



**Spartan® and Virtex™ Field Programmable Gate Arrays**

**Spartan-6:** Offers the best solution for high volume logic designs, consumer-oriented DSP designs, and cost-sensitive embedded applications. **Spartan-3 Family** Features a broad range of densities, general functionality and targeted specific application solutions. **Spartan-3:** • Highest density and pin count • Ideal for highly integrated data-processing applications **Spartan-3A:** • I/O optimized • Ideal for bridging, differential signaling and memory interfacing applications **Spartan-3A DSP:** • DSP Optimized • Ideal for applications where integrated DSP MACs and expanded memory are required **Spartan-3AN:** • Non-Volatile • Ideal for applications where non-volatile system integration, security or large user Flash is required **Spartan-3E:** • Logic optimized • Ideal for logic integration, DSP co-processing and embedded control **Spartan-II:** • 2.5V FPGA gives users abundant logic resources, and a rich feature set • System performance is supported

up to 200MHz **Spartan-IIIE:** • 1.8V FPGA is similar to the Spartan-II family but operates at a lower voltage **Spartan-XL:** • High performance FPGA **Virtex-5:** • Industry's first 65nm FPGA offering choice of platforms, each delivering an optimized balance of high performance logic, serial connectivity, signal and embedded processing **Virtex-4:** • Offers breakthrough capabilities at the lowest cost, with multiple platforms to choose from **Virtex-II Pro:** • Incorporates embedded PowerPC™ processors and 3.125Gbps RocketIO serial transceivers **Virtex-II:** • High performance interfaces to external memory and clock management, as well as flexible logic resources **Virtex:** • FPGAs are flexible alternatives to mask programmed gate arrays • System performance up to 200MHz – 66MHz PCI Compliant-Hot swappable for Compact PCI • All Virtex families are supported by FPGA Foundation™ and Alliance Development Systems

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Package	Gates	CLB	I/O Pins	Operating Voltage	Digi-Key Part No.	1	25	100	Xilinx Part No.
<b>NEW! Spartan-6 Series — RoHS Compliant NEW!</b>									
324-CSBGA	15K	136	232	1.2	122-1602-ND	28.28	—	—	XC6SLX16-2CSG324CES
484-FGBGA	44K	401	358	1.2	122-1603-ND	60.53	—	—	XC6SLX45-2FGG484CES
<b>Spartan-3 Series — RoHS Compliant</b>									
100-VTQFP	50K	192	63	1.2	122-1504-ND	11.33	9.82	8.59	XC3S50-4VQG100C
256-FTBGA	200K	480	173	1.2	122-1338-ND	28.67	24.97	21.72	XC3S200-4FTG256C
208-POFQ	200K	480	141	1.2	122-1338-ND	22.72	19.81	17.17	XC3S200-4PQG208C
144-TQFP	200K	480	97	1.2	122-1340-ND	16.94	14.76	12.80	XC3S200-4TQG144C
456-FBGA	400K	896	264	1.2	122-1341-ND	52.80	45.90	39.92	XC3S400-4FGG456C
256-FTBGA	400K	896	173	1.2	122-1342-ND	30.30	26.38	22.90	XC3S400-4FTG256C
208-POFQ	400K	896	141	1.2	122-1519-ND	28.56	24.86	21.61	XC3S400-4PQG208C
456-FBGA	1M	1920	333	1.2	122-1333-ND	69.69	60.60	52.69	XC3S1000-4FGG456C
676-FBGA	1M	1920	391	1.2	122-1334-ND	96.06	83.55	72.66	XC3S1000-4FGG676C
256-FTBGA	1M	1920	173	1.2	122-1335-ND	52.29	45.51	39.56	XC3S1000-4FTG256C
456-FBGA	1.5M	3328	333	1.2	122-1336-ND	87.53	76.09	66.16	XC3S1500-4FGG456C
<b>Spartan-3A Series — RoHS Compliant</b>									
100-VQFP	50K	176	144	1.2	122-1592-ND	6.19	—	—	XC3S50A-4VQG100C
100-VQFP	50K	176	144	1.2	122-1593-ND	7.14	—	—	XC3S50A-4VQG100J
100-VQFP	200K	448	248	1.2	122-1594-ND	12.52	—	—	XC3S200A-4VQG100C
100-VQFP	200K	448	248	1.2	122-1595-ND	14.41	—	—	XC3S200A-4VQG100J
100-VQFP	200K	448	248	1.2	122-1596-ND	15.08	—	—	XC3S200A-5VQG100C
144-TQFP	50K	176	108	1.2	122-1541-ND	8.35	—	—	XC3S50A-4TQG144C
144-TQFP	50K	192	124	1.2	122-1589-ND	9.63	—	—	XC3S50A-4TQG144J
256-FTBGA	50K	176	144	1.2	122-1542-ND	9.83	—	—	XC3S50A-4FTG256C
256-FTBGA	50K	176	144	1.2	122-1579-ND	11.31	—	—	XC3S50A-4FTG256J
256-FTBGA	200K	448	195	1.2	122-1543-ND	15.08	—	—	XC3S200A-4FTG256C
320-FBGA	200K	448	248	1.2	122-1544-ND	17.71	—	—	XC3S200A-4FGG320C
256-FTBGA	400K	896	195	1.2	122-1545-ND	17.78	—	—	XC3S400A-4FTG256C
256-FTBGA	400K	896	195	1.2	122-1580-ND	21.34	—	—	XC3S400A-5FTG256C
256-FTBGA	400K	896	264	1.2	122-1588-ND	20.47	—	—	XC3S400A-4FTG256J
400-FBGA	400K	896	311	1.2	122-1547-ND	24.58	—	—	XC3S400A-4FGG400C
400-FBGA	700K	1472	311	1.2	122-1548-ND	34.07	—	—	XC3S700A-4FGG400C
484-FBGA	700K	1472	372	1.2	122-1549-ND	37.91	—	—	XC3S700A-4FGG484C
484-FBGA	1400K	2816	375	1.2	122-1550-ND	57.50	—	—	XC3S1400A-4FGG484C
676-FBGA	1400K	2816	502	1.2	122-1551-ND	66.32	—	—	XC3S1400A-4FGG676C
<b>Spartan-3A DSP Series — RoHS Compliant</b>									
484-CSBGA	1800K	4160	309	1.2	122-1537-ND	58.04	—	—	XC3SD1800A-4CSG484C
676-FBGA	1800K	4160	519	1.2	122-1538-ND	66.72	—	—	XC3SD1800A-4FGG676C
484-CSBGA	3400K	5968	309	1.2	122-1540-ND	76.02	—	—	XC3SD3400A-4CSG484C
676-FBGA	3400K	5968	469	1.2	122-1539-ND	87.39	—	—	XC3SD3400A-4FGG676C
<b>Spartan-3AN Series — RoHS Compliant</b>									
144-TQFP	50K	176	108	1.2	122-1555-ND	10.03	—	—	XC3S50AN-4TQG144C
144-TQFP	50K	176	108	1.2	122-1597-ND	11.58	—	—	XC3S50AN-4TQG144J
144-TQFP	50K	192	124	1.2	122-1590-ND	12.05	—	—	XC3S50AN-5TQG144C
256-FTBGA	200K	448	195	1.2	122-1553-ND	17.78	—	—	XC3S200AN-4FTG256C
256-FTBGA	200K	448	195	1.2	122-1569-ND	20.40	—	—	XC3S200AN-4FTG256J
256-FTBGA	200K	448	195	1.2	122-1599-ND	21.28	—	—	XC3S200AN-5FTG256C
400-FBGA	400K	896	311	1.2	122-1554-ND	28.21	—	—	XC3S400AN-4FGG400C
484-FBGA	700K	1472	372	1.2	122-1556-ND	41.68	—	—	XC3S700AN-4FGG484C
484-FBGA	700K	1472	372	1.2	122-1598-ND	47.94	—	—	XC3S700AN-4FGG484J
676-FBGA	1400K	2816	502	1.2	122-1552-ND	72.99	—	—	XC3S1400AN-4FGG676C
676-FBGA	1400K	2816	502	1.2	122-1600-ND	87.60	—	—	XC3S1400AN-5FGG676C
<b>Spartan-3E Series — RoHS Compliant</b>									
132-CSBGA	100K	240	83	1.2	122-1515-ND	12.46	—	—	XC3S100E-4CPG132C
144-TQFP	100K	240	108	1.2	122-1478-ND	12.46	—	—	XC3S100E-4TQG144C
100-VTQFP	100K	240	66	1.2	122-1479-ND	10.64	—	—	XC3S100E-4VQG100C
132-CSBGA	250K	612	92	1.2	122-1518-ND	17.17	—	—	XC3S250E-4CPG132C
144-TQFP	250K	612	108	1.2	122-1524-ND	17.17	—	—	XC3S250E-4TQG144C
100-VQFP	250K	612	66	1.2	122-1525-ND	14.68	—	—	XC3S250E-4VQG100C
256-FTBGA	250K	612	172	1.2	122-1482-ND	22.69	—	—	XC3S250E-4FTG256C
208-POFQ	250K	612	158	1.2	122-1483-ND	20.54	—	—	XC3S250E-4PQG208C
132-CSBGA	500K	1164	92	1.2	122-1484-ND	23.30	—	—	XC3S500E-4CPG132C
320-FBGA	500K	1164	232	1.2	122-1526-ND	35.42	—	—	XC3S500E-4FGG320C
256-FTBGA	500K	1164	190	1.2	122-1485-ND	30.77	—	—	XC3S500E-4FTG256C
208-POFQ	500K	1164	158	1.2	122-1520-ND	27.94	—	—	XC3S500E-4PQG208C
320-FBGA	1200K	2168	250	1.2	122-1516-ND	49.08	—	—	XC3S1200E-4FGG320C
400-FBGA	1200K	2168	304	1.2	122-1480-ND	56.42	—	—	XC3S1200E-4FGG400C
256-FTBGA	1200K	2168	304	1.2	122-1529-ND	42.69	—	—	XC3S1200E-4FTG256C
320-FBGA	1600K	3688	250	1.2	122-1481-ND	68.41	—	—	XC3S1600E-4FGG320C
400-FBGA	1600K	3688	304	1.2	122-1517-ND	78.64	—	—	XC3S1600E-4FGG400C
<b>Spartan-II Series</b>									
144-TQFP	15K	96	86	2.5	122-1218-ND	9.15	—	—	XC2S15-5TQG144C
100-VQFP	15K	96	60	2.5	122-1309-ND◆	7.97	—	—	XC2S15-5VQG100C
144-TQFP	30K	216	92	2.5	122-1318-ND◆	12.96	—	—	XC2S30-5TQG144C
100-VQFP	30K	216	60	2.5	122-1513-5-ND◆	11.28	—	—	XC2S30-5VQG100C
256-FBGA	50K	384	176	2.5	122-1319-ND◆	18.68	—	—	XC2S50-5FGG256C
208-POFQ	50K	384	140	2.5	122-1320-ND◆	16.55	—	—	XC2S50-5PQG208C
144-TQFP	50K	384	92	2.5	122-1321-ND◆	14.42	—	—	XC2S50-5TQG144C
456-FBGA	100K	600	196	2.5	122-1227-ND	46.36	—	—	XC2S100-5FGG456C
208-POFQ	100K	600	140	2.5	122-1304-ND◆	21.94	—	—	XC2S100-5PQG208C
144-TQFP	100K	600	92	2.5	122-1305-ND◆	19.75	—	—	XC2S100-5TQG144C
208-POFQ	150K	864	140	2.5	122-1308-ND◆	24.24	—	—	XC2S150-5PQG208C
208-POFQ	200K	1176	140	2.5	122-1314-ND◆	29.46	—	—	XC2S200-5PQG208C
208-POFQ	200K	1176	140	2.5	122-1315-ND◆	33.83	—	—	XC2S200-5PQG208J
208-POFQ	200K	1176	140	2.5	122-1317-ND◆	33.83	—	—	XC2S200-6PQG208C
<b>Spartan-IIIE Series — RoHS Compliant</b>									
256-FBGA	50K	384	182	1.8	122-1328-ND	18.46	18.30	18.07	XC2S50E-6FTG256C
256-FBGA	50K	384	182	1.8	122-1329-ND	21.21	21.05	20.77	XC2S50E-6FTG256J

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