

| $V_{RSM}, V_{RRM}$<br>V | $V_{VRMS}$<br>V | $I_D = 9 \text{ A } (T_c = 113 \text{ °C})$<br>Types | $C_{max}$<br>$\mu\text{F}$ | $R_{min}$<br>$\Omega$ |
|-------------------------|-----------------|------------------------------------------------------|----------------------------|-----------------------|
| 400                     | 280             | DBI 6-04 P                                           |                            | 0,75                  |
| 800                     | 560             | DBI 6-08 P                                           |                            | 1,8                   |
| 1200                    | 800             | DBI 6-12 P                                           |                            | 2,7                   |
| 1600                    | 1100            | DBI 6-16 P                                           |                            | 3,9                   |
| 1800                    | 1250            | DBI 6-18 P                                           |                            | 4,5                   |
| 2000                    | 1400            | DBI 6-20 P                                           |                            | 5,1                   |
| 2200                    | 1550            | DBI 6-22 P <sup>3)</sup>                             |                            | 5,6                   |

## Power Bridge Rectifiers

### DBI 6 P

#### Features

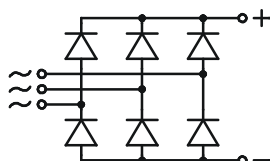
- Compact plastic package with in-line wire leads
- Ideal for printed circuit boards
- Allow easy heatsink mounting
- Solder temperature: 260°C max. (max. 5 s)
- Blocking voltage up to 2200 V
- High surge current
- UL 94V-0 classified
- Standard packing: 54 pieces box

#### Typical Applications\*

- 3 phase rectifier for power supplies
- Input rectifier for variable frequency drives
- Rectifier for DC motor field supplies
- Battery charger rectifiers
- Recommended snubber network: RC: 10 nF, 20...50  $\Omega$  ( $P_R = 1 \text{ W}$ )

- 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) Available on limited quantities.

| Symbol        | Conditions                                                                                                                                          | Values         | Units                                        |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------------------|
| $I_D$         | $T_a = 60 \text{ °C}$ , P5A/100, natural cooling<br>$T_a = 58 \text{ °C}$ , chassis <sup>2)</sup>                                                   | 12<br>9        | A<br>A                                       |
| $I_{DCL}$     | $T_a = 52 \text{ °C}$ , P5A/100, natural cooling<br>$T_a = 58 \text{ °C}$ , chassis <sup>2)</sup><br>$T_a = 45 \text{ °C}$ , isolated <sup>1)</sup> | 12<br>9<br>2,9 | A<br>A<br>A                                  |
| $I_{FSM}$     | $T_{vj} = 25 \text{ °C}$ , 10 ms<br>$T_{vj} = 150 \text{ °C}$ , 10 ms                                                                               | 200<br>165     | A<br>A                                       |
| $i^2t$        | $T_{vj} = 25 \text{ °C}$ , 8,3 ... 10 ms<br>$T_{vj} = 150 \text{ °C}$ , 8,3 ... 10 ms                                                               | 200<br>136     | $\text{A}^2\text{s}$<br>$\text{A}^2\text{s}$ |
| $V_F$         | $T_{vj} = 25 \text{ °C}$ , $I_F = 80 \text{ A}$                                                                                                     | max. 2,65      | V                                            |
| $V_{(TO)}$    | $T_{vj} = 150 \text{ °C}$                                                                                                                           | max. 0,8       | V                                            |
| $r_T$         | $T_{vj} = 150 \text{ °C}$                                                                                                                           | max. 24        | m $\Omega$                                   |
| $I_{RD}$      | $T_{vj} = 25 \text{ °C}$ , $V_{RD} = V_{RRM}$<br>$T_{vj} = \text{°C}$ , $V_{RD} = V_{RRM} \geq V$                                                   | 50             | $\mu\text{A}$<br>$\mu\text{A}$               |
| $I_{RD}$      | $T_{vj} = 150 \text{ °C}$ , $V_{RD} = V_{RRM}$<br>$T_{vj} = \text{°C}$ , $V_{RD} = V_{RRM} \geq V$                                                  | 5              | mA<br>mA                                     |
| $t_{rr}$      | $T_{vj} = 25 \text{ °C}$                                                                                                                            | 10             | $\mu\text{s}$                                |
| $f_G$         |                                                                                                                                                     | 2000           | Hz                                           |
| $R_{th(j-a)}$ | isolated <sup>1)</sup><br>chassis <sup>2)</sup>                                                                                                     | 21<br>5        | K/W<br>K/W                                   |
| $R_{th(i-c)}$ | total (from chips to bridge back side)                                                                                                              | 2              | K/W                                          |
| $R_{th(c-s)}$ | total                                                                                                                                               | 0,15           | K/W                                          |
| $T_{vj}$      |                                                                                                                                                     | -40...+150     | °C                                           |
| $T_{stq}$     |                                                                                                                                                     | -55...+150     | °C                                           |
| $V_{isol}$    | a.c. 50...60 Hz; r.m.s.; 1s / 1 min.                                                                                                                | 3000 / 2500    | V~                                           |
| $M_s$         | torque for mounting (M4 screw)                                                                                                                      | $2 \pm 15\%$   | Nm                                           |
| $M_t$         |                                                                                                                                                     |                | Nm                                           |
| $a$           |                                                                                                                                                     |                | $\text{m/s}^2$                               |
| $w$           | approx.                                                                                                                                             | 12,5           | g                                            |
| $F_u$         |                                                                                                                                                     |                | A                                            |
| Case          | 40 x 21,5 x 6,4 mm plus 20 mm leads                                                                                                                 | DBI P          |                                              |



DB (B6U)

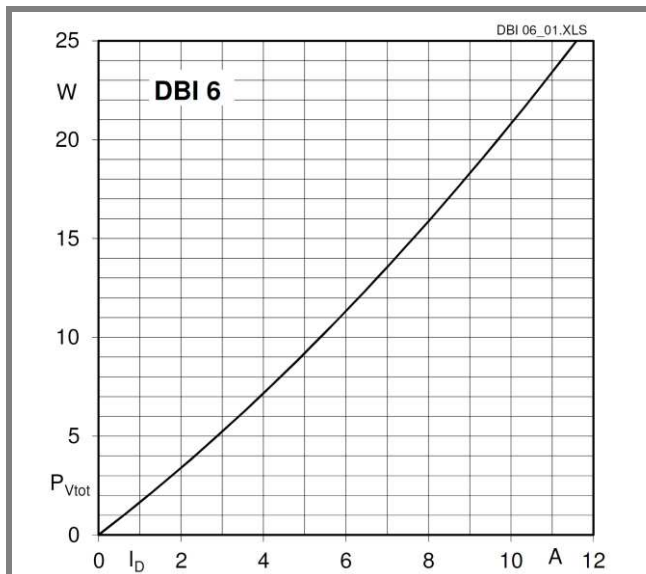


Fig. 3L Power dissipation vs. output current

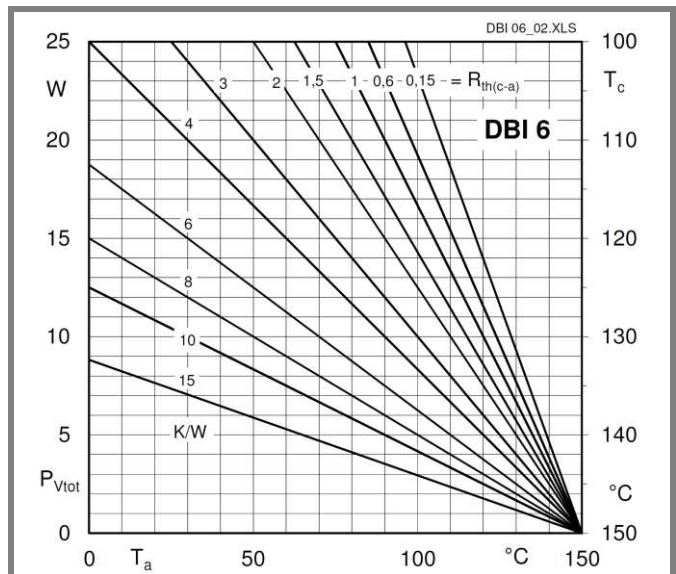


Fig. 3R Power dissipation vs. case temperature

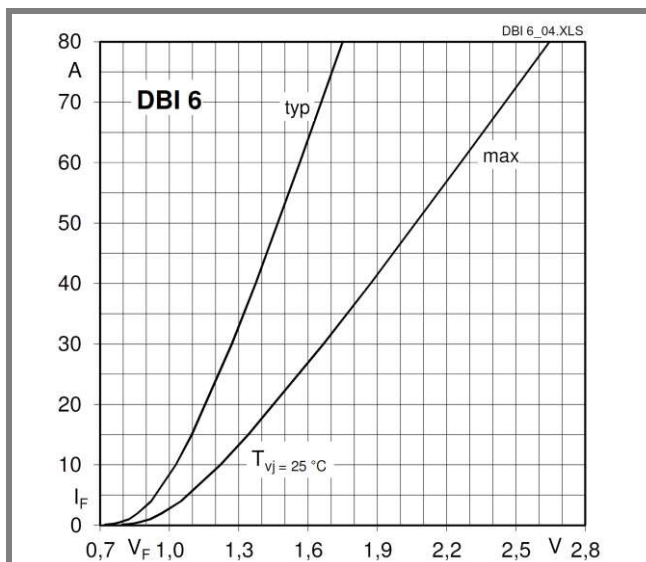
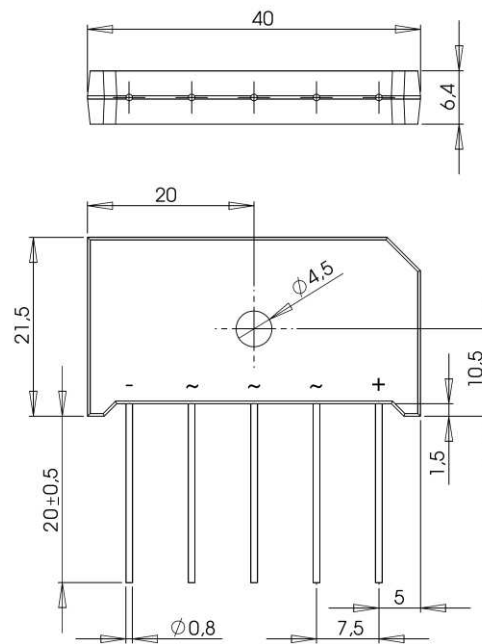


Fig. 9 Forward characteristics of a diode arm



## Case DBI P

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