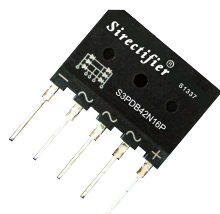
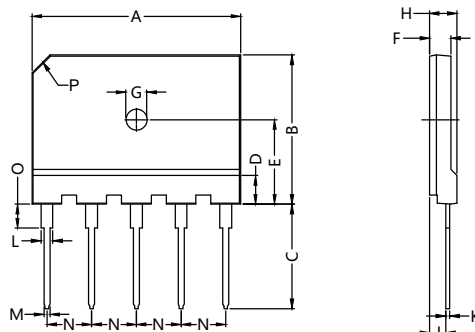


S3PDB42N16P

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

	VRRM V	VRSM V
S3PDB42N02P	300	200
S3PDB42N04P	500	400
S3PDB42N06P	700	600
S3PDB42N08P	900	800
S3PDB42N12P	1300	1200
S3PDB42N14P	1500	1400
S3PDB42N16P	1700	1600
S3PDB42N18P	1900	1800

Symbol	Test Conditions	Characteristic Values	Unit
$I_{(AV)}$	Maximum Average Forward (With Heatsink Note 2) Rectified Current @ $T_C = 100^\circ\text{C}$ (Without Heatsink)	42.0 6.0	A
I_{FSM}	Peak Forward Surge Current 8.3ms Single Half-Sine-Wave Superimposed On Rated Load (JEDEC METHOD)	390	A
V_F	$I_F = 42.0\text{A}; T_{VJ} = 25^\circ\text{C}$	1.20	V
I_R	Maximum DC Reverse Current At Rated DC Blocking Voltage	@ $T_J = 25^\circ\text{C}$ 10 @ $T_J = 125^\circ\text{C}$ 200	μA
I^2t	I^2t Rating For Fusing ($t < 8.3\text{ms}$)	720	A^2S
V_{ISO}	RMS 1min	2500	V
R_{thJC}	Per module	0.70	$^\circ\text{C/W}$
T_J	Operating Temperature Range	-55...+150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55...+150	$^\circ\text{C}$

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: 0.33 ounces, 9.6 grams
- * Mounting position: Any



Sirectifier®

S3PDB42N16P

Three Phase Bridge Rectifiers

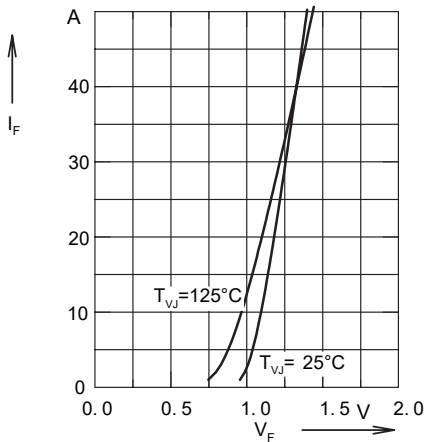


Fig.1 Forward current versus voltage drop per diode

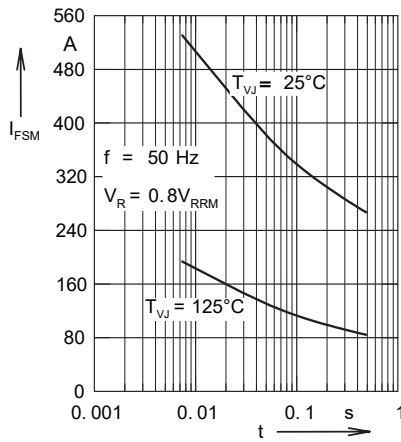


Fig.2 Surge overload current

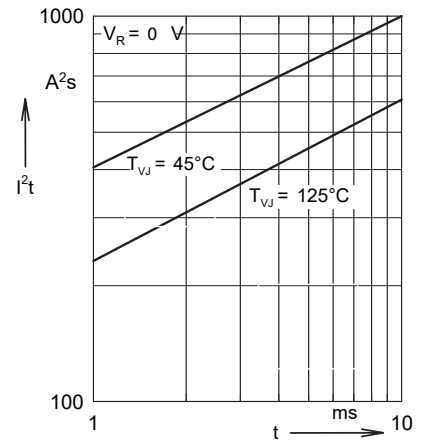


Fig.3 I^2t versus time per diode

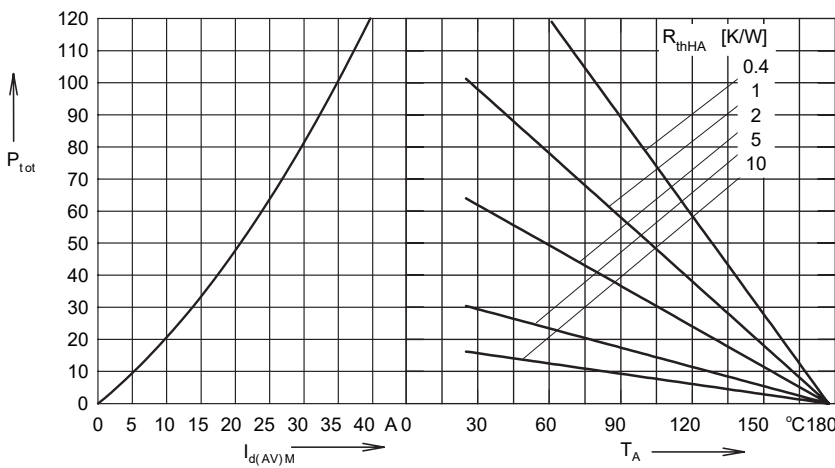


Fig.4 Power dissipation versus direct output current and ambient temperature, sine 180°

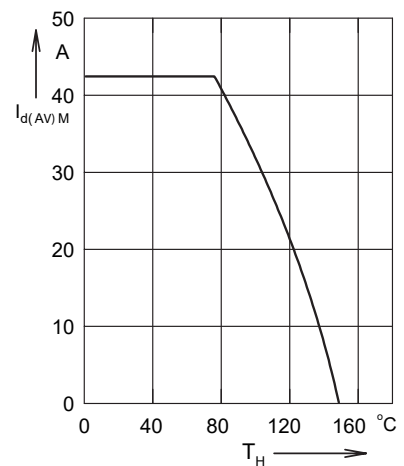


Fig.5 Max. forward current vs. case temperature

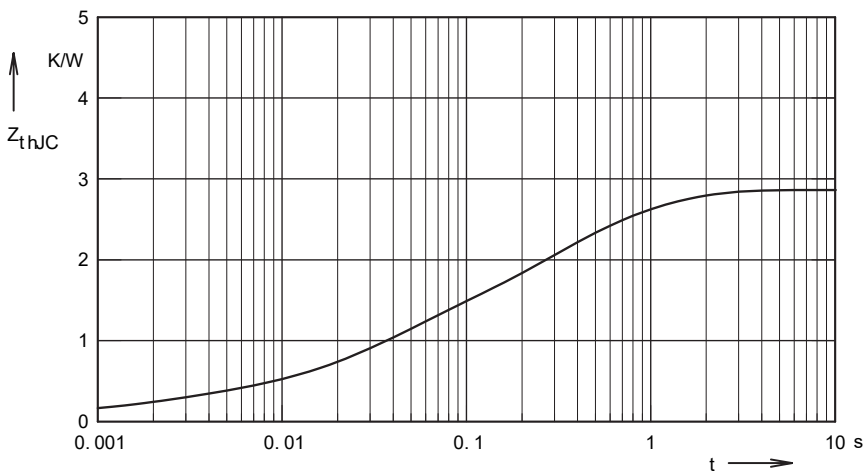


Fig.6 Transient thermal impedance junction to case

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