

		Space-Grade Devices								
		Virtex®-5QV FPGAs		Virtex-4QV FPGAs			Virtex-II XQR FPGAs	Virtex XQR FPGAs		
		Part Number	XQR5VFX130	XQR4VLX200	XQR4VXS55	XQR4VFX60	XQR4VFX140	XQR2V3000	XQVR300	XQVR600
		Core Voltage	1.0V	1.2V	1.2V	1.2V	1.2V	1.5V	2.5V	2.5V
Logic Resources	Slices ⁽¹⁾	20,480	89,088	24,576	25,280	63,168	14,336	3,072	6,912	
	Logic Cells	130,000	200,448	55,296	56,880	142,128	32,256	6,912	15,552	
	CLB Flip-Flops	81920	178,176	49,152	50,560	126,336	28,672	6,144	13,824	
Memory Resources	Maximum Distributed RAM (Kb)	1580	1,392	384	395	987	448	1,711	3,523	
	Block RAM/FIFO w/ECC (36 Kb each)	298	—	—	—	—	—	—	—	
	Block RAM/FIFO (18 Kb each)	596	336	320	232	552	96	—	—	
	Block RAM (4 Kb each)	—	—	—	—	—	—	16	24	
	Total Block RAM (Kb)	10,728	6,048	5,760	4,176	9,936	1,728	64	96	
Clock Resources	Digital Clock Manager (DCM)	12	12	8	12	20	12	—	—	
	Phase Lock Loop (PLL)	6	—	—	—	—	—	—	—	
	Delay Lock Loop (DLL)	—	—	—	—	—	—	4	4	
I/O Resources	Maximum Single-Ended I/Os	836	960	640	576	896	720	316	316	
	Maximum Differential I/O Pairs	414	480	320	288	448	360	—	—	
	Digitally Controlled Impedance	Yes	Yes	Yes	Yes	Yes	Yes	—	—	
Embedded Hard IP Resources	Enhanced DSP Slices (DSP48E)	320	—	—	—	—	—	—	—	
	DSP Slices	—	96	512	128	192	—	—	—	
	18 x 18 Multipliers	—	—	—	—	—	96	—	—	
	10/100/100 Ethernet MAC Blocks	6	—	—	4	4	—	—	—	
	PowerPC® Processor Blocks	—	—	—	2	2	—	—	—	
	Multi-Gigabit Serial Transceivers (MGT)	18	—	—	—	—	—	—	—	
Miscellaneous	Speed Grades	-1	-10	-10	-10	-10	-4	-4	-4	
	Configuration Memory (Mb)	49.2	51.4	22.7	21.0	47.9	10.5	1.7	3.5	
	Manufacturing Grades	V	V	V	V	V	M, V	M, V, B	M, V, B	
	Total Ionizing Dose (krad(Si))	1000	300	300	300	300	200	100	100	
	SEL Immunity (MeV-cm2/mg)	>125	>125	>125	>125	>125	>160	>125	>125	
Package ⁽²⁾	Area	Available User I/Os								
CGA Packages (CG): Ceramic column grid array (1.27 mm ball spacing)										
CG717 ⁽³⁾	35 x 35 mm							516		
CFA Packages (CF): Flip-chip, ceramic column grid array (1.0 mm ball spacing)										
CF1144 ⁽⁴⁾	35 x 35 mm				576					
CF1140 ⁽⁵⁾	35 x 35 mm			640						
CF1509 ⁽⁶⁾	40 x 40 mm		960				768			
CF1752 ⁽⁷⁾	45 x 45 mm	836								
CQFP Packages (CB): Ceramic, brazed, quad flat pack (0.025 inch lead spacing)										
CB228	1.55 x 1.55 in								162	162

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Notes: 1. Each slice comprises two 4-input logic function generators (LUTs), two storage elements, wide-function multiplexers, and carry logic.

- For information on DSCC SMD availability, contact Xilinx.
- The BG728 and CG717 packages are footprint/pin compatible.
- The CF1144 and FF1152 packages are footprint/pin compatible.
- The CF1140 and FF1148 packages are footprint/pin compatible.
- For the XQR4VLX200, the CF1509 and FF1513 packages are footprint/pin compatible. For the XQR4VFX140, the CF1509 and the FF1517 are footprint/pin compatible.
- The CF1752 and FF1738 are footprint/pin compatible.

Manufacturing Grades		
http://www.xilinx.com/products/milaero/rpt003.pdf		
Grade	Description	Temperature
V	Device Xilinx V-Grade Flow ⁽¹⁾ Military Ceramic	T _C = -55°C to +125°C
H	Device Flip-Chip Radiation Tolerant Ceramic	T _J = -55°C to +125°C
B	SMD Radiation Tolerant and Non-RT SMD Military Ceramic	T _C = -55°C to +125°C
N	Military Plastic	T _J = -55°C to +125°C
M	Military Ceramic or Plastic	T _J = -55°C to +125°C (Plastic), T _C = -55°C to +125°C (Ceramic)
I	Industrial Plastic	T _J = -40°C to +100°C

Notes: 1. Per ADQ0007.

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