Cyclone® IV
FPGA

CYCLONE® IV FPGAs PRODUCT TABLE

	PRODUCT LINE	CYCLONE IV GX FPGAS[1]							CYCLONE IV E FPGAS[1]								
		EP4CGX15	EP4CGX22	EEP4CGX30	EP4CGX50	EP4CGX75	EP4CGX110	EP4CGX150	EP4CE6	EP4CE10	EP4CE15	EP4CE22	EP4CE30	EP4CE40	EP4CE55	EP4CE75	EP4CE115
Resources	LEs (K)	14	21	29	50	74	109	150	6	10	15	22	29	40	56	75	114
	M9K memory blocks	60	84	120	278	462	666	720	30	46	56	66	66	126	260	305	432
	Embedded memory (Kb)	540	756	1,080	2,502	4,158	5,490	6,480	270	414	504	594	594	1,134	2,340	2,745	3,888
	18 x 18 multipliers	0	40	80	140	198	280	360	15	23	56	66	66	116	154	200	266
Clocks, Maximum I/O Pins, and Architectural Features	Global clock networks	20	20	20	30	30	30	30	10	10	20	20	20	20	20	20	20
	PLLs	3	4	4	8	8	8	8	2	2	4	4	4	4	4	4	4
	I/O voltage levels supported (V)	1.2, 1.5, 1.8, 2.5, 3.3															
	I/O standards supported	LVTTL, LVCMOS, PCI, PCI-X, LVDS, mini-LVDS, RSDS, LVPECL, SSTL-18 (1 and II), SSTL-15 (I and II), SSTL-2 (I and II), HSTL-18 (I and II), HSTL-15 (I and II), HSTL-12 (I and II), Differential SSTL-18 (I and II), Differential SSTL-15 (I and II), Differential SSTL-2 (I and II), Differential HSTL-18 (I and II), Differential HSTL-15 (I and II), Differential HSTL-12 (I and II), Differential HSUL-12															
	Emulated LVDS channels	9	40	40	73	73	139	139	66	66	137	52	224	224	160	178	230
	LVDS channels, 840 Mbps (receive/transmit)	7/7	14/14	14/14	49/49	49/49	59/59	59/59	–	–	–	–	–	–	–	–	–
	Transceiver count[2] (2.5 Gbps/3.125 Gbps)	2/0	2, 0 / 4, 0	4, 0 / 0, 4[3]	0, 8	0, 8	0, 8	0, 8	–	–	–	–	–	–	–	–	–
	PCIe hardened IP blocks (Gen1)	1	1	1	1	1	1	1	–	–	–	–	–	–	–	–	–
	Memory devices supported	DDR2, DDR, SDR															
Package Options and I/O Pins: General-Purpose I/O (GPIO) and Transceiver Count																	
E144 pin[4] (22 mm, 0.5 mm pitch)		–	–	–	–	–	–	–	91	91	81	79	–	–	–	–	–
M164 pin (8 mm, 0.5 mm pitch)		–	–	–	–	–	–	–	–	–	90	–	–	–	–	–	–
M256 pin (9 mm, 0.5 mm pitch)		–	–	–	–	–	–	–	–	–	166	–	–	–	–	–	–
U256 pin (14 mm, 0.8 mm pitch)		–	–	–	–	–	–	–	179	179	165	153	–	–	–	–	–
U484 pin (19 mm, 0.8 mm pitch)		–	–	–	–	–	–	–	–	–	–	–	328	328	324	292	–
F169 pin (14 mm, 1.0 mm pitch)		72 2	72 2	72 2	–	–	–	–	–	–	–	–	–	–	–	–	–
F256 pin (17 mm, 1.0 mm pitch)		–	–	–	–	–	–	–	179	179	165	153	–	–	–	–	–
F324 pin (19 mm, 1.0 mm pitch)		–	150 4	150 4	–	–	–	–	–	–	–	–	193	193	–	–	–
F484 pin (23 mm, 1.0 mm pitch)				290 4	290 4	290 4	270 4	270 4	–	–	343	–	328	328	324	292	280
F672 pin (27 mm, 1.0 mm pitch)		–	–	–	310 8	310 8	393 8	393 8	–	–	–	–	–	–	–	–	–
F780 pin (29 mm, 1.0 mm pitch)		–	–	–	–	–	–	–	–	–	–	–	532	532	374	426	528
F896 pin (31 mm, 1.0 mm pitch)		–	–	–	–	–	475 8	475 8	–	–	–	–	–	–	–	–	–

Notes:
1. All data is correct at the time of printing, and may be subject to change without prior notice. For the latest information, please visit www.altera.com.
2. Transceiver performance varies by product line and package offering.
3. EP4CGX30 supports 3.125 Gbps transceivers only in F484 package option.
4. Enhanced thin quad flat pack (EQFP).

72 / 2 — Values on top indicate available user I/O pins; values at the bottom indicate the 2.5 Gbps or 3.125 Gbps transceiver count.

Pin migration (same Vcc, GND, ISP, and input pins). User I/Os may be less than labelled for pin migration.