

Power Management Unit

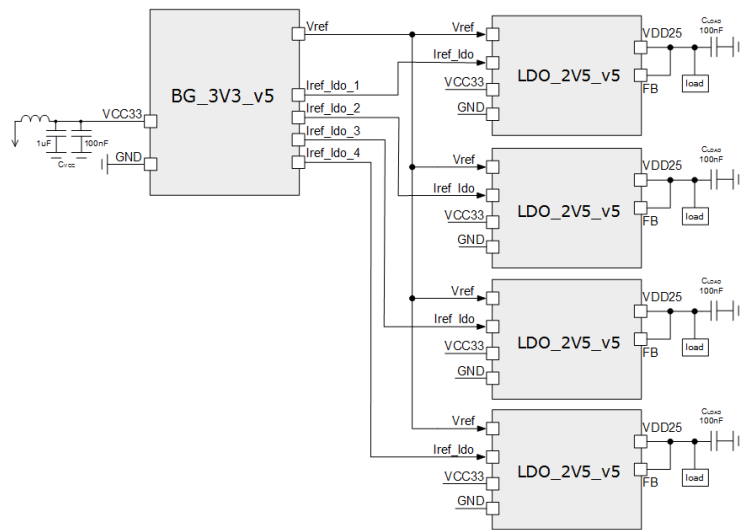
OVERVIEW

250iHP_PMU_05 is power management system, which consists of two parts – Bandgap and 4 LDOs. Bandgap reference voltage source forms temperature and power supply variations independent voltage. The voltage regulator contains an error amplifier, a PMOS power transistor and resistors for setting output voltage. Error amplifier compares input reference voltage with voltage from feedback resistor divider and adjusts the impedance of the pass PMOS transistor for stabilization of output voltage at the targeted level. LDO voltage: input 3.10 – 3.47V, output 2.5V

IP technology iHP SG25H5_EPIC SiGe BiCMOS 0.25 um

IP status: pre-silicon verification.

Area: bandgap 0.044 mm²; LDO 0.049 mm²



ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Unit
			min	typ.	max	
Supply voltage	V _{CC33}	-	3.10	3.3	3.47	V
Bandgap voltage source	V _{REF_BG}	-	1.07	1.08	1.10	V
LDO Output voltage	V _{DD25}	-	-	2.5	-	V
Operating temperature range	T _J	-	0	50	100	°C
Bandgap reference voltage temperature dependence	Δ _T V _{REF}	-	-	-	1	%
Absolute bandgap reference voltage accuracy	ΔV _{REF}	-	-	-	3	%
Reference output currents	I _{ref_Ido_1}	-	-	4	-	uA
	I _{ref_Ido_2}	-	-		-	
	I _{ref_Ido_3}	-	-		-	
	I _{ref_Ido_4}	-	-		-	
Quiescence current	I _{q_BG}	-	100	136	180	uA
	I _{q_LDO}	-	37	53	77	
Maximum LDO load current	I _{LDO max}	-	-	20	-	mA
LDO Load capacitance	C _{Load}	-	-	100	-	nF
LDO Line regulation	-	V _{cc} = 3.10 ÷ 3.47 V	-	0.1	-	%
LDO Load regulation	-	I _{LOAD} = 20uA -20mA	-	0.05	-	
Input logic high level	V _{IH}	For digital inputs	V _{DD25} -0.3	-	V _{DD25} +0.3	V
Input logic low level	V _{IL}		0	-	0.3	V