

Avalanche

The Hottest Cool New
FPGA Development Board
by Future Electronics!



Future Electronics is heating up the market and cooling down the competition with Microsemi's PolarFire FPGAs.

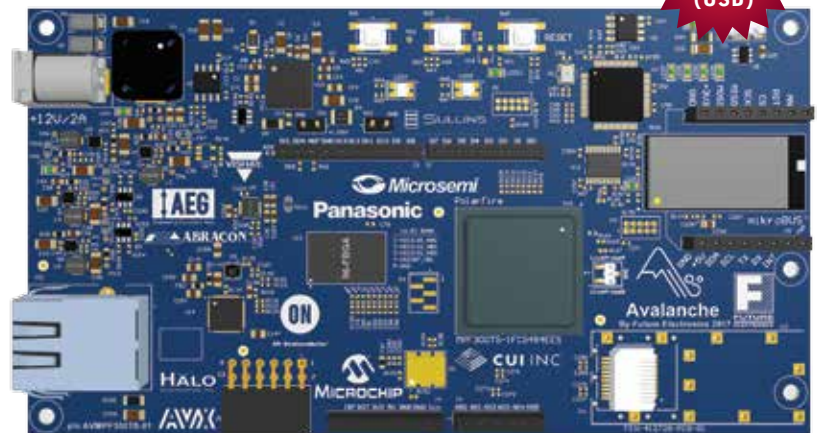
The Avalanche Development Kit allows developers to quickly prototype for the lowest power mid-range FPGA platform in the market. At the heart of the kit is a 300k LE (logic element) PolarFire non-volatile

FPGA from Microsemi. The PolarFire FPGA family is a cost optimized, lowest power mid-range density FPGA family with proven security and exceptional reliability.

Best in Class Features Include:

- Microsemi PolarFire MPF300
- Microsemi LX7167 step down converter
- Microsemi Gigabit Ethernet PHY VSC8531
- Microsemi embedded FlashPro 5
- ALLIANCE 4Gb DDR3 synchronous DRAM (SDRAM)
- HALO fast jack single port HFJ11
- HALO shielded drum inductor HDS1255
- High speed serial connectivity transceivers (SerDes)
- Microchip 64Mb serial flash SST26VF064B
- Microchip analog converter A/D MCP3903
- Panasonic Wi-Fi module PAN9320
- Sullins Arduino compatible expansion headers
- Sullins MikroBus expansion headers
- Sullins PMod expansion connector

There are hundreds, if not thousands, of peripherals that can be connected to the Avalanche Kit. Developers can work with all kind sensors, drivers, displays, wireless modules, etc.



AVMPF300TS-01



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Features		PolarFire FPGA			
		MPF100T	MPF200T	MPF300T	MPF500T
FPGA Fabric	Logic Elements (4LUT + DFF)	109K	192K	300K	481K
	Math Blocks (18 x 18 MACC)	336	588	924	1480
	L SRAM Blocks (20k bit)	352	616	952	1520
	uSRAM Blocks (64 x12)	1008	1764	2772	4440
	Total RAM Mbits	7.6Mbits	13.3Mbits	20.6Mbits	33Mbits
	uPROM Kbits	297Kbits	297Kbits	459Kbits	513Kbits
	Userv DLLs/PLLs	8 each	8 each	8 each	8 each
	25Mbps to 12.5Gbps SERDES Lanes	8	16	16	24
Total I/O	PCle Gen2 End Points/ Root Ports	2	2	2	2
	Total User I/O	284	368	512	584
Packaging	Type/Size/Pitch	Total Users I/O (HSIO, GPIO) XCVRs			
	FCSG325 (11 x 11, 11 x 14.5*, 0.5mm)	170 (84/86)/4	170 (84/86)/4		
	FCSG536 (16 x 16, 0.5mm)		300 (120/180)/4	300 (120/180)/4	
	FCVG484 (19 x 19, 0.8mm)	284 (120/164)/4	284 (120/164)/4	284 (120/164)/4	
	FCG484 (23 x 23, 1.0mm)	244 (96/148)/8	244 (96/148)/8	244 (96/148)/8	
	FCG784 (29 x 29, 1.0mm)		364 (132/232)/16	388 (156/232)/16	388 (156/232)/16
	FCG1152 (35 x 35, 1.0mm)			512 (276/236)/16	585 (324/260)/24
Devices in the same package and family type are pin compatible					

PolarFire FPGAs Deliver up to 500K Logic Elements, 12.7G Transceivers at 50% Lower Power than Competing Mid-Range FPGAs

- Lowest Cost 10G Serdes Based FPGA
- Smallest Form Factors
- Lowest Cost DDR4
- High-Speed I/O Solutions
- Highest Security
- SEU Immunity

