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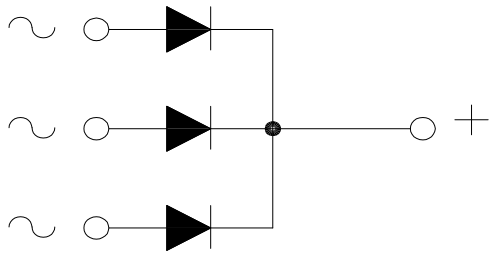
MSS70P-HM

POWER RECTIFIER BRIDGE

Output Current **70 A**



V_{RRM}	V_{RSM}	P/N
400	500	MSS70.04P
600	700	MSS70.06P
800	900	MSS70.08P
1200	1300	MSS70.12P
1600	1700	MSS70.16P

Features

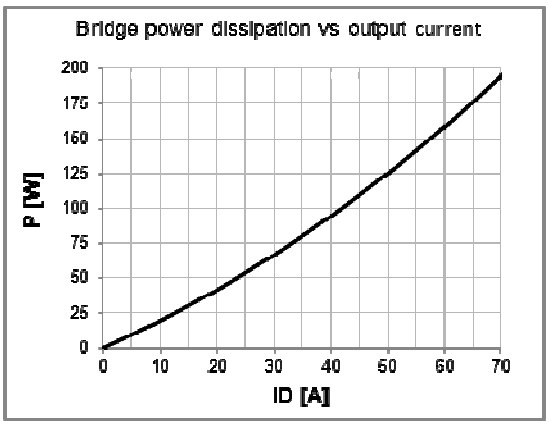
Low forward voltage diodes for high surge capability
Low thermal impedance packaging
Electrically insulated case

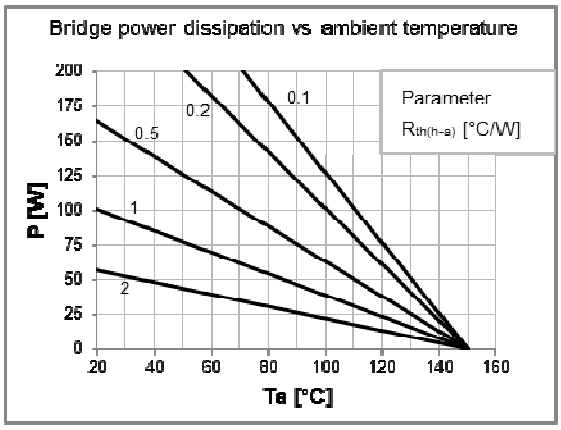
Applications

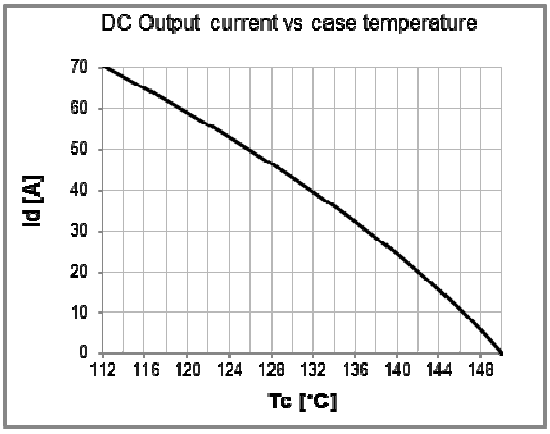
Input rectifier for variable frequency drives
Battery charger rectifiers
Three phase rectifier for power supplies
Rectifiers for DC motor fields supplies

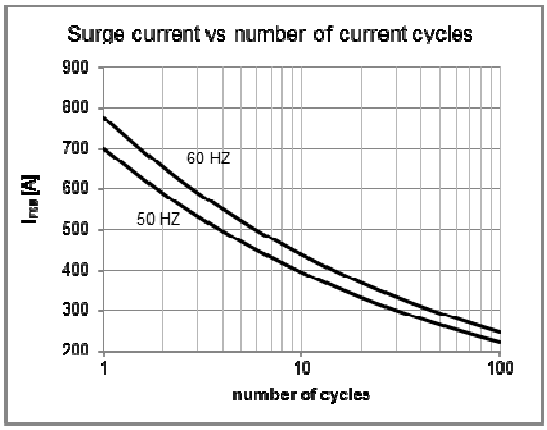
Diodes characteristics		Conditions	Tj [°C]	Value
I_{RRM}	Max repetitive peak reverse current	$V = V_{RRM}$	150	4 mA
$V_{F(TO)}$	Threshold voltage		150	0,9 V
r_F	Forward slope resistance		150	7,0 mΩ
V_{FM}	Peak forward voltage, max	I_F = 100A	25	1,7 V
I_{FSM}	Surge forward current	Half sine wave, 10 ms	150	700 A
I^2t	Max I^2t for fusing		150	2450 A^2s
T_{jmax}	Operating junction temperature			-40 / 150 °C
$R_{th(j-c)}$	Thermal resistance (junction to case)	DC operation		1,04 °C/W
$R_{th(j-c)}$	Thermal resistance (junction to case)	Rectangular wave 120° conduction		1,16 °C/W

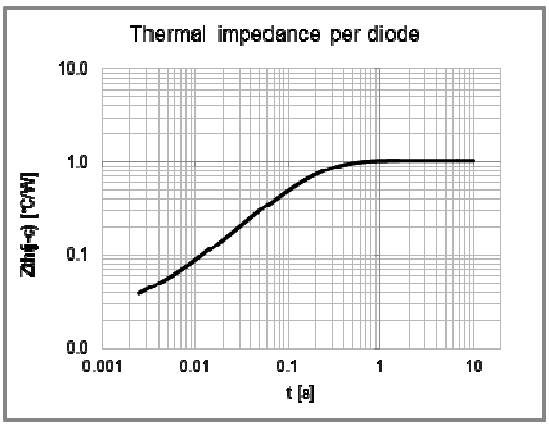
Module characteristics		Conditions	Value
I_D	DC output current	Tc = 112 °C	70 A
I_D	DC output current	Ta = 40 °C ; freely suspended	6 A
V_{INS}	RMS Insulating voltage	50 / 60 Hz t = 1 s (i < 1 mA)	3600 V
V_{INS}	RMS Insulating voltage	50 / 60 Hz t = 60 s (i < 1 mA)	3000 V
$R_{th(j-c)}$	Thermal resistance (junction to case)	DC operation	0,174 °C/W
$R_{th(j-c)}$	Thermal resistance (junction to case)	Rect. wave 120° conduction	0,193 °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	9,0 °C/W
$R_{th(j-a)}$	Thermal resistance (junction to ambient)	Mounted on a painted metal sheet 250x250x1 mm	3,5 °C/W
T_{stg}	Max storage temperature		150 °C
M_1	Mounting torque, ± 15 %		4,5 N·m
			40 lb·inch
M_2	Terminal connection torque, ± 15 %		3,0 N·m
			26 lb·inch


Bridge power dissipation vs output current
P [W]
ID [A]
0
25
50
75
100
125
150
175
200
0
10
20
30
40
50
60
70


Bridge power dissipation vs ambient temperature
P [W]
Ta [°C]
Parameter
Rth(h-a) [°C/W]
0.1
0.2
0.5
1
2
0
25
50
75
100
125
150
175
200
20
40
60
80
100
120
140
160


DC Output current vs case temperature
Id [A]
Tc [°C]
0
10
20
30
40
50
60
70
112
116
120
124
128
132
136
140
144
148


Surge current vs number of current cycles
Irms [A]
number of cycles
60 HZ
50 HZ
200
300
400
500
600
700
800
900
1
10
100


Thermal impedance per diode
Zth(j-c) [°C/W]
t [s]
0.0
0.1
1.0
10.0
0.001
0.01
0.1
1
10

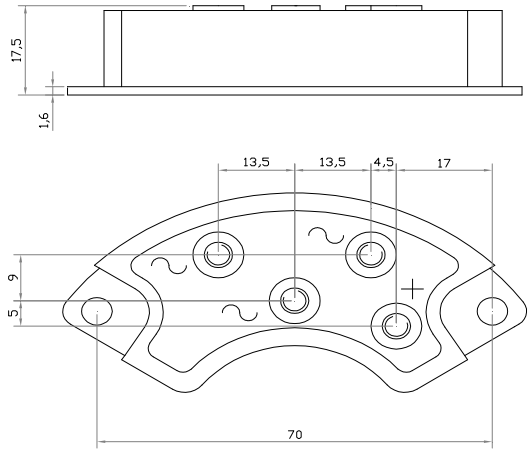


Fig.1

MSS70.04P-SS5-FIX5-LP-P70-TG
Code:930000700010
MSS70.06P-SS5-FIX5-LP-P70-TG
Code:930000700012
MSS70.08P-SS5-FIX5-LP-P70-TG
Code:930000700014
MSS70.12P-SS5-FIX5-LP-P70-TG
Code:930000700016
MSS70.16P-SS5-FIX5-LP-P70-TG
Code:930000700018

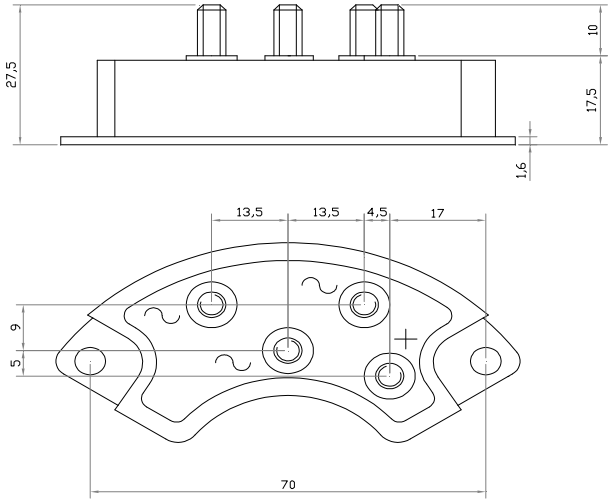


Fig.2

MSS70.04P-MM5x10-FIX5-LP-P70-TG
Code:930000700011
MSS70.06P-MM5x10-FIX5-LP-P70-TG
Code:930000700013
MSS70.08P-MM5x10-FIX5-LP-P70-TG
Code:930000700015
MSS70.12P-MM5x10-FIX5-LP-P70-TG
Code:930000700017
MSS70.16P-MM5x10-FIX5-LP-P70-TG
Code:930000700019

Voltage:04=400V 06=600V 08=800V 12=1200V 16=1600V

Power fix:
SS=Screw (M5)
MM=Bolt (M5)

Mounting fix:
FIX= Ø5,5

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