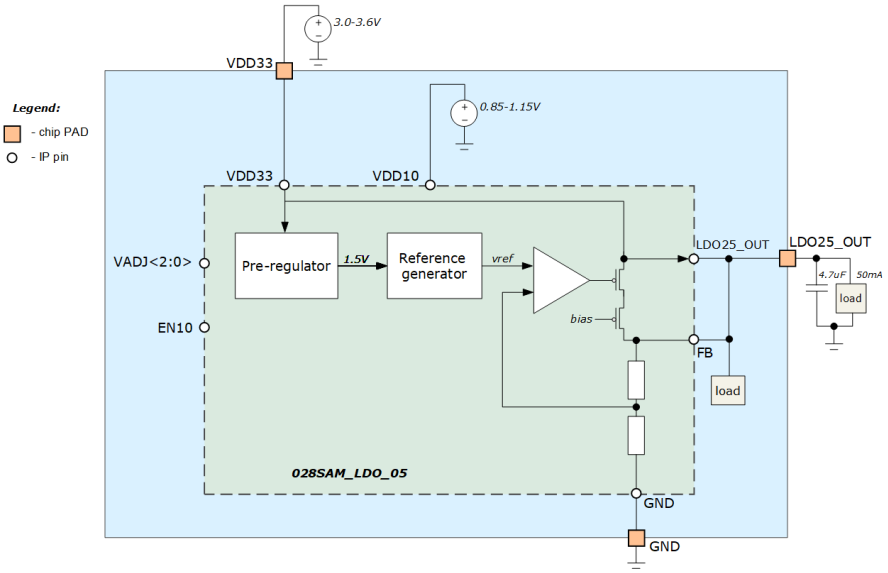
3.3V to 2.5V 50mA LDO voltage regulator

OVERVIEW

028SAM_LDO_05 is external-capacitor-based Linear Regulator in Samsung 28 LPP to generate SoC voltage supply voltage. The block provided with stable and precise 2.5V voltage from 3.3V input supply.
LDO is intended to maintain load current up to 50mA.

IP technology: Samsung 28nm LPP technology.
IP status: pre-silicon verification.
Area: 190x434um, 0.082mm^2.



ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions		Value min	Value typ.	Value max	Unit
Analog supply voltage	V_{DD33}	-		3.0	3.3	3.6	V
Digital supply voltage	V_{DD10}	-		0.85	1.0	1.15	V
Junction temperature	T_j	-		-40	27	+125	°C
Standby current	I_{stby}	-		-	3.55	5	uA
Load current	I_{load}	-		-	-	50	mA
Adjustment step	V_{adj}	-		-	50	-	mV
Nominal output voltage	V_{OUT}	VADJ<2:0> = "000"	I_{load} =10mA	2.44	2.505	2.58	V
			I_{load} =0mA	2.47	2.52	2.71	
			I_{load} =50mA	2.42	2.504	2.57	
		(Monte-Carlo 200 runs, ±3σ)		2.42	2.502	2.583	
Current consumption	I_{CC}	VADJ<2:0> = "000", I_{load} =0mA		-	36	55	µA
Temperature coefficient of output voltage	dT_{VOUT}	VADJ<2:0> = "000", I_{load} =10mA		-	14	-	ppm/C
Line regulation	δV_{VOUT}	I_{load} =10mA, 3V< V_{DD33} < 3.6V		-	0.17	-	%
Load regulation	δI_{VOUT}	0.1mA < I_{load} < 50mA		-	0.01	-	%/mA
Power Supply Rejection Ratio	PSRR	I_{load} =10mA	@10Hz	-34	-43	-	dB
			@10kHz	-15	-27	-	
			@1MHz	-49	-52	-	
Load capacitance	C_{load}	-		-	4.7	-	uF