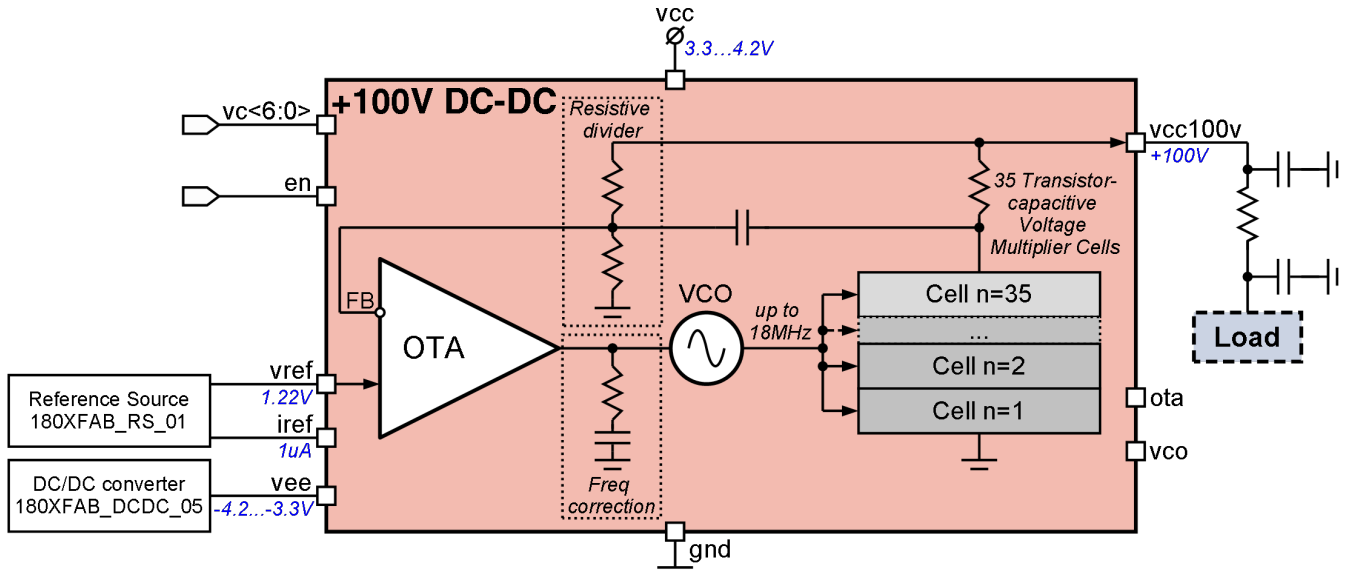


**3.3 - 4.2V to 0 - +100V step-up DC/DC converter**
**OVERVIEW**


180XFAB\_DCDC\_01 is a DC/DC step-up voltage converter that generates +100V output voltage from 3.3V to 4.2V power supply. The output voltage can be smoothly adjusted from 0V to 100V. The block contains of OTA and transistor-capacitive voltage multiplier cells. The DC/DC is designed for 44uA current consumption for 3.7V input voltage and +100V output voltage. Output current and current consumption decrease with output voltage increasing. It will take 20ms to charge external 22nF capacitor from 0 to 100V. IP technology: XFAB XT018.

IP status: silicon proven.

Area: 1.36mm<sup>2</sup>.

**ELECTRICAL CHARACTERISTICS**

Parameter	Symbol	Conditions	Value			Units
			min	typ.	max	
Input supply voltage	V <sub>CC</sub>	-	3.3	3.7	4.2	V
	V <sub>EE</sub>	V <sub>EE</sub> = -V <sub>CC</sub>	-4.2	-3.7	-3.3	
Operating temperature range	T <sub>j</sub>	-	0	+27	+60	°C
Reference voltage	V <sub>REF</sub>	-	-	1.22	-	V
Reference current	I <sub>REF</sub>	-	-	1	-	uA
Current consumption	I <sub>CC</sub>	V <sub>CC</sub> = 3.7V, V <sub>CC100V</sub> = 100V	-	44	-	uA
Power consumption	P <sub>CC</sub>	V <sub>CC</sub> = 3.7V, V <sub>CC100V</sub> = 100V	-	162.8	-	uW
Load current	I <sub>DCDC_LOAD</sub>	V <sub>CC</sub> = 3.7V	-	50	100	uA
Output voltage	V <sub>CC100V</sub>	Minimum	-	0	-	V
		Maximum	+95	+100	+105	
Output voltage step	V <sub>STEP</sub>	@V <sub>CC100V</sub> from 0V to ~83.7V	-	-	1.3	V
		@V <sub>CC100V</sub> from ~84.1V to 105V	-	-	0.4	
Efficiency	E	V <sub>CC100V</sub> = +100V, V <sub>CC</sub> = 3.7V, I <sub>DCDC_LOAD</sub> = 50uA	-	35	-	%
Load capacitance	C <sub>LOAD</sub>	-	-	22	-	nF
Input logic-level low	V <sub>IL</sub>	-	0	-	0.3	V
Input logic-level high	V <sub>IH</sub>	-	V <sub>CC</sub> - 0.3	-	V <sub>CC</sub>	V