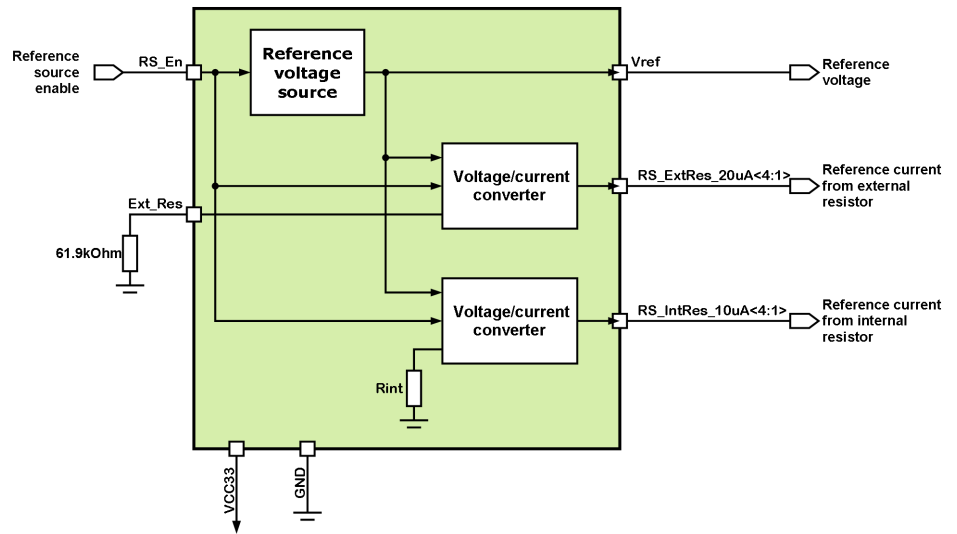


0.6V/10uA/20uA Reference voltage and current source

OVERVIEW

055TSMC_RS_02 consists of bandgap voltage reference and two voltage-to-current converters: one of them is based on external resistor and thus could be considered as process and temperature independent current reference; the other is based on internal resistor and follows its process and temperature variations.



IP technology: TSMC
 CMOS 55nm
 IP status: silicon proven
 Silicon area: 0.32mm²

ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Unit
			min	typ.	max	
Supply voltage	V _{CC}	-	2.25	2.5	3.6	V
Operating temperature range	T _J	-	-45	+25	+100	°C
Current consumption	I _{CC}	Operating mode	-	27.6	35.3	μA
		Standby mode	-	0.7	2.7	nA
Reference voltage	V _{REF}	-	-	0.60	-	V
Reference voltage deviation	ΔV _{REF}	-	-	±1.5	-	%
Reference voltage source on time	τ _{REF}	-	-	80	250	μs
10μA output reference current (internal resistor)	I _{INT10u}	-	8.6	10	12.1	μA
20μA output reference current (external resistor)	I _{EXT20u}	-	19.1	20	20.2	μA
Input logic-level low	V _{IL}	-	0	-	0.2V _{CC}	V
Input logic-level high	V _{IH}	-	0.8V _{CC}	-	V _{CC}	V