

## Power Bridge Rectifiers

### DBI 15

#### Features

- Isolated metal case with in-line wire leads
- Ideal for printed circuit boards
- Allow easy heatsink mounting
- Solder temperature: 260 °C max. (max 5 s)
- Blocking voltage up to 1600 V
- High surge current
- Standard packing: 54 pieces box

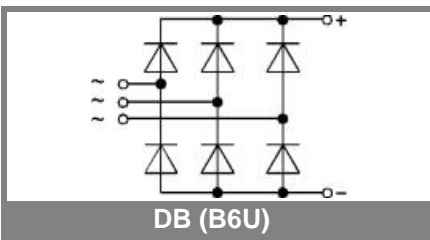
#### Typical Applications\*

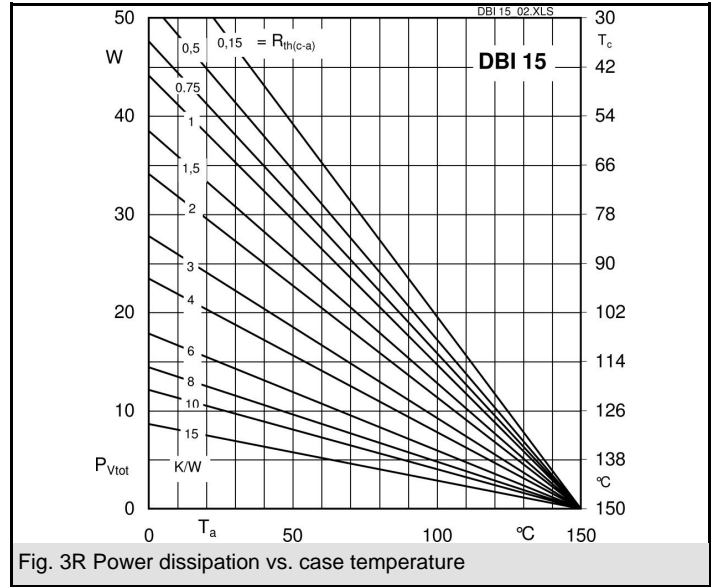
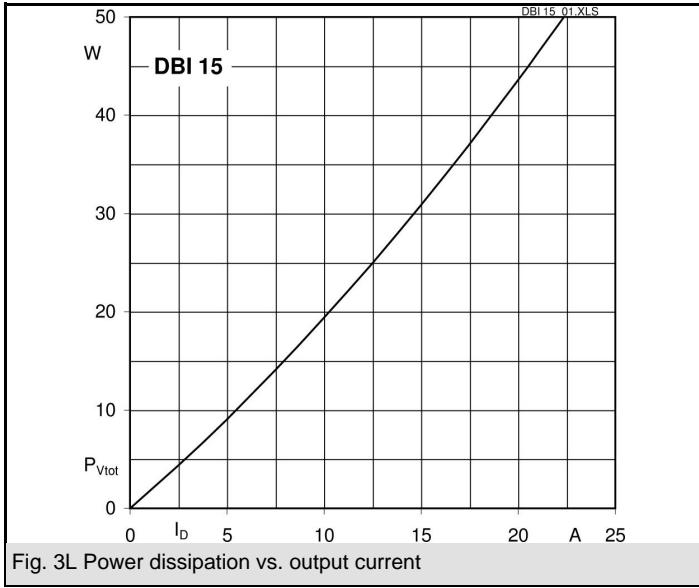
- Rectifier for power supplies
- Input rectifier for variable frequency drives
- Rectifier for DC motor field supplies
- Battery charger rectifiers
- Recommended snubber network:  
RC: 50 Ω, 0.1 μF ( $P_R = 1 \text{ W}$ )

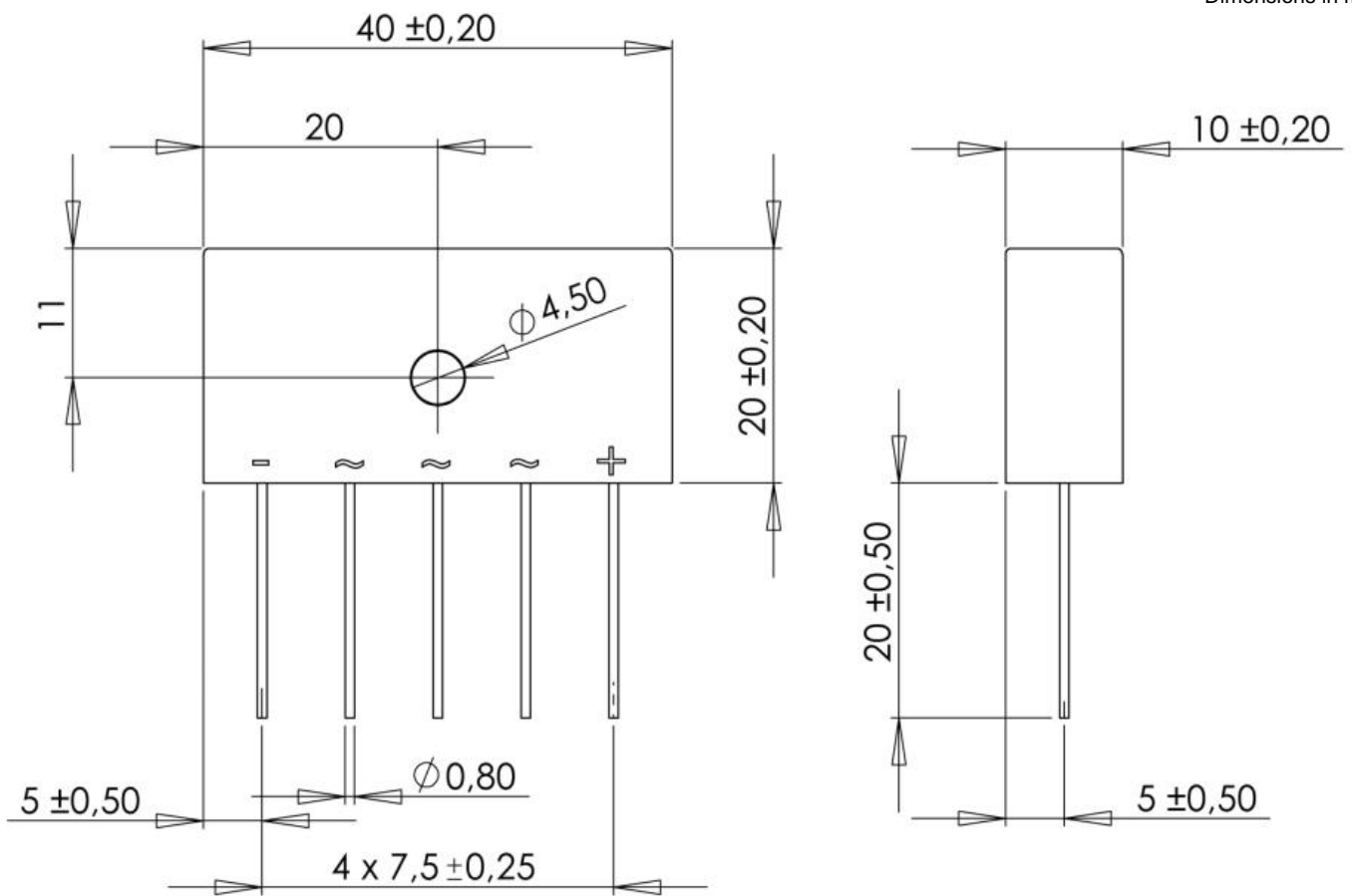
- 1) Mounted on a 50 x 75 mm p.c.b.
- 2) Mounted on a painted metal sheet of min. 250 x 250 x 1 mm
- 3) Recommended  $V_{VRMS}$  values:  
 $V_{VRMS} = V_{RRM} / 2,83$

$V_{RSM}, V_{RRM}$ V	$V_{VRMS}$ V	$I_D = 15 \text{ A } (T_c = 75 \text{ °C})$ Types	$C_{max}$ μF	$R_{min}$ Ω
200	140	DBI 15-02		0,22
400	280	DBI 15-04		0,47
800	560	DBI 15-08		1
1200	800	DBI 15-12		1,5
1600	1000	DBI 15-16		2,2

Symbol	Conditions	Values	Units
$I_D$	$T_a = 49 \text{ °C}$ , P1/120, natural cooling $T_a = 49 \text{ °C}$ , chassis <sup>2)</sup>	15 10	A A
$I_{DCL}$	$T_a = 49 \text{ °C}$ , P1/120, natural cooling $T_a = 49 \text{ °C}$ , chassis <sup>2)</sup> $T_a = 49 \text{ °C}$ , isolated <sup>1)</sup>	15 10 2,7	A A A
$I_{FSM}$	$T_{vj} = 25 \text{ °C}$ , 10 ms $T_{vj} = 150 \text{ °C}$ , 10 ms	250 210	A A
$i^2t$	$T_{vj} = 25 \text{ °C}$ , 8,3 ... 10 ms $T_{vj} = 150 \text{ °C}$ , 8,3 ... 10 ms	310 220	A <sup>2</sup> s A <sup>2</sup> s
$V_F$	$T_{vj} = 25 \text{ °C}$ , $I_F = 50 \text{ A}$	max. 1,7	V
$V_{(TO)}$	$T_{vj} = 150 \text{ °C}$	max. 0,85	V
$r_T$	$T_{vj} = 150 \text{ °C}$	max. 12	mΩ
$I_{RD}$	$T_{vj} = 25 \text{ °C}$ , $V_{RD} = V_{RRM}$ $T_{vj} = \text{ °C}$ , $V_{RD} = V_{RRM} \geq V$	50	μA μA
$I_{RD}$	$T_{vj} = 150 \text{ °C}$ , $V_{RD} = V_{RRM}$ $T_{vj} = \text{ °C}$ , $V_{RD} = V_{RRM} \geq V$	5	mA mA
$t_{rr}$	$T_{vj} = 25 \text{ °C}$	10	μs
$f_G$		2000	Hz
$R_{th(j-a)}$	isolated <sup>1)</sup> chassis <sup>2)</sup>	21 5,2	K/W K/W
$R_{th(j-c)}$	total (from junctions to bridge back side)	2,4	K/W
$R_{th(c-s)}$	total	0,15	K/W
$T_{vj}$		- 40 ... + 150	°C
$T_{stg}$		- 55 ... + 150	°C
$V_{isol}$	a.c. 50...60 Hz; r.m.s.; 1s / 1 min.	3000 / 2500	V~
$M_s$	torque for heatsink mounting (M4 screw)	$2 \pm 15 \%$	Nm
$M_t$			Nm
$a$			m/s <sup>2</sup>
$w$	approx.	21	g
$F_u$			A
Case	40 x 20 x 10 mm plus leads = 20 mm	DBI	







Case DBI

\* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.