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Continuing Education

Locating educational resources can be easy—if you know where to look.

Over the course of a year, the ESD Association (ESDA) receives a number of questions concerning electrostatic discharge (ESD). The questions often refer to specific situations, such as: “Our boards are being damaged by ESD in the production process; how do we correct the problem?” Other questions deal with more basic issues, such as: “Do we need to ground our work surfaces?”

Overcoming the Obstacles

Some may think that ESD-related problems are relegated to the past, but the recurring questions about ESD tell a different story. The industry is constantly changing: personnel change job assignments; new companies enter the manufacturing business; existing companies merge; and new products are introduced weekly. The need for continuous training and education exists not only for production line employees, but also for those responsible for the development and implementation of the ESD control programs.

For ESD managers, many challenges to continuing education exist. The first obstacle is allocating time and commitment for training while faced with more pressing matters—like training new employees or investigating what caused the shutdown of a production line.

Secondly, a manager must identify the educational opportunities and resources available. ESD courses are usually not among the offerings at engineering, community or technical schools. Also, the available texts discussing ESD are not easily found at local technical or public libraries.

A Starting Point

A good place to start the search for available resources, from information on device sensitivity to implementing an ESD control program, is through publications and events sponsored by the ESDA, a professional association whose primary function is ESD education. A number of local ESDA chapters throughout the world provide educational opportunities close to home.

One forum for ESD education and training is the annual EOS/ESD Symposium, scheduled for Sept. 19-23 in Grapevine, TX. This year's symposium features educational opportunities focused on three primary tracks: Factory and Materials, Design and Device Technology and Magnetic Recording.

Other Helpful Resources

Other educational resources available from the ESDA include textbooks such as *ESD Program Management* by Theodore Dangelmayr or *ESD in Silicon Integrated Circuits* by Ajith Amerasekera and Charvaka Duvvury; technical reports, such as *Can Static Electricity Be Measured?*; proceedings from past EOS/ESD symposia; and an ESD handbook supporting the ANSI/ESD S20.20 Static Control Program standard.

It may also be beneficial to investigate the standards development efforts of organizations such as: American National Standards Institute, American Society for Testing and Materials, Electronic Industries Alliance, International Disk Drive Equipment and Materials Association (IDEMA), IPC, the Institute of Electrical and Electronics Engineers (IEEE), International Electrotechnical Commission (IEC), International Organization for Standardization (ISO) and JEDEC.

Other industry organizations also help to disseminate ESD-related information. Explore the Websites of the following organizations for ESD information: the Electronic Industries Alliance (www.eia.org), the Electrostatics Society of America (www.electrostatics.org), the Institute of Environmental Sciences and Technology (IEST, www.iest.org), the National Association of Radio & Telecommunications Engineers (NARTE, www.narte.org) and the Surface Mount Technology Association (SMTA, www.smta.org).

Many suppliers of ESD products and services sponsor educational seminars. Trade publications regularly run articles focused on ESD. Industry trade shows often include ESD seminars and technical sessions. Check the calendars of the various trade publications for these events and activities. Some publications that may be helpful include: *ESD Journal*, *Journal of Electrostatics*, *Interference Technology* and *CleanRooms*.

Conclusion

ESD information may at times seem difficult to locate, but great resources do exist! Begin with some of the options mentioned here and research the opportunities available to improve your ESD knowledge and expertise. Using the knowledge provided can greatly advance the ESD control program at your facility. ■

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