Racyics® Crystal Oscillator for a 32kHz Crystal

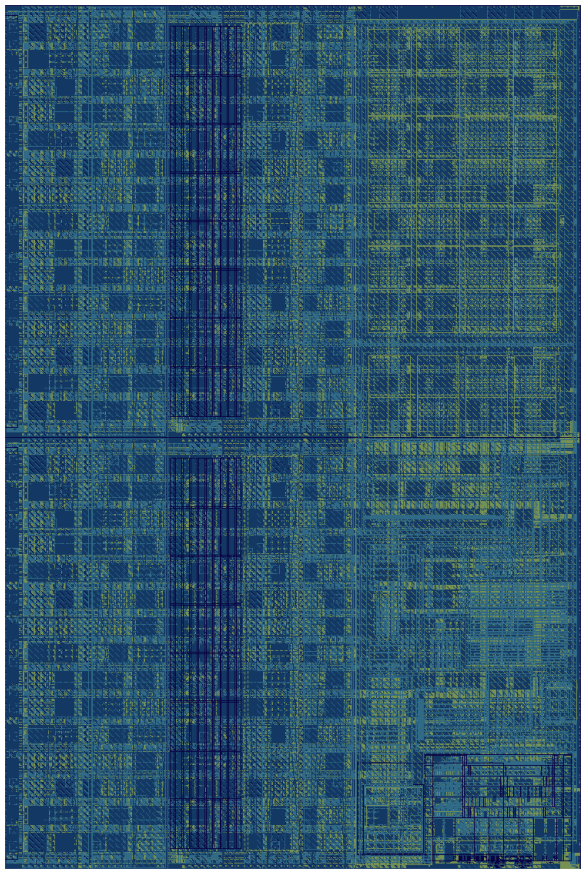
GlobalFoundries® 22FDX®

DESCRIPTION

ri_xtalosc_gf22fdx_32k is a crystal oscillator designed to work with 32 kHz crystals. It is layouted as an IO combo-padcell compatible with Racyics 1.8 V EG IO Library. It supports autonomous startup and continues running even when the core supply is off. Automatic gain control ensures fast and reliable startup, while configurable load support and a bypass mode provide flexible integration for low-power timing applications. It is typically used in systems requiring a 32 kHz crystal for low-power timing functions.

KEY FACTS

- Specific crystal: 32 kHz
- Supported series resistance: up to 100 kOhm
- Supported load capacitance: 3 pF to 12.5 pF
- Startup time: 59 ms (TT, 12 pF) depending on crystal and PCB
- Typical current consumption: < 400 nA (TT, with high load)
- Operating temperature range: -40°C to 125°C
- Supports automatic startup
- Automatic gain control
- Bypass mode
- Physical Specifications:
  - Size: 80 µm x 120 µm = 9600 µm²
  - Supported metalstack: 10M_2Mx_5Cx_1Jx_2Qx_LB
  - Supported placement sides: east/west
  - Compatible with Racyics 1.8 V IO Library



DESIGN VIEWS

- Datasheet with integration guidelines
- GDSII layout
- LEF abstract
- .lib/.db timing files
- LVS netlist
- Verilog behavioral simulation model

IP SPECIFICATION

IP	Supplier	Description	Supply Voltage [V]	ZBB	ABB	Ready for Evaluation	Ready for Testchip	Ready for Production
ri_xtalosc_gf22fdx_32k	Racyics	Crystal Oscillator for a 32 kHz Crystal	core 0.80 IO 1.80	yes	no	now	now	now

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