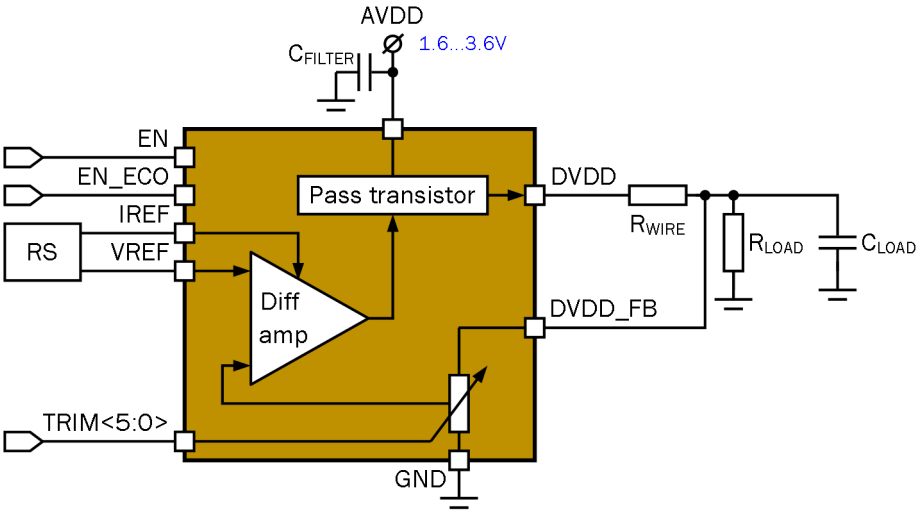
2mA LDO voltage regulator (output voltage 1.2V)

OVERVIEW



055GF_LDOVR_02 a voltage regulator is used to maintain a stable output voltage at varying input voltage. The block consists of a differential amplifier, pass transistor and resistor's divider. Differential amplifier compares reference voltage with voltage from a feedback divider and adjusts the impedance of a PMOS transistor for stabilization of output voltage at required level. The output voltage adjustment is defined by the trimming code **TRIM<5:0>**. The block has low current consumption and allows high current load.

IP technology: Global Foundries CMOS 55 nm.
IP status: silicon proven.
Silicon area: 0.0135mm^2.

ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Units
			min	typ.	max	
Supply voltage	V_{AVDD}	-	1.6	2.5	3.6	V
Operating temperature range	T_j	-	-40	+27	+85	°C
Input reference voltage	V_{REF}	-	-	0.4	-	V
Input reference current	I_{REF}	-	-	250	-	nA
Output voltage	V_{DVDD}	TRIM<5:0> = “100000”	-	1.2	-	V
Trimming range of output voltage	ΔV_{DVDD}	-	±0.1	-	-	
Load capacitance	C_{LOAD}	-	-	0.1	4	nF
Max load current	I_{LOAD}	Normal mode	2	-	-	mA
		Economy mode	200	-	-	uA
Current consumption	I_{CC}	Normal mode	-	15	-	uA
		Economy mode	-	3	-	
Input logic-level low	V_{IL}	For digital signals	0	-	$0.3V_{AVDD}$	V
Input logic-level high	V_{IH}		$0.7V_{AVDD}$	-	V_{AVDD}	