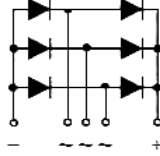
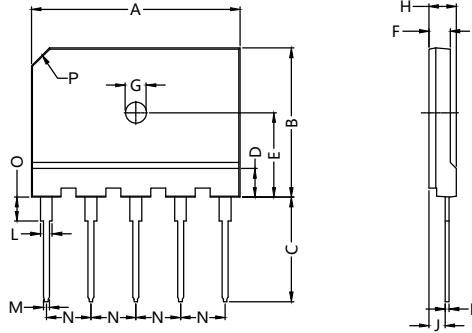


# S3PDB24N18P

## Three Phase Bridge Rectifiers



Dimensions(mm)



Dim.	Millimeter	
	Min.	Max.
A	34.70	35.30
B	24.70	25.30
C	17.00	18.00
D	4.50	5.10
E	13.85	14.45
F	3.40	3.65
ØG	Ø3.1	Ø3.4
H	4.40	4.65
J	2.50	2.75
K	0.60	0.75
L	2.00	2.20
M	0.90	1.00
N	7.30	7.70
O	4.00	4.00
P	-	C3

	V <sub>RMS</sub> V	V <sub>RRM</sub> V
S3PDB24N08P	900	800
S3PDB24N10P	1100	1000
S3PDB24N12P	1300	1200
S3PDB24N14P	1500	1400
S3PDB24N16P	1700	1600
S3PDB24N18P	1900	1800

Symbol	Test Conditions	Characteristic Values	Unit
I <sub>(AV)</sub>	Maximum Average Forward(With Heatsink ) Rectified Current @T <sub>c</sub> =100°C(Without Heatsink)	24.0 5.0	A
I <sub>FSM</sub>	Peak Forward Surge Current 8.3ms Single Half-Sine-Wave Superimposed On Rated Load (JEDEC METHOD)	200	A
V <sub>F</sub>	I <sub>F</sub> =24.0A;T <sub>vj</sub> =25°C	1.20	V
I <sub>R</sub>	Maximum DC Reverse Current At Rated DC Blocking Voltage	@T <sub>J</sub> =25°C 5 @T <sub>J</sub> =125°C 150	µA
I <sup>2</sup> t	I <sup>2</sup> t Rating For Fusing(t< 8.3ms)	400	A <sup>2</sup> S
V <sub>ISO</sub>	RMS 1min	2500	VAC
R <sub>thJC</sub>	Per module	0.96	°C/W
T <sub>J</sub>	Operating Temperature Range	-55...+150	°C
T <sub>stg</sub>	Storage Temperature Range	-55...+150	°C
M <sub>d</sub>	Mounting Torque (M3)	0.5~0.8	Nm


### FEATURES

- \* Rating to 1800V PRV
- \* Ideal for printed circuit board
- \* Low forward voltage drop, high current capability
- \* Reliable low cost construction utilizing molded plastic technique results in inexpensive product
- \* UL File E310749
- \* RoHS Compliant

### MECHANICAL DATA

- \* Polarity: Symbols molded on body
- \* Weight: 0.338 ounces, 9.6 grams
- \* Mounting position: Any



 E310749

# S3PDB24N18P

## Three Phase Bridge Rectifiers

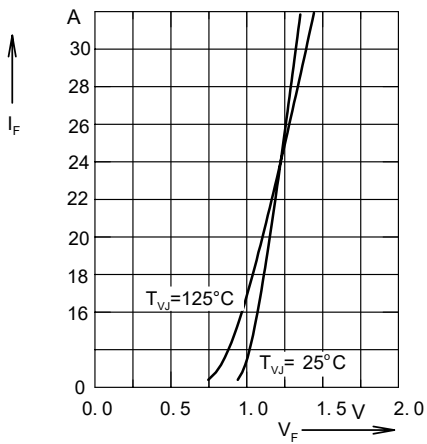


Fig. 1 Forward current versus voltage drop per diode

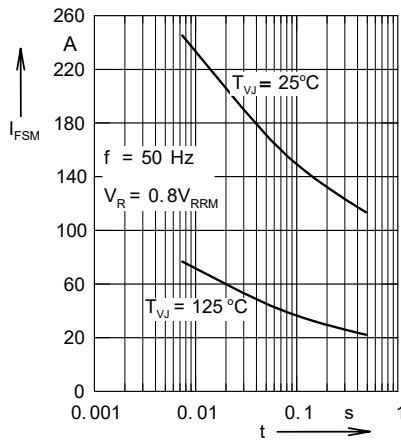


Fig. 2 Surge overload current

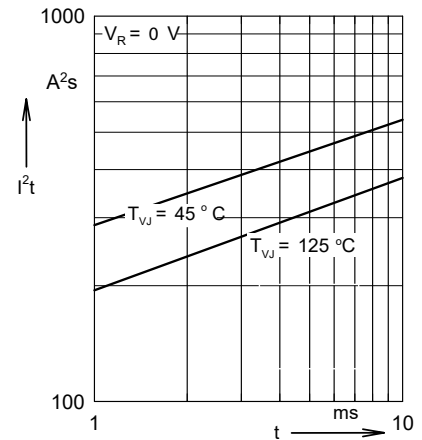


Fig. 3  $I^2t$  versus time per diode

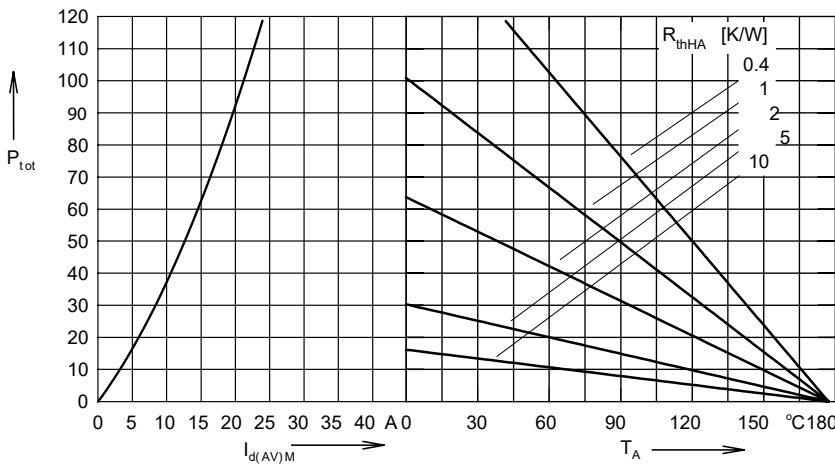


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180

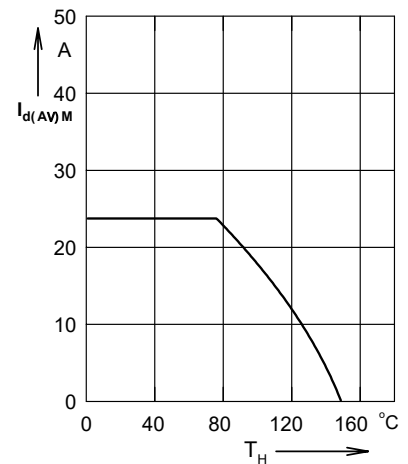


Fig. 5 Max. forward current vs. case temperature

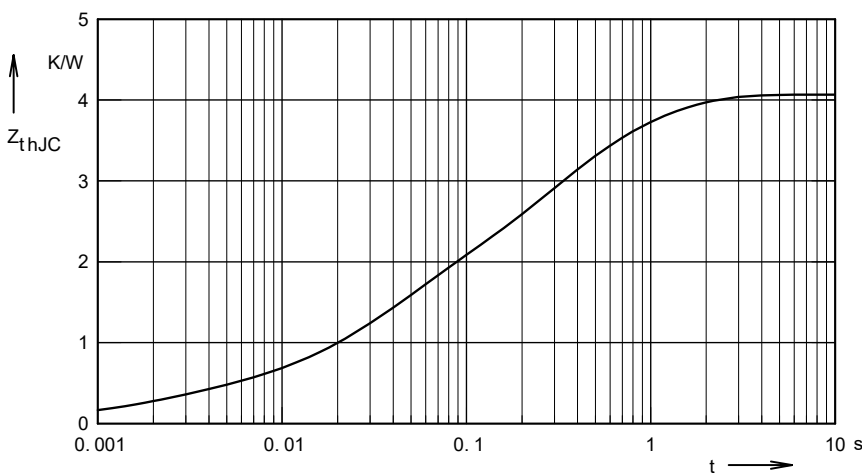


Fig. 6 Transient thermal impedance junction to case

Constants for  $Z_{thJC}$  calculation:

i	$R_{thi}$ (K/W)	$t_i$ (s)
1	0.302	0.002
2	1.252	0.032
3	1.582	0.227
4	1.164	0.82