I/O	*	–
XC2V2000		24192	290K	2M	1344K	56x48	2688	10752	624	2/24	Y	X	–	I/O	*	–
XC2V3000		32256	387K	3M	2176K	64x56	3584	14336	720	2/24	Y	X	–	I/O	*	–
XC2V4000		51840	622K	4M	2880K	80x72	5760	23040	912	2/24	Y	X	–	I/O	*	–
XC2V6000		76032	912K	6M	3648K	96x88	8448	33792	1104	2/24	Y	X	–	I/O	*	–
XC2V8000		104832	1.26M	8M	4480K	112x104	11648	46592	1108	2/24	Y	X	–	I/O	*	–
XC2V10000	138240	1.66M	10M	5376K	128x120	15360	61440	1108	2/24	Y	X	–	I/O	*	–	
XCV50E	Virtex-E Family: Density BlockRAM Distributed RAM SelectI/O 8 DLLs LVDS, BLVDS, LVPECL	1728	21K	47K-72K	88K	16x24	384	1536	176	2/24	Y	–	X	I/O	I/O	**
XCV100E		2700	32K	105K-128K	118K	20x30	600	2400	196	2/24	Y	–	X	I/O	I/O	**
XCV200E		5292	64K	215K-306K	186K	28x42	1176	4704	284	2/24	Y	–	X	I/O	I/O	**
XCV300E		6912	83K	254K-412K	224K	32x48	1536	6144	316	2/24	Y	–	X	I/O	I/O	**
XCV400E		10800	130K	413K-570K	310K	40x60	2400	9600	404	2/24	Y	–	X	I/O	I/O	**
XCV600E		15552	187K	679K-986K	504K	48x72	3456	13824	512	2/24	Y	–	X	I/O	I/O	**
XCV1000E		27648	332K	1,146K-1,569K	768K	64x96	6144	24576	660	2/24	Y	–	X	I/O	I/O	**
XCV1600E		34992	420K	1,628K-2,189K	1062K	72x108	7776	31104	724	2/24	Y	–	X	I/O	I/O	**
XCV2000E		43200	518K	1,857K-2,542K	1240K	80x120	9600	38400	804	2/24	Y	–	X	I/O	I/O	**
XCV2600E		57132	686K	2,221K-3,264K	1530K	92x138	12696	50784	804	2/24	Y	–	X	I/O	I/O	**
XCV3200E		73008	876K	2,608K-4,074K	1846K	104x156	16224	64896	804	2/24	Y	–	X	I/O	I/O	**
XCV405E	Virtex Extended Memory Capabilities	10800	130K	1,068K-1,307K	710K	40x60	2400	9600	404	2/24	Y	–	X	I/O	I/O	**
XCV812E		21168	254K	2,569K-3,062K	1414K	56x84	4704	18816	556	2/24	Y	–	X	I/O	I/O	**
XCV50	Virtex Family: Density BlockRAM Distributed RAM SelectI/O 4 DLLs	1728	21K	34K-58K	56K	16x24	384	1536	180	2/24	Y	–	–	–	X	*
XCV100		2700	32K	72K-109K	78K	20x30	600	2400	180	2/24	Y	–	–	–	X	*
XCV150		3888	47K	93K-165K	102K	24x36	864	3456	260	2/24	Y	–	–	X	I/O	*
XCV200		5292	64K	146K-237K	130K	28x42	1176	4704	284	2/24	Y	–	–	X	I/O	*
XCV300		6912	83K	176K-323K	160K	32x48	1536	6144	316	2/24	Y	–	–	X	I/O	*
XCV400		10800	130K	282K-468K	230K	40x60	2400	9600	404	2/24	Y	–	–	X	I/O	*
XCV600		15552	187K	365K-661K	312K	48x72	3456	13824	512	2/24	Y	–	–	X	I/O	*
XCV800		21168	254K	511K-888K	406K	56x84	4704	18816	512	2/24	Y	–	–	–	X	*
XCV1000		27648	332K	622K-1,124K	512K	64x96	6144	24576	512	2/24	Y	–	–	–	X	*

* I/Os are voltage tolerant

** 5 V tolerant I/Os with external resistor

X = Core and I/O voltage

I/Os = I/O voltage supported