

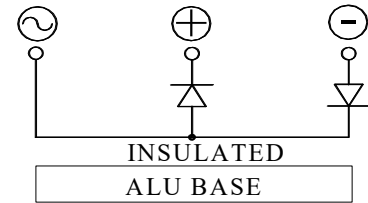


## HBS100.16

### INSULATED DIODE MODULE

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

**Blocking Voltage**        **1600 V**



$V_{RRM}$ [V]	$V_{RSM}$ [V]	P/N
1600	1700	HBS100.16

#### Features

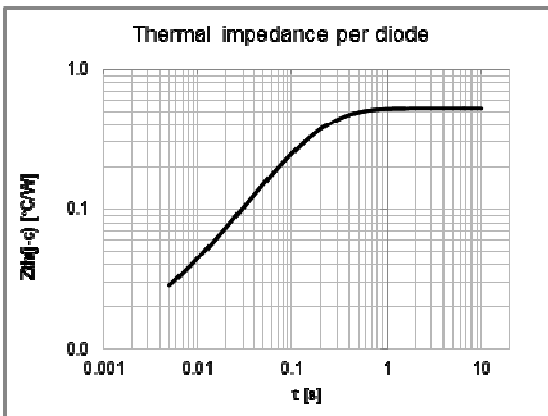
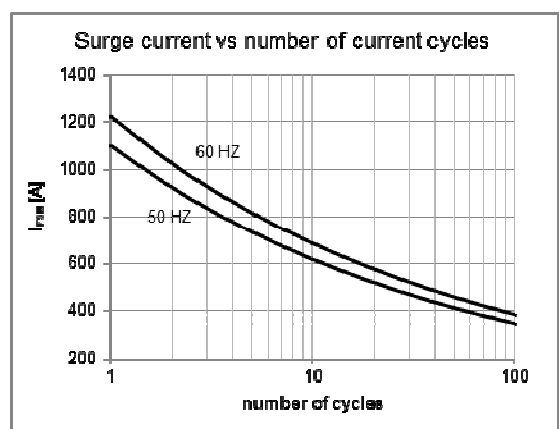
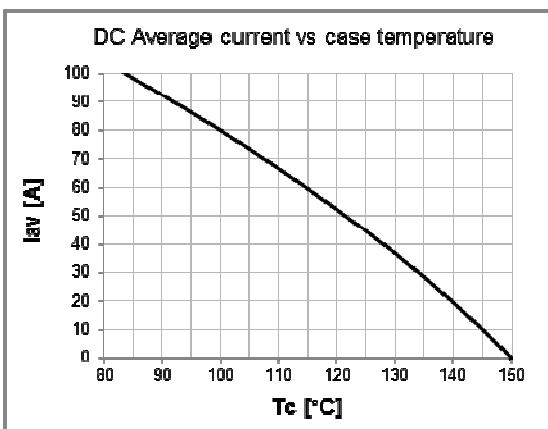
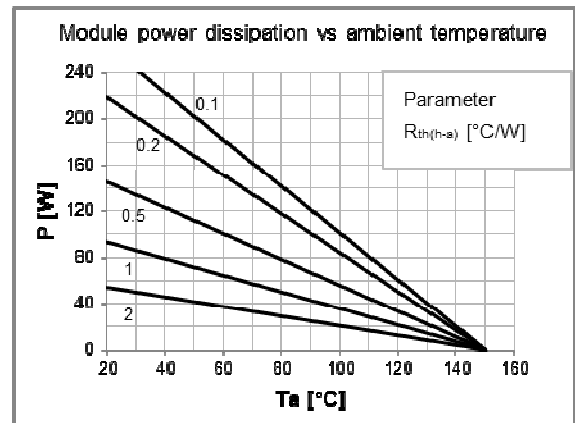
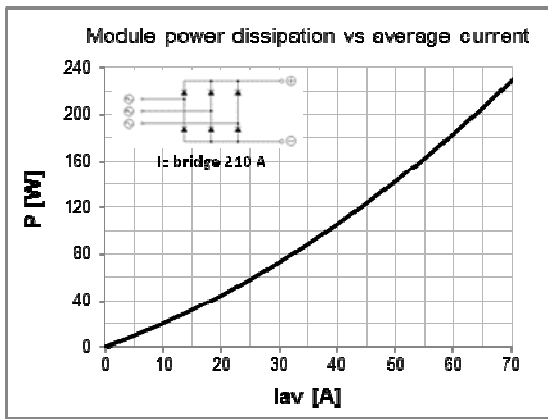
Low forward voltage diodes for high surge capability  
 Low thermal impedance packaging  
 Electrically insulated case

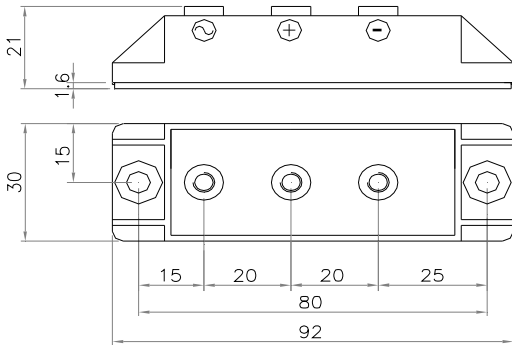
#### Applications

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

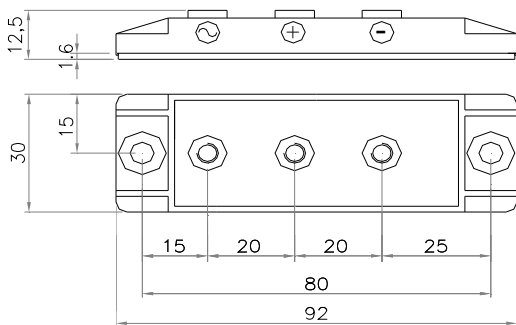
Diodes characteristics		Conditions	$T_j$ [°C]	Value
$I_{RRM}$	Max repetitive peak reverse current	$V = V_{RRM}$	150	4 mA
$V_{F(TO)}$	Threshold voltage		150	0,9 V
$r_F$	Forward slope resistance		150	3,5 m $\Omega$
$V_{FM}$	Peak forward voltage, max	$I_F = 100A$	25	1,2 V
$I_{FSM}$	Surge forward current	Half sine wave, 10 ms	150	1100 A
$I^2t$	Max $I^2t$ for fusing		150	6050 A <sup>2</sup> s
$I_{F(AV)}$	Average forward current	$T_c = 83$ °C - DC		100 A
$I_{F(AV)}$	Average forward current	$T_c = 83$ °C - in three phase bridge configuration		70 A
$I_{F(AV)}$	Average forward current	$T_c = 83$ °C - in single phase bridge configuration		73 A
$T_{jmax}$	Operating junction temperature			-40 / 150 °C
$R_{th(j-c)}$	Thermal resistance (junction to case)	DC operation		0,53 °C/W
$R_{th(j-c)}$	Thermal resistance (junction to case)	Rectangular wave 120° conduction		0,59 °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	0,265 °C/W
$R_{th(j-c)}$	Thermal resistance (junction to case)	Rect. wave 120° conduction	0,295 °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, $\pm 15$ %		4,5 N·m 40 lb·inch
$M_2$	Terminal connection torque, $\pm 15$ %		3,0 N·m 26 lb·inch

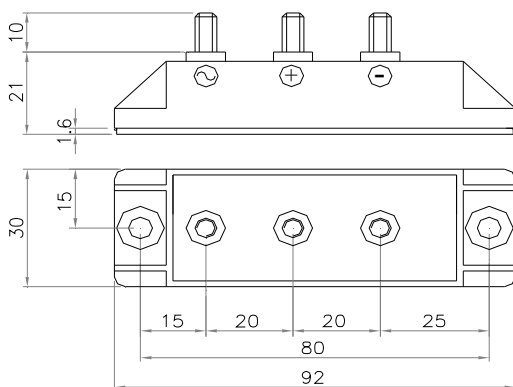



**Fig.1** HBS100.16-SS5-FIX5-HP-P80-TA

Code:HB90001000000


**Fig.2** HBS100.16-SS5-FIX5-LP-P80-TA

Code:HB90001000001

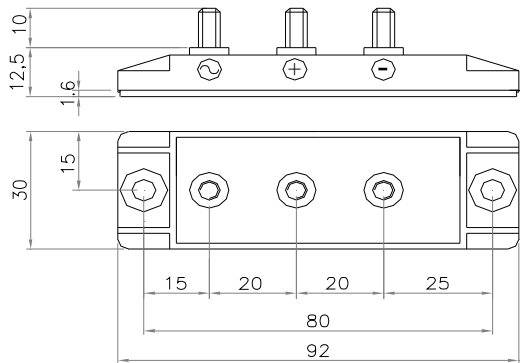

**Fig.3** HBS100.16-MM5x10-FIX5-HP-P80-TA

Code:HB90001000002

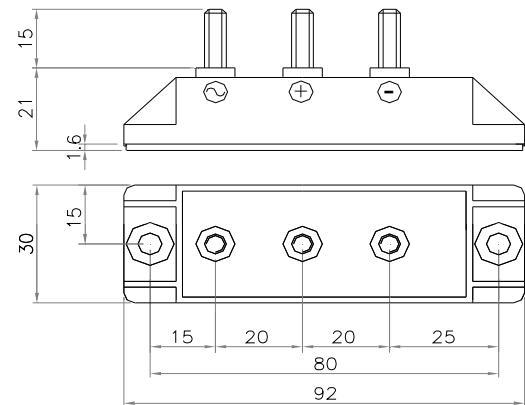
**Power fix:**  
 SS=Screw (M6 or M5)  
 MM=Bolt (M6 or M5)

**Mounting fix:**  
 FIX=  $\varnothing$ 5,5

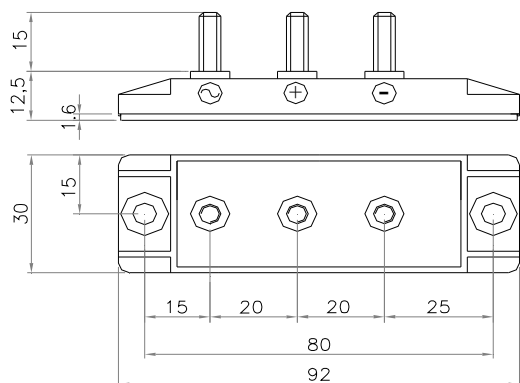
**Profile:**  
 HP=High Profile LP=Low Profile



**Fig.4** HBS100.16-MM5x10-FIX5-LP-P80-TA  
Code:HB90001000003



**Fig.5** HBS100.16-MM5x15-FIX5-HP-P80-TA  
Code:HB90001000004



**Fig.6** HBS100.16-MM5x15-FIX5-LP-P80-TA  
Code:HB90001000005

**Power fix:**  
SS=Screw (M6 or M5)  
MM=Bolt (M6 or M5)

**Mounting fix:**  
FIX= Ø5,5

**Profile:**  
HP=High Profile LP=Low Profile