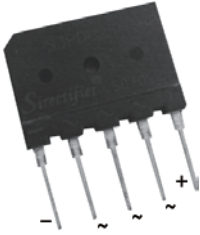
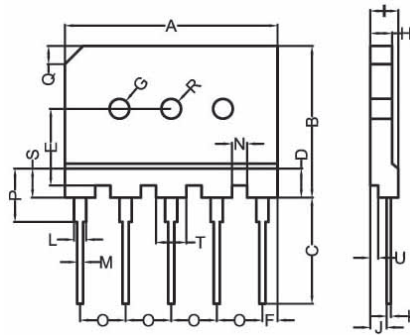


# S3PDB36NXXP

## Three Phase Bridge Rectifiers



Dimensions(mm)



[mm]	MIN	TYP	MAX
A	34.70	35.0	35.30
B	24.70	25.0	25.30
C	17.0	17.50	18.0
D	4.70	4.80	4.90
E	12.45	12.65	12.85
F	2.30	2.50	2.70
G	3.10	3.25	3.40
H	3.40	3.60	3.80
I	4.40	4.60	4.80
J	2.50	2.70	2.90
K	0.60	0.70	0.80
L	2.0	2.20	2.40
M	0.90	1.0	1.10
N	2.50	2.60	2.90
O	7.30	7.50	7.70
P	5.40	5.50	5.60
Q	(3.0) × 45°		
R	∅3.10	∅3.25	∅3.40
S	1.40	1.50	1.60
T	4.60	4.80	5.0
U	1.20	1.30	1.40

	V <sub>RRM</sub>	V <sub>RMS</sub>
	V	V
S3PDB36N02P	300	200
S3PDB36N04P	500	400
S3PDB36N06P	700	600
S3PDB36N08P	900	800
S3PDB36N12P	1300	1200
S3PDB36N14P	1500	1400
S3PDB36N16P	1700	1600
S3PDB36N18P	1900	1800

Symbol	Test Conditions	Characteristic Values	Unit
I <sub>(AV)</sub>	Maximum Average Forward(With Heatsink Note 2) Rectified Current @T <sub>c</sub> =100°C(Without Heatsink)	36.0 5.0	A
I <sub>FSM</sub>	Peak Forward Surge Current 8.3ms Single Half-Sine-Wave Superimposed On Rated Load (JEDEC METHOD)	350	A
V <sub>F</sub>	I <sub>F</sub> =12.0A; T <sub>VJ</sub> =25°C	1.10	V
I <sub>R</sub>	Maximum DC Reverse Current @T <sub>J</sub> =25°C At Rated DC Blocking Voltage @T <sub>J</sub> =125°C	5 150	μA
I <sup>2</sup> t	I <sup>2</sup> t Rating For Fusing(t < 8.3ms)	640	A°S
C <sub>J</sub>	Typical Junction Capacitance Per Element	48	pF
R <sub>thJC</sub>	Per module	0.80	°C/W
T <sub>J</sub>	Operating Temperature Range	-55...+150	°C
T <sub>stg</sub>	Storage Temperature Range	-55...+150	°C

### FEATURES

- \* Rating to 1600V 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: 0.23 ounces, 6.6 grams
- \* Mounting position: Any



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# S3PDB36

## Three Phase Bridge Rectifiers

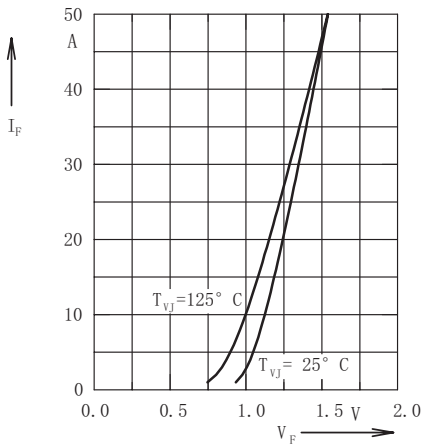


Fig.1 Forward current versus voltage drop per diode

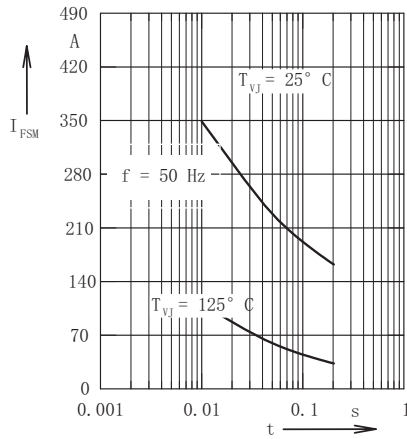


Fig. 2 Surge overload current

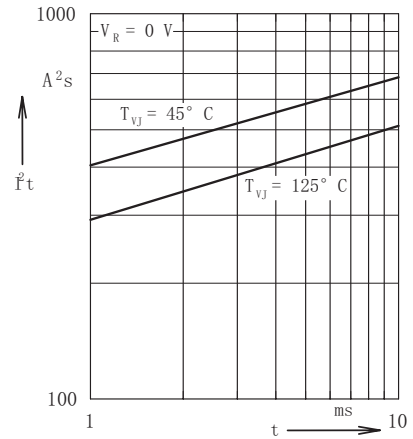


Fig. 3  $I^2t$  versus time per diode

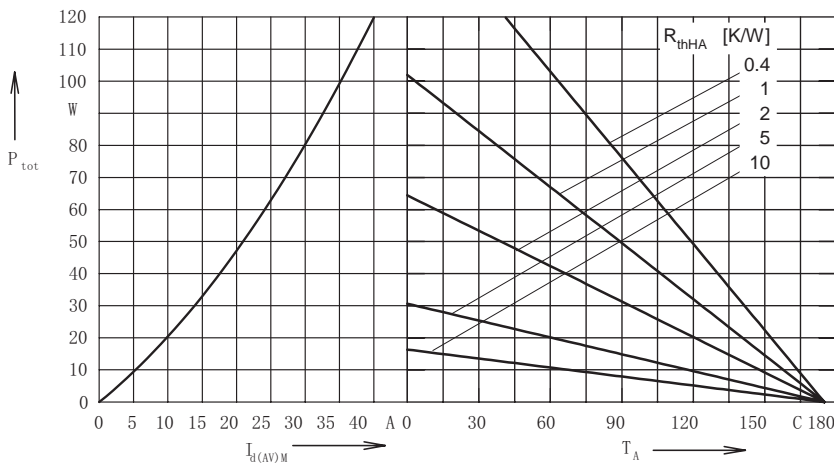


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180°

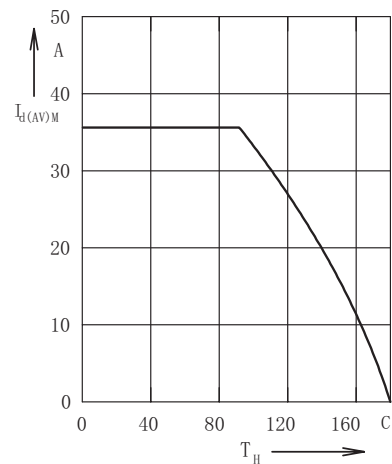


Fig. 5 Max. forward current vs. case temperature

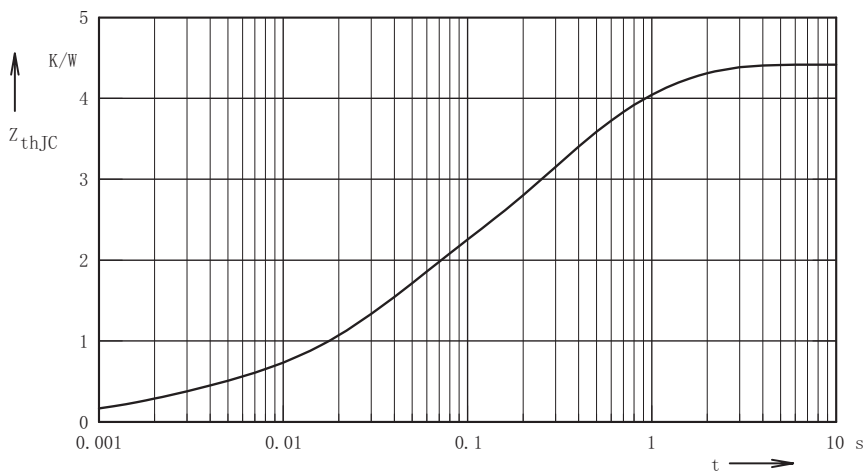


Fig. 6 Transient thermal impedance junction to case

Constants for ZthJC calculation:

i	$R_{thi}$ (K/W)	$t_i$ (s)
1	0.310	0.002
2	1.281	0.032
3	2.158	0.1
4	2.837	0.2

