

FOR IMMEDIATE RELEASE
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WIN Semiconductors Releases Moisture Rugged 0.1 μ m GaAs pHEMT Technology

PP10-29 supports amplifier designs through E-band and provides wafer-level moisture resistance to satisfy challenging bHAST requirements in low-cost plastic packages



TAOYUAN, Taiwan – June 17, 2024: WIN Semiconductors Corp (TPEX:3105), the world's largest pure-play compound semiconductor foundry, announces the beta release of a moisture rugged 0.1 μ m pHEMT technology, PP10-29. Building on the mature and production proven PP10 platform, this high-performance technology incorporates WIN's second-generation humidity resistance process, EMRII, to provide mechanical protection and moisture ruggedness at the wafer-level. To minimize added parasitic capacitance, the EMRII layers form localized air-cavities over all transistors to provide moisture resistance with minimal impact to gain, noise figure and output power. This key feature of PP10-29 mitigates amplifier performance changes from packaging, plastic encapsulation or PCB embedding, and accelerates new product development.

The core of PP10-29 is a versatile 0.1 μ m-gate D-mode with f_t/f_{max} of 145GHz and 180GHz respectively and is qualified for 4V operation. Manufactured on 150mm GaAs substrates, this platform offers two interconnect metal layers, air-bridge crossovers, precision TaN resistors, monolithic PN-junction diodes for compact on-chip ESD protection circuits and through wafer vias for low inductance grounding. Providing a path to new packaging and assembly options, PP10-29 supports multiple DC and RF

I/O configurations including standard wire-bonding, frontside Cu-bumps/RDL, and through-chip RF and DC transitions.

PP10-29 has reached beta release and is available for early access MPW runs. Qualifications testing is complete and final modeling/PDK generation is expected to conclude in August 2024 with full production release scheduled for late Q3 '24. Contact a WIN Semiconductors regional sales manager for information about sample kits and the timing of MPW runs.

WIN Semiconductors Corp. at the 2024 IEEE MTT-S International Microwave Symposium, booth # 531

WIN Semiconductors Corp. will be showcasing its compound semiconductor RF and mm-Wave solutions in booth #531 at the 2024 International Microwave Symposium being held at the **Walter E. Washington Convention Center in Washington, DC**, June 16th through June 21st.

For more information, visit WIN Semiconductors Corp. at <https://www.winfoundry.com/>

About WIN Semiconductors Corp

WIN Semiconductors Corp. is the leading global provider of pure-play GaAs and GaN wafer foundry services for the wireless, infrastructure, and networking markets. WIN provides its foundry partners a diverse portfolio of Hetero-junction Bipolar Transistor and Pseudomorphic High Electron Mobility Transistor, Gallium Nitride High Electron Mobility Transistor, PIN Diode and Optical Device technology solutions that support leading edge products for applications from 50 MHz to 170 GHz and through light-wave. Custom products built by WIN Semiconductors Corp. are found in a vast array of markets, including smartphone, mobile infrastructure, 3-D sensing, optical communications, CATV, aerospace, defense, satellite, and automotive applications.

For over 25 years, WIN has provided foundry services from its state of the art, ISO9001/14001 certified 150mm GaAs facility headquartered in Taoyuan City, Taiwan. This multi-site manufacturing facility has approximately 3000 employees and provides WIN customers with a diverse array of device technology platforms and value-added services, including DC/RF product testing, Cu wafer bumping and advanced package solutions for accelerated product development.