

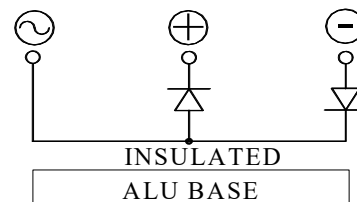


## HBS100.25

### INSULATED DIODE MODULE

**Output Current**                **100 A**

**Blocking Voltage**        **2500 V**



| $V_{RRM}$<br>[V] | $V_{RSM}$<br>[V] | P/N       |
|------------------|------------------|-----------|
| 2500             | 2600             | HBS100.25 |

#### Features

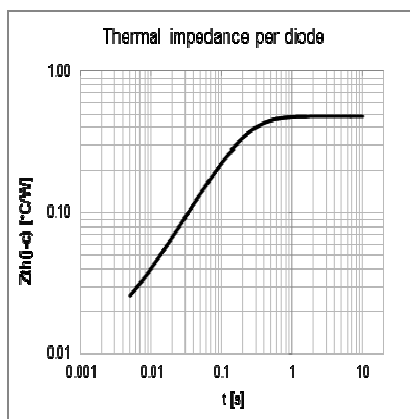
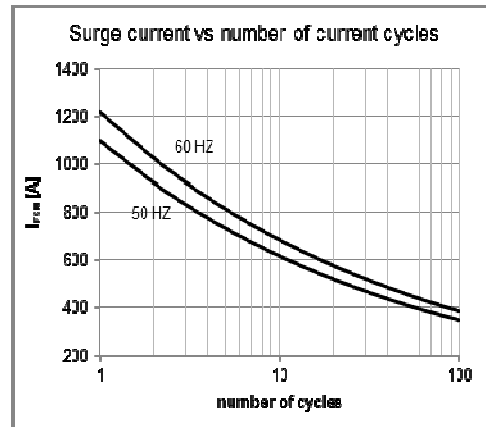
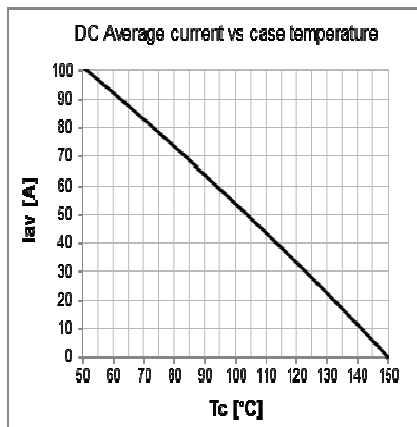
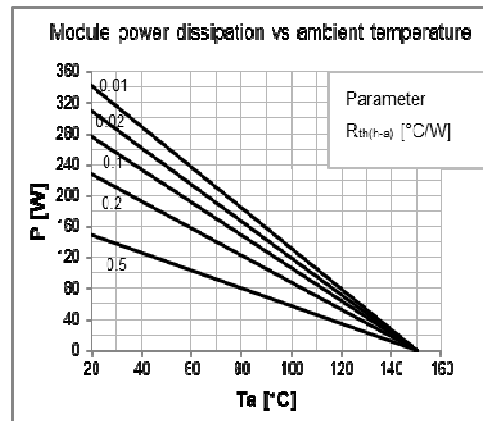
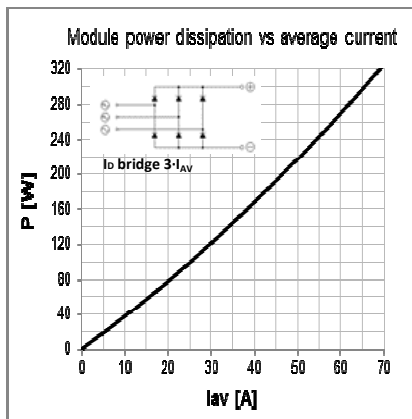
Low forward voltage diodes for high surge capability  
Low thermal impedance packaging  
Electrically insulated case

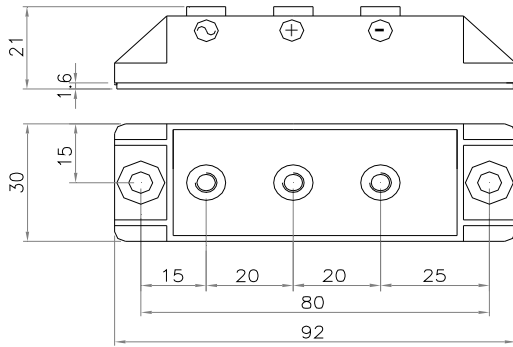
#### Applications

Input rectifier for variable frequency drives  
Battery charger rectifiers  
Three phase rectifier for power supplies  
Rectifiers for DC motor fields

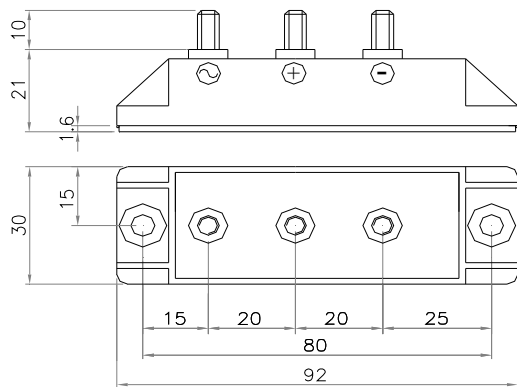
| Diodes characteristics |                                       | Conditions                                           | $T_j$ [°C] | Value                  |
|------------------------|---------------------------------------|------------------------------------------------------|------------|------------------------|
| $I_{RRM}$              | Max repetitive peak reverse current   | $V = V_{RRM}$                                        | 150        | 5 mA                   |
| $V_{F(TO)}$            | Threshold voltage                     |                                                      | 150        | 1,8 V                  |
| $r_F$                  | Forward slope resistance              |                                                      | 150        | 2,5 mΩ                 |
| $V_{FM}$               | Peak forward voltage, max             | $I_F = 100A$                                         | 25         | 2 V                    |
| $I_{FSM}$              | Surge forward current                 | Half sine wave, 10 ms                                | 150        | 1500 A                 |
| $I^2t$                 | Max $I^2t$ for fusing                 |                                                      | 150        | 11250 A <sup>2</sup> s |
| $I_{F(AV)}$            | Average forward current               | $T_c = 50$ °C - DC                                   |            | 100 A                  |
| $I_{F(AV)}$            | Average forward current               | $T_c = 60$ °C - in three phase bridge configuration  |            | 70 A                   |
| $I_{F(AV)}$            | Average forward current               | $T_c = 60$ °C - in single phase bridge configuration |            | 72 A                   |
| $T_{jmax}$             | Operating junction temperature        |                                                      |            | -40 / 150 °C           |
| $R_{th(j-c)}$          | Thermal resistance (junction to case) | DC operation                                         |            | 0,48 °C/W              |
| $R_{th(j-c)}$          | Thermal resistance (junction to case) | Rectangular wave 120° conduction                     |            | 0,54 °C/W              |

| Module characteristics |                                          | Conditions                                    | Value                 |
|------------------------|------------------------------------------|-----------------------------------------------|-----------------------|
| $V_{INS}$              | RMS Insulating voltage                   | 50 / 60 Hz $t = 1$ s ( $i < 1$ mA)            | 3600 V                |
| $V_{INS}$              | RMS Insulating voltage                   | 50 / 60 Hz $t = 60$ s ( $i < 1$ mA)           | 3000 V                |
| $R_{th(j-c)}$          | Thermal resistance (junction to case)    | DC operation                                  | 0,240 °C/W            |
| $R_{th(j-c)}$          | Thermal resistance (junction to case)    | Rect. wave 120° conduction                    | 0,270 °C/W            |
| $R_{th(c-h)}$          | Thermal resistance (case to heatsink)    | Mounting surface flat, smooth and greased     | 0,100 °C/W            |
| $R_{th(j-a)}$          | Thermal resistance (junction to ambient) | Freely suspended or mounted on an insulator   | 8,5 °C/W              |
| $R_{th(j-a)}$          | Thermal resistance (junction to ambient) | Mounted on a painted metal sheet 250x250x1 mm | 3,0 °C/W              |
| $T_{stg}$              | Max storage temperature                  |                                               | 150 °C                |
| $M_1$                  | Mounting torque, ± 15 %                  |                                               | 4,5 N·m<br>40 lb·inch |
| $M_2$                  | Terminal connection torque, ± 15 %       |                                               | 3,0 N·m<br>26 lb·inch |

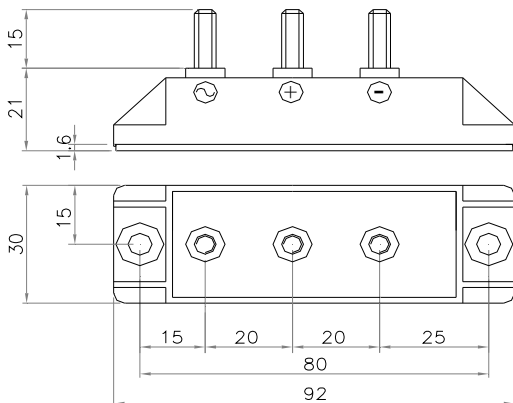



**Fig.1** HBS100.25-SS5-FIX5-HP-P80-TA

Code:HB90001000006


**Fig.2** HBS100.25-MM5x10-FIX5-HP-P80-TA

Code:HB90001000007


**Fig.3** HBS100.25-MM5x15-FIX5-HP-P80-TA

Code:HB90001000008

**Power fix:**

SS=Screw (M6 or M5)

MM=Bolt (M6 or M5)

**Mounting fix:**

FIX=  $\varnothing 5,5$