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Information of semiconductor devices required for the design of telecommunication equipment applying soft error mitigation measures

Recommendation ITU-T K.150

ITU-T

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Summary

Recommendation ITU-T K.150 describes characteristic parameters and functions of semiconductor devices that a telecommunication equipment designer needs when implementing soft error mitigation measures. This Recommendation describes the kinds of information expected to be supplied from semiconductor device vendors to designers for telecommunication equipment.

The definition of expected information and objective for collecting it are first described. The Recommendation then describes which semiconductor devices are targeted for information collection. Finally, the details of the information expected to be collected are described for each target semiconductor device.

History

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Introduction

When implementing soft error mitigation measures, it is necessary both to understand the characteristics of semiconductor devices regarding soft errors and to implement soft error mitigation measures at the equipment design level.

Recommendation ITU-T K.131 provides a design methodology for soft error mitigation measures. In order to apply this design methodology to the telecommunication equipment, it is necessary to obtain information related to soft error mitigation measures on semiconductor devices to be mounted. However, the information is not always supplied from manufacturers of devices through documents such as a datasheet or a report of semiconductor devices for equipment manufacturers. Even if the information is supplied, the information may not be applied correctly, as the method to obtain the data of the semiconductor device and the format for supplying the information have not been standardized. Therefore, it is important to inform semiconductor device vendors what kind of information telecommunication equipment designers expect to receive.

This Recommendation clarifies characteristic parameters necessary for the design of soft error mitigation measures in telecommunication equipment, and which are expected to be supplied by semiconductor device vendors.