

Initiatives in Manufacturing

Building next-generation production lines to provide a stable supply of high-quality products

Katsumi Azuma

Member of the Board
Senior Managing Executive Officer, in charge of Quality, Production, General Purpose Device Business and Module Business
ROHM Apollo Co., Ltd., President



As stated in the "Basic Quality Assurance Policy," ROHM has strived since its founding to be the first company to learn, study, and boldly incorporate new technologies for the "continual modernization of manufacturing systems." ROHM's strength that is essential for becoming a major global player is its in-house integrated production system "IDM," which is significant for practicing quality first and increasing cost competitiveness. To take advantage of this significance, it is a prerequisite that our technical, observational, and executional capabilities exceed those of our competitors.

At the same time, even if we beat other companies with our current production methods and materials, that will not last forever. We believe that efforts to further improve quality and

yield are needed while utilizing the three fundamentals of manufacturing ("genba (actual place)," "genbutsu (actual thing)," and "genjitsu (actual situation)") and ROHM's unique know-how.

Future issues are "transmission and evolution." For transmission, we must gather together the technical knowledge of the entire Group and incorporate it into our educational materials. For evolution, we will evolve our production lines and equipment including our flexible lines, carefully examine and analyze production site "big data," and build a management system with no "muri (overburden)," "mura (irregularities)," or "muda (waste)." Going forward, ROHM will continue to aim for evolved manufacturing in terms of both hardware (equipment) and software (management).

Enhancing our production capacity around SiC power devices

To achieve a stable supply of SiC power devices, which are ROHM's main products, we are expanding production capacity through prior investment. The automotive and industrial equipment markets are expected to expand due to technological innovation around electrification to reduce environmental burden and achieve carbon neutrality. Although current EV demand is weakening, future growth and the strength of demand is unchanged, and we are accelerating plans to increase our production capacity. Currently,

production using 6-inch SiC wafers plays a leading role, but we are shifting to 8-inch wafers. Cost improvements of about 20% to 30% are expected for the same area, which will allow us to significantly increase the production capacity and cost performance. We are also advancing the launch of the Miyazaki Plant No. 2 acquired in October 2023 in parallel with mass production of substrates entering operation in FY2024 and devices in FY2026. The plant will be used as ROHM's main production site going forward.

Flexible lines

The flexible lines, which integrate our uniquely cultivated technologies to automate our assembly process, began operation in April 2021. As a result, we achieved an improvement in product quality by increasing processing performance through Failure Mode and Effects Analysis (FMEA)*. Moreover, we minimized variation through automation of production instructions, transportation and supply of materials and products, tool changes, and human tasks, doubling the existing labor productivity through labor-saving. In addition, the lead time was reduced to one-tenth of the existing figure by implementing process design from the planning stages. In

the automotive and industrial equipment markets, many customers want a long-term, stable supply of products even in small quantities. Flexible lines make it possible to meet the needs of such customers and enable the high-quality production of a wide variety of products in small quantities. We are currently utilizing this concept line and verifying various technologies. Our immediate mission is to apply the elemental technologies obtained through this process to the unmanned wide lines under development, and deploy them to mass production plants.

* Explained in the Glossary

Material issues

| Stable Supply of High-quality Products

| Strengthening Product Safety and Quality

▶ P.27 FY2023 results and KPIs

Quality-Related Initiatives

Upholding the Company Mission of "quality first" to achieve quality that is worthy of a major global player

Takashi Miki

Corporate Officer,
Director of Corporate Quality Headquarters



ROHM will use its quality first policy as a weapon with the goal of joining the top 10 global companies in power and analog semiconductors. To achieve this goal, we believe there are three important factors. The first factor is expanding the scope of our sales. To do so, it is important that we increase customer satisfaction, and we must have the mobility to anticipate market and customer changes and constantly change to optimized quality assurance. Next, we must build a robust quality assurance system that will not crumble even if the scope of sales expands. Quality assurance through front loading is particularly important, and a

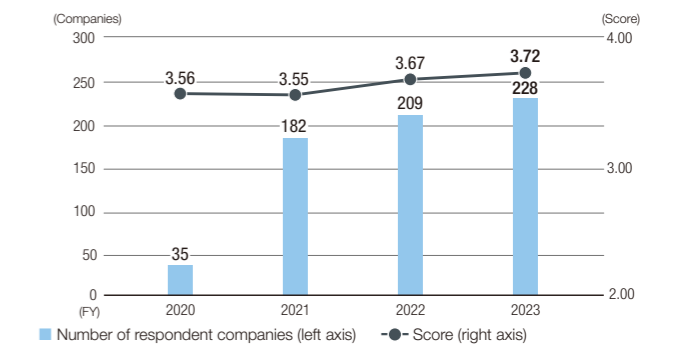
large part of product quality is determined in the design stage. By thoroughly reducing risks in the design stage and designing processes with consideration to the ease of manufacturing, we can continuously deliver products with stable and appropriate quality to our customers. The third factor is mindset. No matter how amazing the standards and systems, our goals are realized by people, and the quality of our people is what is truly important. We believe that ROHM's strength lies in the mindset by which every division and employee come together as one to perform quality assurance.

Conducting Quality Satisfaction Surveys

Since FY2020, ROHM has been annually conducting a quality satisfaction survey covering the development, procurement, and quality divisions of customers that directly use ROHM products. The survey asks customers to perform a comparative assessment of ROHM on a five-point scale with "three points being the same level as competitors," which we have linked to improvement activities by analyzing our strengths and weaknesses and performing a gap analysis with the ideal vision for the company. Through improvement activities based on the survey results, our score for FY2023 was 3.72 points (benchmark comparison: +4.5%). We provide feedback regarding the results not only inside the company but also to customers as well and will continue to

pursue customer-optimized quality so that global customers may choose us with confidence.

Quality Satisfaction Score



Human resource training

In the Basic Management Policy, ROHM indicates that the achievement of the Company Mission through the quality of actions and the quality of the people who realize those actions represents one system. The mindset by which every division performs its work with quality as a prerequisite and the employees conduct quality assurance as one is part of the DNA of ROHM. At ROHM, we founded an organization that is dedicated to training human resources who can put this mindset into practice. We established a program that consists of

"Mindset," "Self-Development," "Practice," and "Professional Training" which combines in-person and live online training with senior colleagues and experts along with on-demand training that can be attended over the company intranet to provide the optimal training according to their occupation and career history. In particular, they focus on the "Company Mission and Basic Management Policy Immersion Training" to learn about the Company Mission and Basic Management Policy established in 1966, which is carried out every year for all employees.

Material issues

| Stable Supply of High-quality Products

| Strengthening Product Safety and Quality

▶ P.27 FY2023 results and KPIs