

【Annex】

Thermal Resistance Values of the Nichia 123G Series LEDs



Part Number	Thermal Resistance $R_{\theta JMP}$ (°C/W)
NFSA123G	36.7
NFSE123G	47.0
NFSE123G-Y4	46.3
NFSW123G	31.6
NFSW123G-NB	35.5
NFSY123G	35.5
NJSA123G	27.8
NJSW123G	20.8
NJSW123G-NB	25.5
NJSY123G	25.5

- The $R_{\theta JMP}$ is the thermal resistance from the chip of the LED to the measurement point Nichia specifies (i.e. the T_{MP} measurement point).
(PCB used for the $R_{\theta JMP}$ measurement: FR-4 with a thickness of 1.6mm, Copper layer thickness: 0.07mm)
- The estimated value of the junction temperature (T_J) of the LED can be calculated by measuring the T_{MP} (i.e. the temperature of the T_{MP} measurement point) of the LED mounted on a PCB and using the $R_{\theta JMP}$ value provided above. For details of how to calculate the T_J , refer to the application note: How to Calculate the Junction Temperature for the Nichia 123G Series LEDs.
- $R_{\theta JMP}$ values are values measured under Nichia's measurement conditions. The $R_{\theta JMP}$ values provided above are the maximum values calculated from the measurement results; these values should be used for reference purposes only.
- For the LEDs that do not have the $R_{\theta JMP}$ values provided above, contact a local Nichia sales representative.

Disclaimer

This application note is a controlled document of Nichia Corporation (Nichia) published to provide technical information/data for reference purposes only. By using this application note, the user agrees to the following:

- This application note has been prepared solely for reference on the subject matters incorporated within it and Nichia makes no guarantee that customers will see the same results for their chosen application.
- The information/data contained herein are only typical examples of performances and/or applications for the product. Nichia does not provide any guarantees or grant any license under or immunity from any intellectual property rights or other rights held by Nichia or third parties.
- Nichia makes no representation or warranty, express or implied, as to the accuracy, completeness or usefulness of any information contained herein. In addition, Nichia shall not be liable for any damages or losses arising out of exploiting, using, or downloading or otherwise this document, or any other acts associated with this document.
- The content of this application note may be changed without any prior or subsequent notice.
- Copyrights and all other rights regarding the content of this document are reserved by Nichia or the right holders who have permitted Nichia to use the content. Without prior written consent of Nichia, republication, reproduction, and/or redistribution of the content of this document in any form or by any means, whether in whole or in part, including modifications or derivative works hereof, is strictly prohibited.

NICHIA CORPORATION

<http://www.nichia.co.jp>

491 Oka, Kaminaka-Cho, Anan-Shi,
TOKUSHIMA 774-8601, JAPAN

Phone: +81-884-22-2311 Fax: +81-884-21-0148