

# Bandgap Voltage Reference

## 0.45 V Output, Low PPM/°C

### TSMC N3P



## Bandgap Voltage Reference, 0.45 V Output

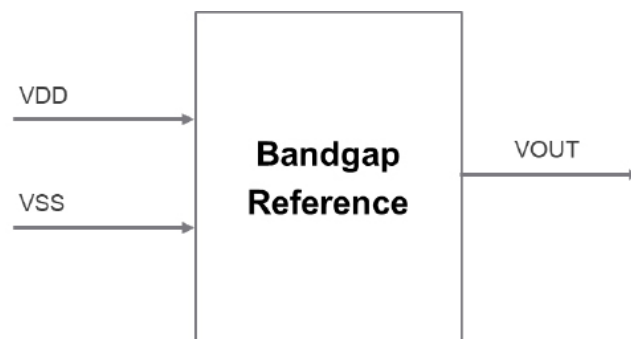
The Bandgap Voltage Reference IP is a 1.0 V input, low PPM/°C, 0.45 V reference voltage output implemented in the TSMC 3nm N3P CMOS process technology. Its low Temperature Coefficient, compact area, and wide operating temperature range make it especially suitable for use as a precision voltage reference for low voltage subsystems implemented in analog, digital, mixed-signal and RF ASICs and SoCs.

### Highlights

- TSMC 3nm FinFET process
- Input voltage: 1.0 V +/-10%
- Output voltage: 0.45 V
- Output voltage variation: < 5 mV at 0°C to 100°C
- PSRR: > 40 dB @ DC
- Low temperature coefficient (ppm/°C)
- Power consumption: ~ 1 mW
- Compact area
- Temperature range: -40°C to 125°C

### Deliverables

- SPICE Netlist and OA Schematics
- GDSII and LEF
- Behavioral Model
- IP Datasheet
- User's Guide
- Integration Guide



## Specifications

Silvaco LDO	Values			
	Minimum	Typical	Maximum	Units
Core Supply Voltage	0.9	1.0	1.1	V
Input Reference Current				uA
Output Voltage		0.45		V
Quiescent Current Consumption				uA
PSRR (DC)		> 40		dB
Silicon Area				mm <sup>2</sup>

Performance, area, and power specifications are available upon request.