

DF-NB series:

We aim to stay one step ahead

in innovation

Applications*

- ✓ Packaged Air Conditioner
- ✓ Motor Drives
- ✓ Servo Controller
- ✓ Battery Charger
- ✓ General Power Supply
- ✓ Industrial Inverter

*Applications listed here are the most typical fits for our DF-NB products. Please don't hesitate to ask more about other possible adequate applications.

We have expanded our Three Phase Diode family with a new addition of Dual Inline Package (DIP). Our DIP type 3-phase diode bridge series include three different models with repetitive peak reverse voltage of 1600 V and output currents of 60A, 75A and 100A.

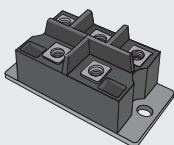
One of the diode's biggest benefits is its compact size that is perfect for products that require production-friendly and easy design. Unlike a conventional DI-package, DF-NB module has two narrow pins that enable maintaining higher current and great robustness. The drastic downsizing of the parts has also allowed the overall reduction of cost and accordingly, makes it a cheaper option compared to a normal power module.

FEATURES

► Evolution of SanRex DF products

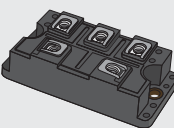
We develop our products continuously to make them the best fit with the latest market standards. Our DF-line has been renewed approximately every 15 years.

AA
size: 80x40x35
weight: 200g



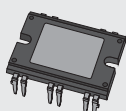
From AA to LA
3 times smaller
2 times lighter

LA
size: 80x40x22
weight: 100g



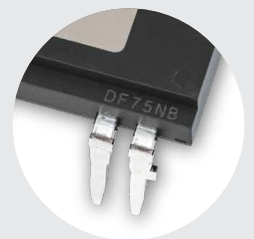
From LA to NB
10 times smaller
4 times lighter

NB
size: 45x32x5
weight: 24g

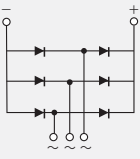


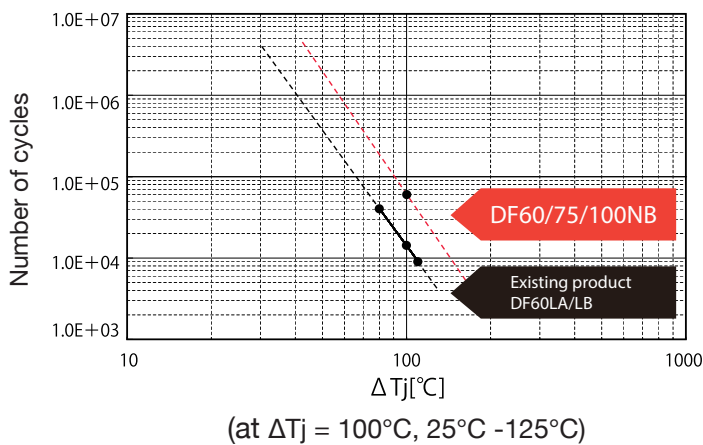
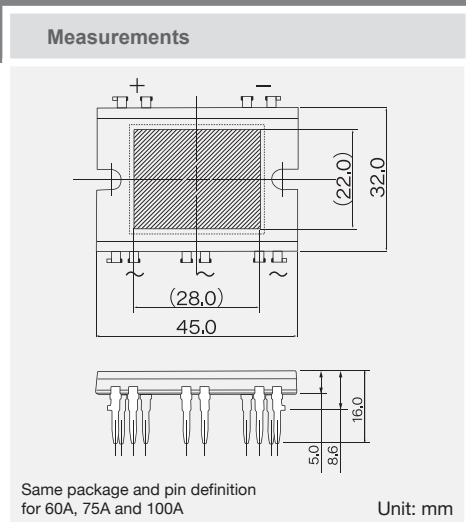
► Benefits in a nutshell:

1. Compact size and easy design
2. Higher current maintenance and better robustness
3. Cost-friendly
4. Excellent power cycling capability and longer lifetime
5. Possibility for automated, faster assembly



PRESENTING DF-NB TYPES

Product	DF60NB160	DF75NB160	DF100NB160
Structure	3-phase diode bridge		
Internal circuit diagram			
Repetitive peak reverse voltage	1600V		
Output current (DC)	60A	75A	100A
Forward voltage drop	1.08V (I_{FM}=60A)	1.09V (I_{FM}=75A)	1.16V (I_{FM}=100A)
Surge forward current	730/800A	910/1000A	910/1000A



Our DF-NB series has also top-notch power cycling capabilities. The module has been designed with no wire bonding but instead, double sided soldering and transfer molding technology has been used. This technique allows the power cycle lifetime to become three times longer compared to conventional package device.

These superior power cycle capabilities also enable the predicted lifetime of a module to reach over 100 years (When operating at $\Delta T_j < 50^\circ\text{C}$).



The part of the PCB marked with red is the section that includes SanRex power semiconductors. The product with yellow-marking shows the placement of our DF60NB160.

Our DF60NB160 was used in a 30kVA Inverter system together with our TO-247 thyristor SMG80A160M and SiC MOSFET in TO-247 package. The whole assembly of the PCB was done completely automatically without any need for physical processes.

The updated flatter shape of the package and the multiple pins allow the product to be used in automated assemblies unlike the previous modules that require hands-on screwing in the attachment process.

pcim
EUROPE *...digital days*

We are happy to invite you to join us at the "PCIM Europe digital days" taking place from 3rd to 7th of May 2021. Due to the current global situation caused by COVID-19, the physical event normally arranged in Nuremberg, Germany, is arranged online this year. We are looking forward to your visit at our digital booth.