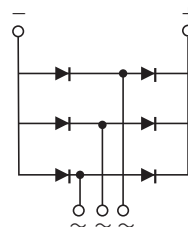


## 3-Phase Diode Bridge (DIP type)

DF 60 NB160 (60A / 1600V)  
 DF 75 NB160 (75A / 1600V)  
 DF 100 NB160 (100A / 1600V)



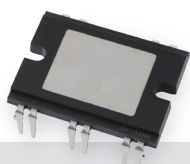
### Applications

- ▶ Packaged Air Conditioner
- ▶ Motor Drives
- ▶ Servo Controller
- ▶ Battery Charger
- ▶ Power Supply



### Features

- Reduced thermal resistance with unique internal structure and copper heat plate



Volume ratio of 1/10

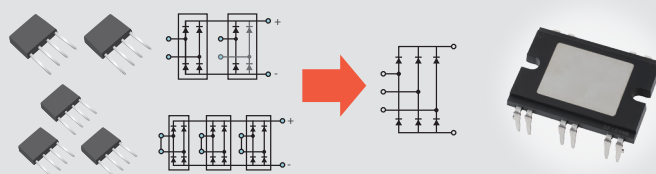
DF60LA/LB



DF60/75/100NB

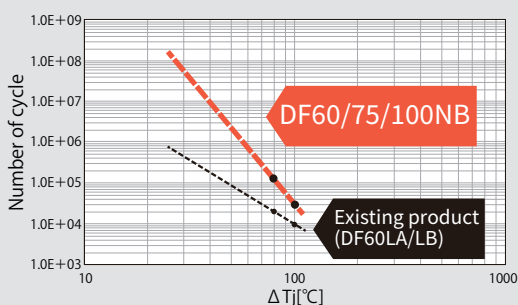


- Fewer components reduce assembly time and downsize overall circuit



- Power cycle capability (Long-term reliability) is 3 times better than before thanks to the use of "Transfer Molding Package"

(at  $\Delta T_j = 100^\circ\text{C}$ )



- Dual terminals for high capability and reliable solder contacts



- Part Number on both sides for easy identification even after board mounting



# 3-Phase Diode Bridge (DIP type) DF60/75/100NB160

## Power semiconductor for Industry

### Maximum Ratings

T<sub>j</sub>=25°C unless otherwise specified

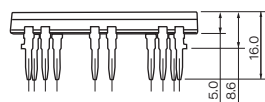
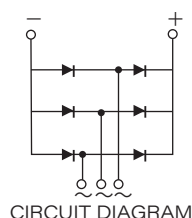
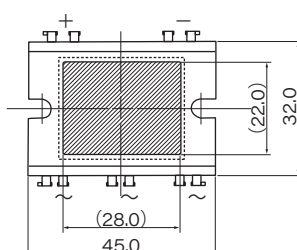
Item	Symbol	Unit	DF60NB160 / DF75NB160 / DF100NB160		
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	V	1600		
Non-Repetitive Peak Reverse Voltage	V <sub>RSM</sub>	V	1700		

Item	Symbol	Unit	Ratings			Conditions
			DF60NB	DF75NB	DF100NB	
Output Current (D.C.)	I <sub>D</sub>	A	60	75	100	3-phase full wave DF60NB160...T <sub>c</sub> =110°C DF75NB160...T <sub>c</sub> =112°C DF100NB160...T <sub>c</sub> =98°C
Surge Forward Current	I <sub>FSM</sub>	A	730/800	910/1000	910/1000	50/60HZ sine wave, Non-repetitive 1/2cycle peak value
I <sup>2</sup> t (for fusing)	I <sup>2</sup> t	A <sup>2</sup> s	2600	4100	4100	Value for one cycle of surge current
Operating Junction Temperature	T <sub>j</sub>	°C	-40 to +150			
Storage Temperature	T <sub>stg</sub>	°C	-40 to +125			
Isolation Voltage	V <sub>iso</sub>	V	2500			Terminals to Case, AC RMS 1minute
Mounting Torque	M4	N · m	1.5			Recommended Torque : 1.0 to 1.4N · m
Mass		g	24			Typical Value

### Electrical Characteristics

T<sub>j</sub>=25°C unless otherwise specified

Item	Symbol	Unit	Ratings									Conditions		
			Min.			Typ.			Max.					
			DF60NB	DF75NB	DF100NB	DF60NB	DF75NB	DF100NB	DF60NB	DF75NB	DF100NB	DF60NB	DF75NB	DF100NB
Repetitive Peak Reverse Current	I <sub>RRM</sub>	mA							8.00	8.00	8.00	T <sub>J</sub> =150°C, V <sub>R</sub> =1600V, V <sub>R</sub> =V <sub>RRM</sub>		
Forward Voltage Drop	V <sub>FM</sub>	V				1.08	1.09	1.16	1.30	1.30	1.35	T <sub>J</sub> =25°C Inst. measurement I <sub>F</sub> = 60A	T <sub>J</sub> =25°C Inst. measurement I <sub>F</sub> = 75A	T <sub>J</sub> =25°C Inst. measurement I <sub>F</sub> = 100A
Threshold Voltage	V <sub>(TO)</sub>	V							0.91	0.80	0.90	T <sub>J</sub> = 150°C		
Slope Resistance	r <sub>t</sub>	mΩ							4.90	5.00	4.50	T <sub>J</sub> = 150°C		
Thermal Resistance	R <sub>th</sub> (j-c)	°C/W							0.25	0.20	0.20	Junction to Case (per Module)		
Interface Thermal Resistance	R <sub>th</sub> (c-f)	°C/W							0.20	0.14	0.14	Case to Heat sink Thermal conductivity (Silicon grease) ≐ 9 × 10 <sup>-3</sup> [W/cm · °C]		



Unit : mm

### Other Products

SIP※	DF-NA series 20/30A	
h = 17mm package	DF-AC series 75/100A	
	DF-AE series 150/200A	
h = 22mm package	DF-AA/BA/CA series 75/100/150/200A	
	DF-LA/LB series 60/75/100A	

※Single Inline Package

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## SANSHA ELECTRIC MFG. CO., LTD.



URL: <https://www.sansha.co.jp/>

**Head Office**  
(International Sales Department)  
**Tokyo Branch**  
**Chubu Sales Office**  
**Kyushu Sales Office**  
**Hokuriku Office**

TEL: +81-6-6325-6621 FAX: +81-6-6325-0503  
TEL: +81-3-3834-1700 FAX: +81-3-3834-1702  
TEL: +81-52-955-5600 FAX: +81-52-955-5650  
TEL: +81-92-431-7586 FAX: +81-92-474-9643  
TEL: +81-76-293-1725 FAX: +81-76-293-1881

**Helsinki Branch (Finland)**  
Atomitie 5, Helsinki, 00370, Finland  
TEL: +358-40-1668580 E-mail: [info@sanrex.fi](mailto:info@sanrex.fi)  
**Seoul Branch (Korea)**  
#706, 6, Samseong-ro 96-gil, Gangnam-gu Seoul  
06168 Korea  
TEL: +82-2-552-2803 FAX: +82-2-552-8441  
**Taipei Branch (Taiwan)**  
8F-3, No.46, Chung Shan N. Road, Sec. 2, Taipei,  
Taiwan, R.O.C.  
TEL: +886-2-2543-5689 FAX: +886-2-2536-7876

**SANSHA SOLUTION SERVICE CO., LTD. (Japan)**  
TEL: +81-6-6321-0616 FAX: +81-6-6321-0618  
Service branches: Osaka, Tokyo, Nagoya, Fukuoka  
**SANSHA ELECTRIC EASTERN CO., LTD. (Japan)**  
TEL: +81-266-82-6600 FAX: +81-266-73-3322  
<https://www.est.sansha.co.jp/>  
**SANREX CORPORATION (U.S.A.)**  
TEL: +1-516-625-1313 FAX: +1-516-625-8845  
<https://www.sanrex.com/>  
**SANREX ASIA PACIFIC PTE. LTD. (Singapore)**  
TEL: +65-6457-8867 FAX: +65-6459-6425  
<https://www.sanrex.sg/>

**SANREX LIMITED (Hong Kong)**  
TEL: +852-2744-1310 FAX: +852-2785-6009  
**SANSHA ELECTRIC MFG. (SHANGHAI) CO., LTD. (China)**  
TEL: +86-21-5868-1058 FAX: +86-21-5868-1056  
**SANSHA ELECTRIC MFG. (GUANGDONG) CO., LTD. (China)**  
TEL: +86-757-2733-3688 FAX: +86-757-2783-3547  
<http://www.sanrex.cn/>  
**DONGGUAN EASTERN ELECTRONICS CO., LTD. (China)**  
TEL: +86-769-8733-8301 FAX: +86-769-8733-8306