

Features

- Enables On-Demand power management
- Integrate application targeted Power Components
- Power Blocks for a variety of topologies
 - Scalable Integrated N-channel MOSFETs (SIM)
 - Current sense for protection, telemetry, regulation
 - Build Switching topologies - Buck, Boost, Buck-Boost
 - Build Linear topologies - LDO, Load Switch
 - Build Mixed topologies - Battery Charger
 - Build BLDC topologies – H-Bridge
- Sensor Blocks, sensing voltages and currents
 - Regulation, protection and telemetry
 - Adaptive Digitizer (ADi)
 - Threshold Comparators (ThC)
 - Summation AMplifier (SuM)
 - Noise-Immune Reference (Nref) Array
- Analog fabric connectivity for sensor signals
- Digital μ Logic fabric connectivity: Analog/Digital Blocks
 - Analog and Digital GPIOs, LUTs for logic & Interface
 - Integrated Compensator RAM (CRAM)
 - On-demand POL control loops and interfaces
 - Precision Modulation Timer Array
- Industry first: Analog Proficiency – Digital Flexibility

AmP Family

- Nine member 12 V platform family (AmP8D available now)
 - Four, Eight, Twelve Power & Sensor Blocks
 - Up to four, eight and twelve switcher or linear rails
 - 6A, 3A, 1A per DMOS MOSFETs; RDSon 40m Ω
 - Analog or Digital I/Os: 24
 - Package: 8x8 sq. mm
- Standard BCD process: 110nm, VDSmax 20V

AmP DMOS Platforms

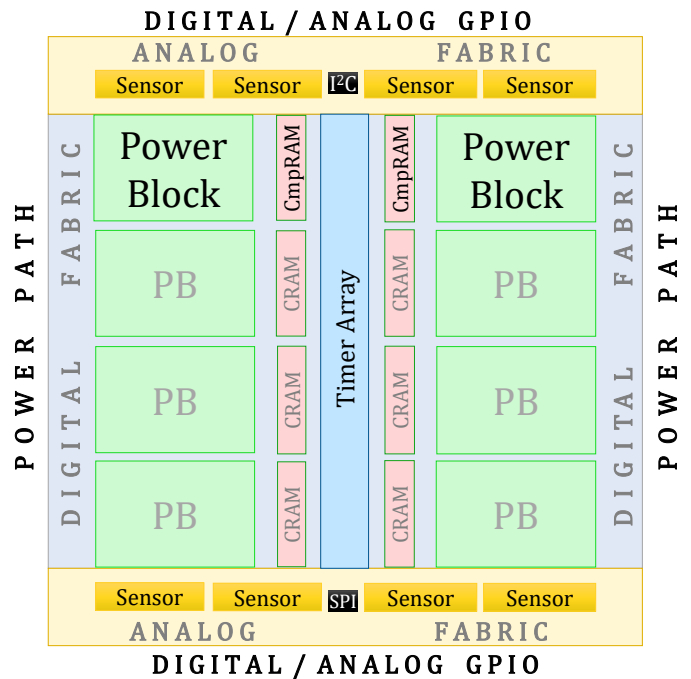
Power Blocks	GPIOs	Device		
Four	12	AmP4D1	AmP4D3	AmP4D6
Eight	24	AmP8D1	AmP8D3	AmP8D6
Twelve	36	AmP12D1	AmP12D3	AmP12D6

Applications

Power Component Integrator

- Build Buck, Boost, Buck-Boost POL topologies
- PWM – CV/CC, voltage mode or current mode
- Hysteretic – CON/COF
- Load Switch, LDO - Source/Drain, DDR LDO
- External Switching Controllers/Gate Drivers
- Peak efficiency > 92%, Soft start/stop

Adaptive Multi-Rail Power Platform – AmP



AmP8D Platform Features

Device	8Dx1	8Dx3	8Dx6
Drain Current	1A	3A	6A
Power Blocks	8	8	8
Sensor Blocks	8	8	8
Nrefs	8	12	24
Timers	16	16	16
LDOs for GPIOs	1	2	4
μ Logic Fabric LUTs	512	512	512
Package*	GPIOs		
QF74	8x8mm	8D MOSFETs	24
			24
			24

*TA: -40C to 85C, TJ: -40C to 125C;

Digital power management IC

- Monitor and throttle/margin power rails
- Power ON/OFF/Sequence power rails
- Buck, Boost, Buck-Boost, LDO, Battery Chargers

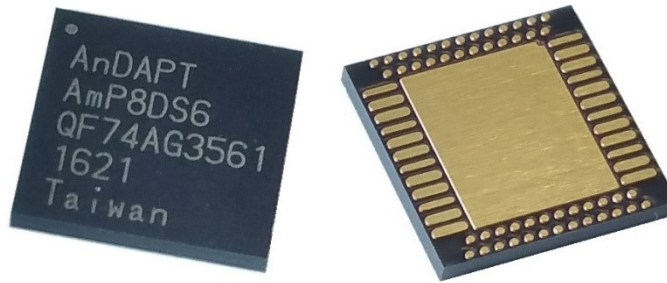
Battery Charger

- Build trickle, CC, CV Charger
- Power Path integration
- PMBus, SMBus, I2C for Telemetry and control
- Protection: On-demand OCP, OVP, OTP, UVLO

Order Information

Platform	MOSFETs	Technology	Current – A	Package	Part Number	Availability
AmP	8	D	1	QF74	AmP8DS1QF74	Now
AmP	8	D	3	QF74	AmP8DS3QF74	Now
AmP	8	D	6	QF74	AmP8DS6QF74	Now

Package Marking Example – QF74



Package Configuration

Top View (Pin and Thermal Pads are on bottom side)

