

大功率直流电源SM35-45用于激光器列阵的驱动

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收稿日期 2007-6-1 修回日期 网络版发布日期 2008-8-21 接受日期

摘要 介绍了Visual C++ .NET环境下用SCPI语言实现对大功率直流电源SM35 45的控制。通过获取列阵器件的 $V-I$ 、 $IdV/dI-I$ 、 $P-I$ 、 $dP/dI-I$ 特性曲线,对其质量和可靠性进行了测试。测试结果表明:该电源的纹波系数、稳定度等参数能满足激光器列阵的驱动要求,所获取的评价激光器可靠性的特征参量 m 、反映结的完整性及载流子泄漏的参量 b 等参数准确可靠,而且该测试系统有较好的稳定性。

关键词 [光电子与激光技术](#),[SCPI语言](#),[程控电流源](#),[激光器列阵](#),[无损检测](#)

分类号 [TN248.4](#)

High power direct current supply SM35 45 to drive laser arrays

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Abstract The control of the high power direct current supply SM35 45 which has been used successfully in the nondestructive testing of the high power semiconductor laser device array(LDA)was realized using the language SCPI in the integrated development environment Visual C++ .NET. Supplying stepped constant current to LDAs,their quality and reliability were tested and evaluated by their characteristics of V , IdV/DI , P ,and dP/dI versus I ,etc. The test results indicate that the parameters such as stability degree and ripple coefficient of this power supply satisfied the need of LDA driving,and the extracted parameters to evaluate the quality and reliability of the LDA, m , b are exact and steady.It can be concluded that the developed testing system demonstrates excellent performance and stability.

Key words [optoelectronics and laser](#) [SCPI](#) [programmable controlled current source](#) [laser device array\(LDA\)](#) [nondestructive testing](#)

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