

Responsible person list, Hands-on-access fab., Micro System Integration Center, Tohoku University

As of April, 2018

分類	No.	Equipment name	Manufacture/type	☆:Responsible person ○: Operation training available								
				Totsu	Moriyama	Watanabe	Kikuta	Henmi	Shoji	Tatsuta	Yoshida	
Cleaning, drying	A-1	Draft chamber	As one PSH1200	○	○	○	○	○	☆	○	○	
	A-2	Draft chamber for SiN etching				○			☆	○	○	
	A-4	Inert oven for sintering	Yamato DN63H						○	☆	☆	
	A-5	Vacuum oven	Yamato DP-31	○	○		○		☆	○	○	
	A-6	Brush scrubber	Zenkyo		○		☆					
	A-7	Spin dryer	Toho Kasei ZAA-4	○	○	○	○	☆	○	○	○	
	A-8	Draft Chamber for organic		○	○	○	○	○	☆	○	○	
	A-9	4" Spin dryer	SEMITOOL PSC101						○	☆	☆	
	A-10	6" Spin dryer	SEMITOOL PSC101						○	☆	☆	
	Photolithography	B-1	Pattern generator	NSK TZ-310		○		○	☆			
B-2		Spin coater	Mikasa 1H-DXII	○	○	○	○	☆	○			
B-3		Clean oven	Yamato DE62	○	○	○	○	○	☆			
B-4		Curing oven	Yamato DN43H				○	○	☆			
B-5		Double-side aligner	Suss MA6/BA6	○	○		○	☆	○			
B-8		Draft chamber for development		○	○	○		○	☆			
B-9		UV curing	Ushio UMA-802			○			☆	○	○	
B-10		Spin coater	Actes ASC-4000	○	○	○	○	☆	○			
B-11		Spray developer	Actes ADE-3000S		○				☆			
B-12		Stepper	Canon FPA1550M4W		○				☆			
B-13		Elionix EB lithography	Elionix ELS-F125						☆			
B-14		Laser writer	Heidelberg Instruments DWL2000CE			○			○	☆		
B-15		Maskless exposure system for ball	Toei Scientific Industrial	☆								
B-16		Spin dryer	Toho Kasei ZAA-4	○	○	○	○	☆	○	○	○	
B-17		Hot plate	Shamal HHP-230SQ	○	○	○	○	○	○	○	☆	
Oxidation, diffusion, ion implantation, annealing		C-1	Oxidation (semiconductor)	TEL XL-7						☆	○	○
		C-2	Oxidation (MEMS)	TEL XL-7						☆	○	○
	C-3	P diffusion	TEL XL-7						☆	○	○	
	C-4	P drive-in	TEL XL-7						☆	○	○	
	C-5	B diffusion	TEL XL-7						☆	○	○	
	C-6	B drive-in	TEL XL-7						☆	○	○	
	C-7	Annealing	TEL XL-7						☆	○	○	
	C-8	Middle-current ion implanter	Nissin ion NH-20SR							☆	☆	
	C-9	High-current ion implanter	Sumitomo eaton nova NV-10							☆	☆	
	C-10	Rapid thermal annealing	AG Associates AG4100							☆	☆	
	C-11	Metal diffusion furnace	Koyo Model270			☆						
CVD, sputtering, evaporation	D-1	LPCVD (SiN)	System service						☆			
	D-2	LPCVD (Poly-Si)	System service						☆			
	D-3	LPCVD (SiO2)	System service						☆			
	D-4	Thermal CVD	System service			☆						
	D-5	Sumitomo PECVD	Sumitomo MPX-CVD		○		☆					
	D-6	W-CVD	Applied Materials P-5000				☆					
	D-7	Anelva sputtering	Anelva SPF-730							☆	☆	
	D-8	Shibaura sputtering	Shibaura CFS-4ESII	○	○		○	☆				
	D-9	EB evaporation	Anelva EVC-1501							☆	☆	
	D-10	Automatic sol-gel deposition	Technofine PZ-604		☆							
	D-11	Electroplating	Yamamoto		○				☆			
	D-12	MOCVD	Wacom		☆							
	D-13	JPEL PECVD	JPEL VDS-5600				☆					
	D-14	Sumitomo TEOS PECVD	Sumitomo MPX-CVD		○		☆					
	D-15	Automatic Shibaura sputtering	Shibaura I-Miller CFS-4EP-LL		○				☆			
	D-16	Sputtering for ball	Izumi-tech	☆								
	D-17	ALD	Technofine ALK-600		☆							
	D-18	High-temp. sputtering and O2	Youtec 21-0604		☆							
	D-19	Anelva multi-sputtering	Anelva SPC-350						☆			
Etching	E-1	DeepRIE #1	Sumitomo MUC-21		☆		○	○	○			
	E-2	DeepRIE #2	Sumitomo MUC-21		☆		○	○	○			
	E-3	DeepRIE #3	STS		☆							
	E-4	Anelva RIE	Anelva DEA-506				○		○	☆	☆	
	E-5	Anelva Si RIE	Anelva L-507DL						○	☆	☆	
	E-6	Al-RIE	Shibaura HIRRIE-100							☆	☆	
	E-7	Ulvac asher	Ulvac UNA-2000						○	☆	☆	
	E-8	Branson Asher	Branson IPC4000		○				○	☆	☆	
	E-9	ECR etcher	Anelva ECR6001			☆						
	E-10	Ulvac RIE	Ulvac RIH-1515Z	○	○							
	E-11	KOH etching					☆					
	E-12	TMAH etching					☆					
	E-13	DeepRIE #4	Sumitomo MUC-21		☆							
	E-14	Ion milling	NS/Hakuto 20IBE-C		○		☆					
	E-15	Vapor HF etching	Sumitomo Primaxx uEtch	○					○		☆	
	E-16	Ulvac ICP-RIE	Ulvac NE-550		○		☆					
	E-17	Chemical Dry Etcher (CDE)	Shibaura CDE7				☆					
	E-18	Plasma cleaner	Yamato PDC210	○	○		☆		○			
Bonding, polishing, packaging	F-1	Wafer bonder	Suss SB6e		○				☆			
	F-2	Accretech dicer	Accretech							☆	☆	
	F-3	Disco dicer	Disco DAD-522		○	☆						
	F-4	Wire bonder	West Bond							☆	☆	
	F-5	Laser marker	GSI WM-II		○				○	☆	☆	
	F-6	6" wafer polisher	BN technology Bni62				☆					
	F-7	4" wafer polisher	BN technology Bni52				☆					
	F-8	Sand bluster	Shinto				☆					
	F-9	EVG wafer bonder	EVG 520			☆		○				
	F-10	EVG aligner for wafer bonding	EVG Smart View Aligner			☆		○				
	F-11	UV imprint	Toshiba machine ST-50				☆					
	F-12	Thermal imprint	Origin Reprina-T50A				☆					
	F-13	Excimer lamp cleaner	Dernaechste EXC-1201-DN				☆					
	F-14	Surface planer	Disco DAS8920		☆							
	F-15	Water laser	Shibuya LAMICS AQL-1900			☆						
Measurement	G-1	Wafer dust counter	Topcon WM-3						○	☆	☆	
	G-2	Film thickness measurement	Nanometric NanoSpec3000	○	○		○			☆		
	G-3	Dektak surface profiler	Dektak 8		○	○	○	○	☆			
	G-4	Tenchor profiler	Tenchor AlphaStep 500	○	○		○	○	☆			
	G-5	Depth measurement	Union Hisomet	○	○		☆	○	○			
	G-6	4-terminal prober		○		○	○	○	○	☆	☆	
	G-7	Spreading resistance measurement	Solid State Measurements SSM150							☆	☆	
	G-8	Wafer prober	Accretech EM-20A							☆	☆	
	G-9	Microscope	Nikon L150	○	○		○		☆			
	G-10	Digital microscope with auto stage	Keyence/Kunoh	○	○	○	○	○	☆			
	G-11	SEM	Hitachi S3700N	○	○	☆		○				
	G-12	FE-SEM	Hitachi S5000	○	○	☆						
	G-13	Micro X-ray CT	Comscan techno ScanXmate D160TS110	☆								
	G-14	Ellipsometer	Ulvac				☆					
	G-15	Ultrasonic microscope	Insight IS-350									
	G-16	Digital thermal microscope	Apiste FSV-1200	☆								
	G-17	Infrared microscope	Olympus/Hamamatsu	☆	○		○					
	G-18	Quadrupole mass spectrometer	Canon anelva M-101QA-TDM	☆								
	G-19	TOF-SIMS	CAMECA TOF SIMS IV	☆								
	G-20	Quick coater	Sanyu SC-701MkII	○	○			○				
	G-21	AFM	Shimadzu SPM-9700									
	G-22	Desktop Ellipsometer	Photonic lattice SE-101		○		☆		○			
	G-23	Large wafer size AFM	Digital Instruments Dimension3100									
	G-24	Laser/white light confocal microscope	Lasertec OPTELICS HYBRID LS-SD	○	○		☆					
	G-25	Line-focus-beam acoustic microscope for material characterization #1		○					☆			
	G-26	Line-focus-beam acoustic microscope for material characterization #2		○					☆			
	G-27	FIB	SII SMI9200			☆						
	G-28	XRD	Bruker AXS D8 DISCOVER		☆							