

## 0.13μm High Performance FSC0H\_D 3.3V Crystal Oscillator I/O Cells

### Key Features

- UMC's 0.13μm 1.2V/3.3V HS/FSG/L130E Logic Process
- High frequency oscillator pad range: 1MHz ~ 66MHz
- Low frequency oscillator pad range: 32KHz ~ 1MHz
- Programmable output driving capability
- Oscillation mode / power down (stop) mode / tri-state mode / parallel model
- Internal feedback resistance
- Built-in Antenna diodes for all pins
- ESD Robustness and Latch-up immunity proven by Silicon

### General Description

This library is tailored for UMC's 0.13μm 1.2V/3.3V HS/FSG/L130E Logic Process. All I/O cells have been designed as programmable crystal oscillator I/O cells. Two layout structures, both optimized for pad limited and core limited designs, are available to support each programmable feature or function.

### Quick Reference

Characteristic		Description
<b>Physical</b>	Process	UMC 0.13μm 1.2V/3.3V 1P8M HS Logic Process
	Cell Width * Cell Height	69.6μm * 218.4μm (Staggered) 120.0μm * 152.0μm (In-line)
	Cell Layout Metal	M1, M2, M3
	Power Ring Metal	M4 and above
	Layout resolution	0.01μm
<b>Electrical</b>	Recommended Operating Conditions	Power Supply Voltage Core: 1.08V ~ 1.32V I/O: 2.97V ~ 3.63V Junction Temperature: -40°C ~ 125°C
	Frequency	High frequency oscillator pad :1M ~ 66M Low frequency oscillator pad :32K ~ 1M
	Input Threshold	LVTTL

#### HEADQUARTERS

Hsinchu, Taiwan,  
Tel: 886-3-578-7888  
Fax: 886-3-578-7889  
sales@faraday-tech.com

#### USA OFFICE

Sunnyvale, USA  
Tel: 1-408-522-8888  
Fax: 1-408-522-8889  
sales@faraday-usa.com

#### EUROPE OFFICE

Hoofddorp, Netherlands  
Tel: 31-2356-20496  
Fax: 31-2356-36297  
eusales@faraday-tech.com

#### JAPAN OFFICE

Tokyo, Japan  
Tel: 81-3-5214-0070  
Fax: 81-3-5214-0076  
sales@faraday.co.jp

#### CHINA OFFICE

Shanghai, P. R. China  
Tel: 86-21-6406-7523  
Fax: 86-21-6406-5327  
sales@faraday.com.cn