

# Taiwan Semiconductor Research Institute, National Applied Research Laboratories

## 2023 Tape-out Schedule

Update time: April 25, 2023

### 1. Description of process codes, processes, and annual MPW schedule for each process

Note: The MPW schedule for each process is also shown in the form of "process code"-year + (A/B/C/D/E), such as D35-112A represents the A session of the D35 process in 2023 (ROC Year 112).

Process code	description	Number of MPW runs in first half of the year	Number of MPW runs in second half of the year
TN16FFC	TSMC 16 nm CMOS LOGIC FinFET Compact (Shrink) LL ELK Cu 1P13M 0.8&1.8V	1	1
TN28HPCplu	TSMC 28 nm CMOS RF High Performance Compact Mobile Computing Plus (HPC+) ELK Cu 1P10M 0.9&1.8V	2	1
TN40G	TSMC 45 nm CMOS LOGIC General Purpose Superb (40G) ELK Cu 1P10M 0.9/2.5V	2	2
TN90GUTM	TSMC 90 nm CMOS Mixed Signal MS General Purpose Standard Process LowK Cu 1P9M 1.0&3.3V (With UTM)	2	2
SiGe18	TSMC 0.18 um BICMOS Mixed Signal SiGe General Purpose Standard Process FSG Al 3P6M 1.8&3.3V	1	1
T18HVG2	TSMC 0.18UM CMOS HIGH VOLTAGE MIXED SIGNAL BASED GENERATION II BCD 1P6M SALICIDE AL_FSG 1.8/5/6/7/8/12/16/20/24/29/36/45/55/65/70V/VG1.8/5V AND 5/6/7/8/12/16/20/24/29/36/45/55/65/70V/VG5V	2	1
T18	TSMC 0.18 um CMOS Mixed Signal RF General Purpose Standard Process FSG Al 1P6M 1.8&3.3V	2	2
D35	TSMC 0.35 um Mixed-Signal 2P4M Polycide 3.3/5V	1	2
Multi-Option-MEMS	TSMC 0.35um CMOS Process and APM MEMS Process wi/wo Gold	1	2
U18	UMC 0.18 um Mixed-Mode and RFCMOS 1.8V/3.3V 1P6M Metal Metal Capacitor Process	1	2
U18MEMS	UMC 0.18um CMOS and MEMS Process	1	2
P15	WIN 0.15 um PHEMT	1	1
GaN25	WIN 0.25μm GaN/SiC HEMT Power Device Technology	1	1
IMEC-SiPh (Passives+)	imec's 200mm wafer fab, using 0.13um mask technology and 193nm DUV lithography, SOI 220nm, support for waveguide related design.	0	0
IMEC-SiPh (iSiPP50G)	imec-ePIXfab SiPhotonics: iSiPP50G	0	1
<b>T50GaN</b>	<b>TSMC 0.50 UM DISCRETE DEVICE GAN WBG USG AL0P3M HKMG 650V</b>	<b>1</b>	<b>1</b>

### 2. Description of important matters:

- WIN 0.12um RF GaN on SiC Technology (GaN12) process will be introduced for academic services in 2024. The original GaN25 process's 112B MPW run will be the last regular service run, so professors and students are kindly requested to take note.**
- The regular service batches for WIN 0.15 um PHEMT (P15) process will be adjusted to once run a year starting from 2024. The application period for the P15 process in 2024 is expected to be scheduled from June to July. Professors and students planning to apply for P15-112B run in the first half of next year are advised to consider applying early to avoid affecting project completion or graduation schedules. Please also pay attention to the application timeline announced in next year's schedule.**
- Description of the U18 process and U18MEMS process chip fabrication schedule: Due to the impact of United Microelectronics Corporation(UMC)'s cooperative foundry operations, the time from tapeout to UMC to the completion and shipment of U18 and U18MEMS processes may be longer. Therefore, a longer estimated**

timeline is used for Chip Out in the U18 and U18MEMS processes. However, chips for the past three batches have been completed nearly five months ahead of schedule, and the center has accommodated early shipment. Professors are encouraged to take note and utilize the U18 and U18MEMS process chip implementation services. The table below provides reference information on the application deadline, estimated Chip Out date, and actual Chip Out date for each batch of the U18 and U18MEMS processes in 2022.

MPW run	Advanced/educational chip application deadline	Scheduled chip out date	Actual Chip Out Date
U18-111A	2022.02.21	2022.12.09	2022.7.27
U18-111B	2022.07.11	2023.04.28	2022.11.4
U18-111C	2022.10.24	2023.08.11	2023.3.29
U18MEMS-111A	2022.02.21	2023.01.30	2023.8.30
U18MEMS-111B	2022.07.11	2023.06.19	2023.1.11
U18MEMS-111C	2022.10.24	2023.10.02	2023.5.12

- (4) To expedite the promotion of forward-looking chip design, starting from 2023, TN28HPCplu process offers three open application periods throughout the year. Professors and students are advised to pay attention to the application times.
- (5) From the second quarter of 2023 onwards, the review process for forward-looking chips below TN90GUTM will be conducted through face-to-face meetings.
- (6) In the second half of 2022, the TSMC 0.50 UM GAN WBG E-HEMT USG AL 0P3M HKMG 650V process service became available with a process code of T50GaN. This process is an EDA Cloud process. The T50GaN process is used to replace the T50UHV process. Like the T50UHV process, the T50GaN process can be used for the development of circuits designed for the voltage range of utility power applications. Further, its features of low on-resistance and quick switching can allow for more effective use in the R&D of many emerging high-power and energy-efficient systems. The T50GaN process provides different devices with operating voltages of 12V and 650V for integration and application, including E-HEMTs, D-HEMTs, rectifiers, resistors, and capacitors. For detailed T50GaN process information, please refer to the official website. (讓此段和 113 年時程表 II.(10)一致)
- (7) In addition to the shuttle time of foundries, this schedule has been established with the graduation time for schools' master's degree programs and the submission deadlines of international seminars taken into account. Any adjustment to the schedule will be announced in the Latest News section on the TSRI website. (讓此段和 113 年時程表 II.(11)一致)
- (8) CMOS MEMS chips are included in both TSMC 0.35um and UMC 0.18um CMOS processes (batch codes such as Multi-Option-MEMS-110A, U18MEMS-110A). Post-processing is required for the wafers of CMOS MEMS chips, taking approximately four weeks.

### 3. Description of process and MPW run changes:

- (1) In line with the actual Shuttle schedule of the fab, the original estimate for the second half of 2023 will be changed as follows, and will be marked on the schedule at the same time. Please note:
- The open application date for TN90GUTM-112C is adjusted to 2023.07.17. The application deadline will be adjusted to 2023.07.24.
  - The open application date for T18HVG2-112C is adjusted to 2023.08.07. The application deadline will be

adjusted to [2023.08.14](#).

- The open application date for TN40G-112C is adjusted to [2023.08.07](#). The application deadline will be adjusted to [2023.08.14](#).
- The open application date for T18-112C is adjusted to [2023.08.21](#). The application deadline will be adjusted to [2023.08.28](#).

#### 4. Explanation of the commonly used names of the chip manufacturing schedule:

(1) Open application: the open application day for the manufacturing of **advanced, educational, advanced quick review of partial-funding** and **academic full-price** chips; the application is open **at 10:00 am** on the same day. There is a total of 8 calendar days from the open application day to the deadline for educational chip/advance chip application; a total of 15 calendar days from the open application day to the deadline for advanced quick review partial funding chip/ academic full-price chip application.

**[The time for users to apply online for chip manufacturing application of each process session is from the open application to the application deadline, and the rest of the time is NOT open for any chip production application.]**

(2) Educational Chip Deadline: The deadline for educational chip application is 14:00 p.m. on the same day.

(3) Advanced Chip Deadline: The deadline is 14:00 p.m. on the same day.

(4) Deadline for Advanced Quick Review / Academic Full-price Chip Application: The date of the deadline for the application of Advanced Quick Review of Partial-funding Chip and Academic Full-price Chip.

(5) Review Meeting: the date when advanced chip participates in the review meeting

(6) Deadline for the First Stage of Approval: The deadline for the professor to sign on the TSRI website to agree to the chip manufacturing application submitted by the student or the professor himself/herself.

**[If the chip manufacturing application fails to obtain the professor's signature and approval before the deadline for the first stage of approval, the chip manufacturing application is to be cancelled.]**

(7) Chip Out: Estimated Chip Shipment Date

**[The Chip Out Date in the announcement is the estimated chip shipment date. The actual chip shipment date depends on the actual transaction situation with the fabrication plant/package factory/assembly house. Please excuse us that our center does NOT need to bear the penalty for overdue delivery.]**

(8) Deadline for Submitting the Test Report: After receiving the chip, the deadline for submitting the report of the measurement results.

## 2023 Chip Tape-out Schedule (listed by process type)

1.\* Pre-scheduled MPW runs (subject to changes after process providers announce their schedules)  
 2.This schedule is for MPW runs with an application open date before Q1 of 2024 only (including pre-scheduled MPW runs).  
 3.IMEC-SiPh process service echelon takes a long time to verify and integrate and involves operations of foreign manufacturers. The Chip Out time is a temporary estimate. For the exact Chip Out time, please contact Ms. Hsu, the full-price chip window of TSRI. Tel: 03-5773693 ext: 7123, mail: fanlin@narlabs.org.tw

MPW run	Open application	Educational Chip Deadline	Advanced Chip Deadline	Deadline for Prospective Rapid Review Chip Application	Deadline for Academic full-price Chip Application	Review Meeting	Deadline for the First Stage of Approval	Chip Out	Deadline for Submitting the Test Report
D35-112A	2023.03.13	2023.03.20	2023.03.20	2023.03.27	2023.03.27	X	2023.04.12	2023.07.24	2023.09.27
D35-112B	2023.06.26	2023.07.03	2023.07.03	2023.07.10	2023.07.10	X	2023.07.19	2023.10.26	2023.12.30
D35-112C	2023.11.06	2023.11.13	2023.11.13	2023.11.20	2023.11.20	X	2023.11.29	2024.03.07	2024.05.11
D35-113A*	2024.03.11	2024.03.18	2024.03.18	2024.03.25	2024.03.25	2024.03.30	2024.04.10	2024.07.11	2024.09.14
MultioptionMEMS-112A	2023.03.13	2023.03.20	2023.03.20	2023.03.27	2023.03.27	X	2023.04.12	2023.10.27	2023.12.31
MultioptionMEMS-112B	2023.06.26	2023.07.03	2023.07.03	2023.07.10	2023.07.10	X	2023.07.19	2024.01.30	2024.04.04
MultioptionMEMS-112C	2023.11.06	2023.11.13	2023.11.13	2023.11.20	2023.11.20	X	2023.11.29	2024.06.11	2024.08.15
MultioptionMEMS-113A*	2024.03.11	2024.03.18	2024.03.18	2024.03.25	2024.03.25	2024.03.30	2024.04.10	2024.10.17	2024.12.21
GaN12-113A(New service)*	2024.04.01	2024.04.08	2024.04.08	X	2024.04.15	2024.04.20	2024.04.24	2024.08.30	2024.11.03
GaN25-112A	2023.04.03	2023.04.10	2023.04.10	X	2023.04.17	X	2023.04.26	2023.09.11	2023.11.15
GaN25-112B(Last service)	2023.09.25	2023.10.02	2023.10.02	X	2023.10.11	X	2023.10.25	2024.03.07	2024.05.11
IMEC-SiPh (iSiPP50G)-112B*	2023.05.15	X	2023.05.22	X	2023.05.29	2023.06.03	2023.06.07	2024.08.26	2024.10.30
P15-112A	2023.01.16	2023.01.30	2023.01.30	X	2023.02.06	X	2023.02.15	2023.05.22	2023.07.26
P15-112B	2023.07.03	2023.07.10	2023.07.10	X	2023.07.17	X	2023.07.26	2023.10.30	2024.01.03
SiGe18-112A	2022.12.26	2023.01.03	2023.01.03	X	2023.01.09	X	2023.01.18	2023.06.01	2023.08.05
SiGe18-112B	2023.08.28	2023.09.04	2023.09.04	X	2023.09.11	X	2023.09.20	2024.01.22	2024.03.27
SiGe18-113A*	2024.01.01	2024.01.08	2024.01.08	X	2024.01.15	2024.01.20	2024.01.24	2024.05.22	2024.07.26
T18-112A	2023.01.30	2023.02.06	2023.02.06	2023.02.13	2023.02.13	X	2023.02.22	2023.06.15	2023.08.19
T18-112B	2023.05.15	2023.05.22	2023.05.22	2023.05.29	2023.05.29	X	2023.06.07	2023.09.21	2023.11.25
T18-112C	2023.08.21	2023.08.28	2023.08.28	2023.09.04	2023.09.04	X	2023.09.13	2023.12.25	2024.02.28
T18-112D	2023.11.06	2023.11.13	2023.11.13	2023.11.20	2023.11.20	X	2023.11.29	2024.03.11	2024.05.15
T18-113A*	2024.01.29	2024.02.05	2024.02.05	2024.02.19	2024.02.19	2024.02.24	2024.02.28	2024.06.03	2024.08.07
T18HVG2-112A	2023.02.06	2023.02.13	2023.02.13	2023.02.20	2023.02.20	X	2023.03.08	2023.08.07	2023.10.11
T18HVG2-112B	2023.05.22	2023.05.29	2023.05.29	2023.06.05	2023.06.05	X	2023.06.14	2023.11.13	2024.01.17
T18HVG2-112C	2023.08.07	2023.08.14	2023.08.14	2023.08.21	2023.08.21	X	2023.08.30	2024.01.26	2024.03.31
T18HVG2-113A*	2024.02.05	2024.02.19	2024.02.19	2024.02.26	2024.02.26	2024.03.02	2024.03.13	2024.07.26	2024.09.29
T50GaN-112A	2023.02.27	2023.03.06	2023.03.06	2023.03.13	2023.03.13	X	2023.03.22	2023.08.24	2023.10.28
T50GaN-112B	2023.09.04	2023.09.11	2023.09.11	2023.09.18	2023.09.18	X	2023.09.27	2024.02.19	2024.04.24
T50GaN-113A*	2024.03.04	2024.03.11	2024.03.11	2024.03.18	2024.03.18	2024.03.23	2024.03.27	2024.08.14	2024.10.18
TN16FFC-112A	2023.03.06	X	2023.03.13	X	2023.03.20	Cancelled	2023.03.29	2023.08.10	2023.10.14
TN16FFC-112B	2023.08.28	X	2023.09.04	X	2023.09.11	2023.09.16	2023.09.20	2024.01.29	2024.04.03
TN16FFC-113A*	2024.03.04	X	2024.03.11	X	2024.03.18	2024.03.23	2024.03.27	2024.07.28	2024.10.01
TN28HPC+-112A	2023.01.30	X	2023.02.06	X	2023.02.13	Cancelled	2023.02.22	2023.07.07	2023.09.10
TN28HPC+-112B	2023.05.08	X	2023.05.15	X	2023.05.22	2023.05.27	2023.05.31	2023.10.05	2023.12.09
TN28HPC+-112C	2023.08.07	X	2023.08.14	X	2023.08.21	2023.08.26	2023.08.30	2024.01.08	2024.03.13
TN28HPC+-113A*	2024.01.29	X	2024.02.05	X	2024.02.19	2024.02.24	2024.02.28	2024.06.25	2024.08.29
TN40G-112A	2022.12.26	X	2023.01.03	X	2023.01.09	Cancelled	2023.01.18	2023.05.29	2023.08.02
TN40G-112B	2023.04.03	X	2023.04.10	X	2023.04.17	2023.04.22	2023.04.26	2023.08.28	2023.11.01
TN40G-112C	2023.08.07	X	2023.08.14	X	2023.08.21	2023.08.26	2023.08.30	2023.12.28	2024.03.02
TN40G-112D	2023.09.25	X	2023.10.02	X	2023.10.11	2023.10.21	2023.10.25	2024.02.22	2024.04.27
TN40G-113A*	2024.01.01	X	2024.01.08	X	2024.01.15	2024.01.20	2024.01.24	2024.05.17	2024.07.21
TN40G-113B*	2024.04.01	X	2024.04.08	X	2024.04.15	2024.04.20	2024.04.24	2024.08.16	2024.10.20
TN90GUTM-112A	2023.02.06	2023.02.13	2023.02.13	2023.02.20	2023.02.20	Cancelled	2023.03.08	2023.07.06	2023.09.09
TN90GUTM-112B	2023.05.22	2023.05.29	2023.05.29	X	2023.06.05	2023.06.10	2023.06.14	2023.10.12	2023.12.16
TN90GUTM-112C	2023.07.17	2023.07.24	2023.07.24	X	2023.07.31	2023.08.05	2023.08.09	2023.12.04	2024.02.07
TN90GUTM-112D	2023.11.13	2023.11.20	2023.11.20	X	2023.11.27	2023.12.02	2023.12.06	2024.04.01	2024.06.05
TN90GUTM-113A*	2024.02.05	2024.02.19	2024.02.19	X	2024.02.26	2024.03.02	2024.03.13	2024.06.21	2024.08.25
U18-112A	2023.01.16	2023.01.30	2023.01.30	2023.02.06	2023.02.06	X	2023.02.15	2023.11.27	2024.01.31
U18-112B	2023.05.29	2023.06.05	2023.06.05	2023.06.12	2023.06.12	X	2023.06.21	2024.03.29	2024.06.02
U18-112C	2023.09.25	2023.10.02	2023.10.02	2023.10.11	2023.10.11	X	2023.10.25	2024.08.01	2024.10.05
U18-113A*	2024.01.22	2024.01.29	2024.01.29	2024.02.05	2024.02.05	2024.02.17	2024.02.21	2024.11.22	2025.01.26
U18MEMS-112A	2023.01.16	2023.01.30	2023.01.30	2023.02.06	2023.02.06	X	2023.02.15	2024.01.18	2024.03.23
U18MEMS-112B	2023.05.29	2023.06.05	2023.06.05	2023.06.12	2023.06.12	X	2023.06.21	2024.05.20	2024.07.24
U18MEMS-112C	2023.09.25	2023.10.02	2023.10.02	2023.10.11	2023.10.11	X	2023.10.25	2024.09.23	2024.11.27
U18MEMS-113A*	2024.01.22	2024.01.29	2024.01.29	2024.02.05	2024.02.05	2024.02.17	2024.02.21	2025.01.13	2025.03.19

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- 3.IMEC-SiPh process service echelon takes a long time to verify and integrate and involves operations of foreign manufacturers. The Chip Out time is a temporary estimate. For the exact Chip Out time, please contact Ms. Hsu, the full-price chip window of TSRI. Tel: 03-5773693 ext: 7123, mail: fanglin@narlabs.org.tw

MPW run	Open application	Educational Chip Deadline	Advanced Chip Deadline	Deadline for Prospective Rapid Review Chip Application	Deadline for Academic full-price Chip Application	Review Meeting	Deadline for the First Stage of Approval	Chip Out	Deadline for Submitting the Test Report
SiGe18-112A	2022.12.26	2023.01.03	2023.01.03	X	2023.01.09	X	2023.01.18	2023.06.01	2023.08.05
TN40G-112A	2022.12.26	X	2023.01.03	X	2023.01.09	Cancelled	2023.01.18	2023.05.29	2023.08.02
P15-112A	2023.01.16	2023.01.30	2023.01.30	X	2023.02.06	X	2023.02.15	2023.05.22	2023.07.26
U18-112A	2023.01.16	2023.01.30	2023.01.30	2023.02.06	2023.02.06	X	2023.02.15	2023.11.27	2024.01.31
U18MEMS-112A	2023.01.16	2023.01.30	2023.01.30	2023.02.06	2023.02.06	X	2023.02.15	2024.01.18	2024.03.23
T18-112A	2023.01.30	2023.02.06	2023.02.06	2023.02.13	2023.02.13	X	2023.02.22	2023.06.15	2023.08.19
TN28HPC+-112A	2023.01.30	X	2023.02.06	X	2023.02.13	Cancelled	2023.02.22	2023.07.07	2023.09.10
T18HVG2-112A	2023.02.06	2023.02.13	2023.02.13	2023.02.20	2023.02.20	X	2023.03.08	2023.08.07	2023.10.11
TN90GUTM-112A	2023.02.06	2023.02.13	2023.02.13	2023.02.20	2023.02.20	Cancelled	2023.03.08	2023.07.06	2023.09.09
T50GaN-112A	2023.02.27	2023.03.06	2023.03.06	2023.03.13	2023.03.13	X	2023.03.22	2023.08.24	2023.10.28
TN16FFC-112A	2023.03.06	X	2023.03.13	X	2023.03.20	Cancelled	2023.03.29	2023.08.10	2023.10.14
D35-112A	2023.03.13	2023.03.20	2023.03.20	2023.03.27	2023.03.27	X	2023.04.12	2023.07.24	2023.09.27
MultioptionMEMS-112A	2023.03.13	2023.03.20	2023.03.20	2023.03.27	2023.03.27	X	2023.04.12	2023.10.27	2023.12.31
GaN25-112A	2023.04.03	2023.04.10	2023.04.10	X	2023.04.17	X	2023.04.26	2023.09.11	2023.11.15
TN40G-112B	2023.04.03	X	2023.04.10	X	2023.04.17	2023.04.22	2023.04.26	2023.08.28	2023.11.01
TN28HPC+-112B	2023.05.08	X	2023.05.15	X	2023.05.22	2023.05.27	2023.05.31	2023.10.05	2023.12.09
IMEC-SiPh (iSiPP50G)-112B*	2023.05.15	X	2023.05.22	X	2023.05.29	2023.06.03	2023.06.07	2024.08.26	2024.10.30
T18-112B	2023.05.15	2023.05.22	2023.05.22	2023.05.29	2023.05.29	X	2023.06.07	2023.09.21	2023.11.25
T18HVG2-112B	2023.05.22	2023.05.29	2023.05.29	2023.06.05	2023.06.05	X	2023.06.14	2023.11.13	2024.01.17
TN90GUTM-112B	2023.05.22	2023.05.29	2023.05.29	X	2023.06.05	2023.06.10	2023.06.14	2023.10.12	2023.12.16
U18-112B	2023.05.29	2023.06.05	2023.06.05	2023.06.12	2023.06.12	X	2023.06.21	2024.03.29	2024.06.02
U18MEMS-112B	2023.05.29	2023.06.05	2023.06.05	2023.06.12	2023.06.12	X	2023.06.21	2024.05.20	2024.07.24
D35-112B	2023.06.26	2023.07.03	2023.07.03	2023.07.10	2023.07.10	X	2023.07.19	2023.10.26	2023.12.30
MultioptionMEMS-112B	2023.06.26	2023.07.03	2023.07.03	2023.07.10	2023.07.10	X	2023.07.19	2024.01.30	2024.04.04
P15-112B	2023.07.03	2023.07.10	2023.07.10	X	2023.07.17	X	2023.07.26	2023.10.30	2024.01.03
TN90GUTM-112C	2023.07.17	2023.07.24	2023.07.24	X	2023.07.31	2023.08.05	2023.08.09	2023.12.04	2024.02.07
T18HVG2-112C	2023.08.07	2023.08.14	2023.08.14	2023.08.21	2023.08.21	X	2023.08.30	2024.01.26	2024.03.31
TN28HPC+-112C	2023.08.07	X	2023.08.14	X	2023.08.21	2023.08.26	2023.08.30	2024.01.08	2024.03.13
TN40G-112C	2023.08.07	X	2023.08.14	X	2023.08.21	2023.08.26	2023.08.30	2023.12.28	2024.03.02
T18-112C	2023.08.21	2023.08.28	2023.08.28	2023.09.04	2023.09.04	X	2023.09.13	2023.12.25	2024.02.28
SiGe18-112B	2023.08.28	2023.09.04	2023.09.04	X	2023.09.11	X	2023.09.20	2024.01.22	2024.03.27
TN16FFC-112B	2023.08.28	X	2023.09.04	X	2023.09.11	2023.09.16	2023.09.20	2024.01.29	2024.04.03
T50GaN-112B	2023.09.04	2023.09.11	2023.09.11	2023.09.18	2023.09.18	X	2023.09.27	2024.02.19	2024.04.24
GaN25-112B(Last service)	2023.09.25	2023.10.02	2023.10.02	X	2023.10.11	X	2023.10.25	2024.03.07	2024.05.11
TN40G-112D	2023.09.25	X	2023.10.02	X	2023.10.11	2023.10.21	2023.10.25	2024.02.22	2024.04.27
U18-112C	2023.09.25	2023.10.02	2023.10.02	2023.10.11	2023.10.11	X	2023.10.25	2024.08.01	2024.10.05
U18MEMS-112C	2023.09.25	2023.10.02	2023.10.02	2023.10.11	2023.10.11	X	2023.10.25	2024.09.23	2024.11.27
D35-112C	2023.11.06	2023.11.13	2023.11.13	2023.11.20	2023.11.20	X	2023.11.29	2024.03.07	2024.05.11
MultioptionMEMS-112C	2023.11.06	2023.11.13	2023.11.13	2023.11.20	2023.11.20	X	2023.11.29	2024.06.11	2024.08.15
T18-112D	2023.11.06	2023.11.13	2023.11.13	2023.11.20	2023.11.20	X	2023.11.29	2024.03.11	2024.05.15
TN90GUTM-112D	2023.11.13	2023.11.20	2023.11.20	X	2023.11.27	2023.12.02	2023.12.06	2024.04.01	2024.06.05
SiGe18-113A*	2024.01.01	2024.01.08	2024.01.08	X	2024.01.15	2024.01.20	2024.01.24	2024.05.22	2024.07.26
TN40G-113A*	2024.01.01	X	2024.01.08	X	2024.01.15	2024.01.20	2024.01.24	2024.05.17	2024.07.21
U18-113A*	2024.01.22	2024.01.29	2024.01.29	2024.02.05	2024.02.05	2024.02.17	2024.02.21	2024.11.22	2025.01.26
U18MEMS-113A*	2024.01.22	2024.01.29	2024.01.29	2024.02.05	2024.02.05	2024.02.17	2024.02.21	2025.01.13	2025.03.19
T18-113A*	2024.01.29	2024.02.05	2024.02.05	2024.02.19	2024.02.19	2024.02.24	2024.02.28	2024.06.03	2024.08.07
TN28HPC+-113A*	2024.01.29	X	2024.02.05	X	2024.02.19	2024.02.24	2024.02.28	2024.06.25	2024.08.29
T18HVG2-113A*	2024.02.05	2024.02.19	2024.02.19	2024.02.26	2024.02.26	2024.03.02	2024.03.13	2024.07.26	2024.09.29
TN90GUTM-113A*	2024.02.05	2024.02.19	2024.02.19	X	2024.02.26	2024.03.02	2024.03.13	2024.06.21	2024.08.25
T50GaN-113A*	2024.03.04	2024.03.11	2024.03.11	2024.03.18	2024.03.18	2024.03.23	2024.03.27	2024.08.14	2024.10.18
TN16FFC-113A*	2024.03.04	X	2024.03.11	X	2024.03.18	2024.03.23	2024.03.27	2024.07.28	2024.10.01
D35-113A*	2024.03.11	2024.03.18	2024.03.18	2024.03.25	2024.03.25	2024.03.30	2024.04.10	2024.07.11	2024.09.14
MultioptionMEMS-113A*	2024.03.11	2024.03.18	2024.03.18	2024.03.25	2024.03.25	2024.03.30	2024.04.10	2024.10.17	2024.12.21
GaN12-113A(New service)*	2024.04.01	2024.04.08	2024.04.08	X	2024.04.15	2024.04.20	2024.04.24	2024.08.30	2024.11.03
TN40G-113B*	2024.04.01	X	2024.04.08	X	2024.04.15	2024.04.20	2024.04.24	2024.08.16	2024.10.20