The GF 40LP process is aimed for power- and price-sensitive applications, such as mobile and wireless. In addition, it has flexible mixed-technology options for RF, low voltage and automotive solutions. Using a multi-Vt baseline logic process, the 40nm LP-RF technology adds RF-specific features and provides mmWave coverage for active and passive elements.

GF 55LPe-RF and 55LPx

Built on the company's low power enhanced (LPe) platform, 55nm RFCMOS technology combines the benefits of a rich baseline logic technology and IP ecosystem with RF features and PDKs, enabling a seamless transition to digital logic SoCs with higher levels of RF integration. The 55nm Low Power Extended (LPx) platform is ideal for mixed-signal / RF applications with flexible mixed-technology options for RF, eFlash, high voltage and automotive.

GF 130LP and 130BCDlite

The highly configurable and production-proven 130nm platform solution enables in-tegration of logic, RF, analog and non-volatile memory to provide a cost effective solu-tion. 130LP technology is ideal for volume production serving Mobile Cellular, Consumer and Digital/RF SoC. 130BCDLite process is tailored for cost-effective mobile/consumer applications such as DC-DC, AC-DC, PMIC, Wireless and Quick Charging

Technology Details

12LP+

C e lta e 0 8
I O lta e 1 2 1 35 1 5 1 8
etal la e 8-13
D al S I DDB SDB Sin le Fin L i
C P Standa d l d l
Ind t P e i i n OL Re i t eF e

22FDX

Core Voltage: 0.4V - 0.8V
I/O Voltage: 1.2V/1.5V/1.8V/3.3V
Metal layers: 7 – 10
4 core device Vt's
34x Ultra Thick Top metal
Reference f ow for back-gate biasing
Integrated RF/mmWave devices with high ft/fmax

28SLPe

Core Voltage: 1V
I/O Voltage: 1.5V/1.8V
Metal layers: 6 – 11
4 core device Vt's
3µm thick top metal
High ft: 310 GHz
Value-added RF devices for RFSOC integration

40LP-RF-mmWave

Core Voltage: 1.1V
I/O Voltage: 1.5V/1.8V/2.5V/3.3V
Metal layers: 6 – 8
4 core device Vt's
3µm thick top metal
High ft: 260 GHz
Large suite of Millimeter wave passive structures

45RFSOI

Core Voltage: 0.9V/1V
Metal layers: 7 – 8
3 core device Vt's (HVt, SVt, UVt)
High ft/fmax (290/410 GHz)
FET stacking for higher PA Pout and PAE
High and low density MIM Caps

55LPe-RF and 55LPx

Core Voltage: 1.2V/2.5V
I/O Voltage: 1.8V/2.5V/3.3V
Metal layers: 6 – 8
3µm thick top metal
3 core device Vt's (HVt, RVt, LVt)
APMOM, MIM and MOS Caps□
5V EDMOS, MOS Varactor, eFuse

8XP

Core Voltage: 1.2V/2.5V
Metal layers: 5 - 8
HBT ft/fmax (GHz): 250/340
High Breakdown: 3.2V BVceo @ 78GHz fT
µ/mmWave passive elements
Inductors and Tx lines

130BCDlite

Core Voltage: 1.5V/5V/30V
I/O Voltage: 1.5V/5V/30V
Metal layers: 4 - 8
2 core device Vt's
Iso- and low Rds(on) N/PLDMOS (10V-40V)
HRES, Zener diode, MIM, MOM capacitors, eFlash

130LP

C e lta e 1 1 2 1 5
I O lta e 1 8 2 5 3 3
etal la e 2 - 8
2 e de i e t
i end an e PRO d le
l a a it eF e e a

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