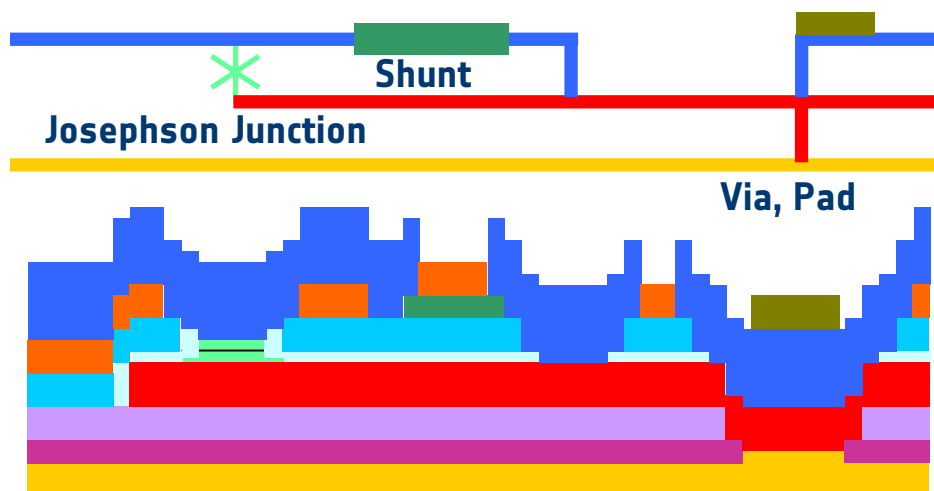


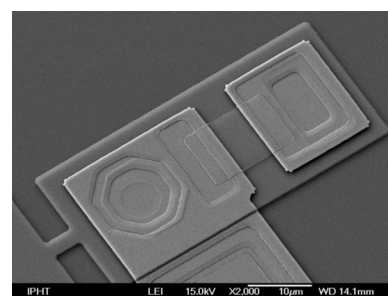
FLUXONICS Foundry - The Foundry of the European FLUXONICS Network

FLUXONICS Foundry is operating an 1 kA/cm^2 RSFQ process



Layer	Thickness	Material
R2	50 nm	Au
M2	350 nm	Nb
I2	150 nm	SiO
R1	80 nm	Mo
I1B	150 nm	SiO
I1A	70 nm	Nb ₂ O ₅
T1	60 nm	Nb
	12 nm	Al ₂ O ₃
	30 nm	Nb
M1	250 nm	Nb
IoB	200 nm	SiO
IoA	50 nm	Nb ₂ O ₅
Mo	200 nm	Nb

Superconducting metal layers	<input type="checkbox"/> Groundplane (M0) <input type="checkbox"/> Two wirings (M1, M2)
Josephson junction	<input type="checkbox"/> Trilayer (T1), $J_c = 1 \text{ kA/cm}^2$
Isolation	<input type="checkbox"/> Anodized Nb (IOA, I1A) <input type="checkbox"/> SiO (IOB, I1B, I2)
Normal metal layers	<input type="checkbox"/> Mo as shunt, $R_{SQ} = 1 \Omega$, (R1) <input type="checkbox"/> Au as bonding pad (R2)

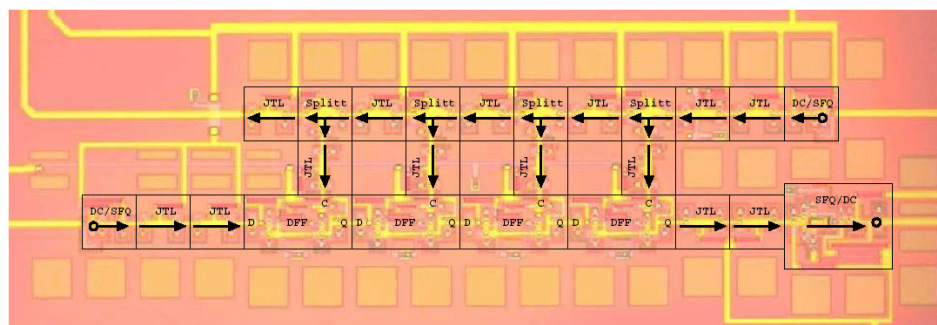


Micrograph of a shunted Josephson Junction

FLUXONICS Foundry Cell Library Base for Advanced Circuits

RSFQ Cell library:

- Basic gates for interfacing, transmission and processing
- Support for easy access to superconducting electronics
- All cells are robust and experimental tested



Demonstration of design and fabrication process:
4 bit shift register

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