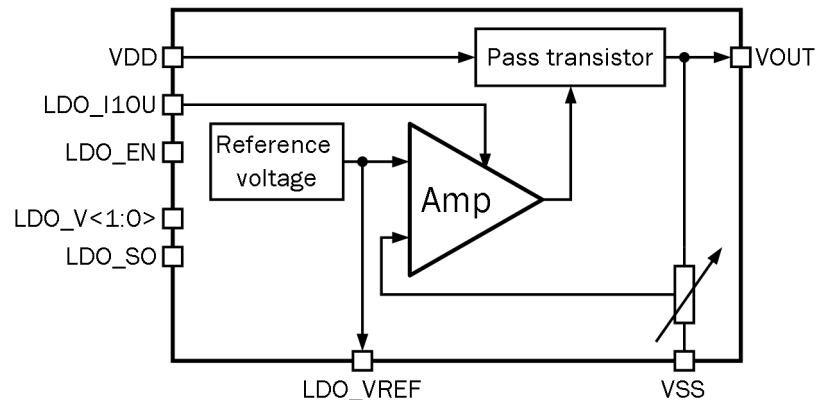


30mA linear voltage regulator (output voltage 1.16V, 1.20V, 1.24V and 1.28 V)
OVERVIEW

065TSMC_LDOVR_04 is CMOS low dropout linear voltage regulator with 30 mA output current capability. The device has high output voltage accuracy, low supply current and high power supply voltage ripple rejection. IP technology: TSMC CMOS 65 nm. IP status: silicon proven. Area: 0.019 mm².


ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Units
			min	typ.	max	
Supply voltage	V _{DD}	-	2.375	2.5	2.625	V
Temperature range	T	-	-40	+85	+125	°C
Reference voltage	V _{LDO_VREF}	From bandgap	1.11	1.12	1.13	V
Output voltage	V _{dd_pll}	LDO_V = "00"	1.14	1.16	1.18	V
		LDO_V = "01"	1.18	1.20	1.22	
		LDO_V = "10"	1.22	1.24	1.26	
		LDO_V = "11"	1.28	1.28	1.29	
Current consumption	I _{CC}	-	-	86	88	uA
Standby current	I _{STB}	-	-	2	45	nA
Load current	I _{LOAD}	-	0.1	-	30	mA
Line regulation	DV _{line}	I _{LOAD} = 1 mA, LDO_V = "01"	-	1.6	2.0	mV
Load regulation	DV _{LOAD}	LDO_V = "01"	-	0.7	0.9	mA
Bandgap voltage reference current consumption	I _{BG}	-	-	90	120	uA
Leakage current	I _{LEAK}	-	-	35	145	nA
Dropout voltage	V _{drop}	I _{LOAD} = 0.1 mA	-	0.004	0.004	V
		I _{LOAD} = 10 mA	-	0.28	0.32	
		I _{LOAD} = 20 mA	-	0.58	0.66	
Short circuit current	I _{SC}	V _{OUT} = 0 V	45	60	80	mA
RMS noise	N _f	@10 Hz – 100 kHz, LDO_V = "01"	-	33	-	uV
Power supply rejection ratio	PSRR	@100 Hz	48.8	53.6	-	dB
		@10 kHz	48.5	53.1	-	
		@1 MHz	21.3	22.1	-	
Input logic-high level	V _{IH}	-	0.85*V _{DD}	-	1.15*V _{DD}	V
Input logic-low level	V _{IL}	-	-0.2	-	0.2	V