SCOMES

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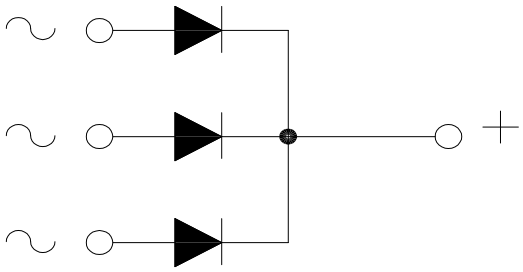
MSS50P-HM

POWER RECTIFIER BRIDGE

Output Current **50 A**



V_{RRM}	V_{RSM}	P/N
400	500	MSS50.04P
600	700	MSS50.06P
800	900	MSS50.08P
1200	1300	MSS50.12P
1600	1700	MSS50.16P

Features

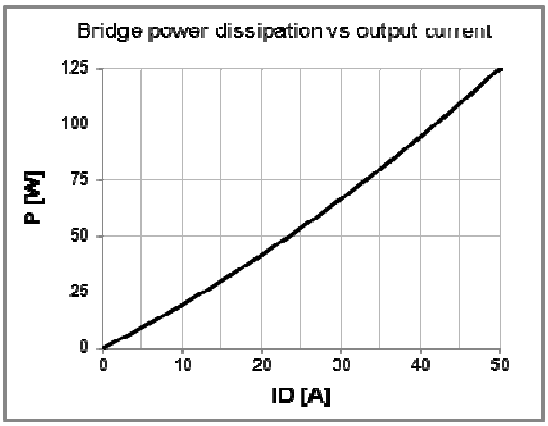
Low forward voltage diodes for high surge capability
Low thermal impedance packaging
Electrically insulated case

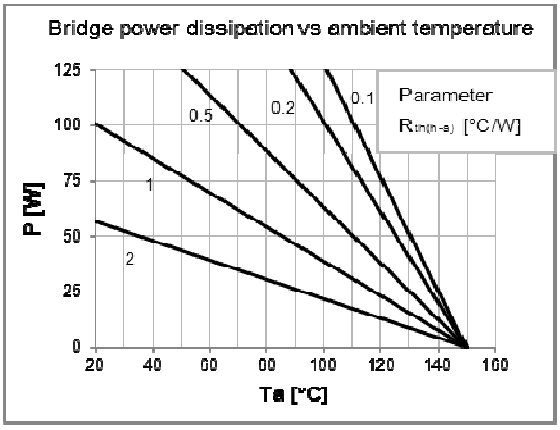
Applications

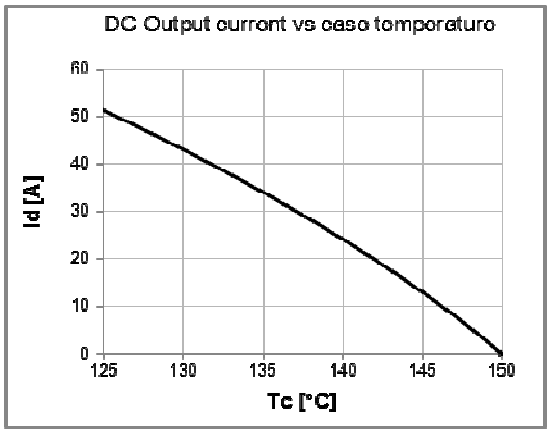
Input rectifier for variable frequency drives
Battery charger rectifiers
Three phase rectifier for power supplies
Rectifiers for DC motor fields supplies

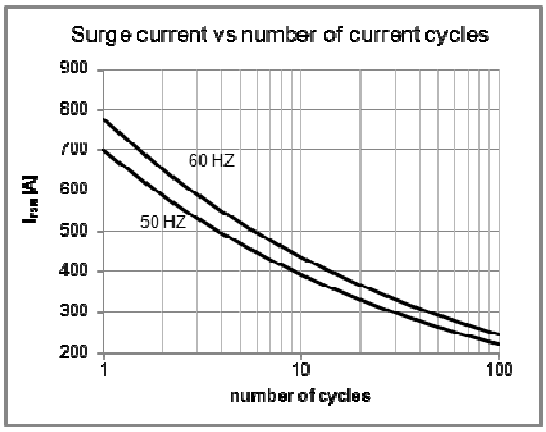
Diodes characteristics		Conditions	Tj [°C]	Value
I_{RRM}	Max repetitive peak reverse current	$V = V_{RRM}$	150	4 mA
$V_{F(TO)}$	Threshold voltage		150	0,9 V
r_F	Forward slope resistance		150	7,0 mΩ
V_{FM}	Peak forward voltage, max	I_F = 100A	25	1,7 V
I_{FSM}	Surge forward current	Half sine wave, 10 ms	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

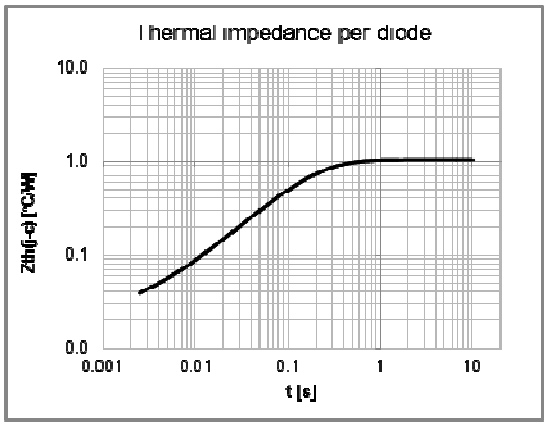
Module characteristics		Conditions	Value
I_D	DC output current	Tc = 126 °C	50 A
I_D	DC output current	Ta = 40 °C ; freely suspended	6 A
V_{INS}	RMS Insulating voltage	50 / 60 Hz t = 1 s (i < 1 mA)	3600 V
V_{INS}	RMS Insulating voltage	50 / 60 Hz t = 60 s (i < 1 mA)	3000 V
$R_{th(j-c)}$	Thermal resistance (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
W	Weight		85 g
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]
125
100
75
50
25
0
0
10
20
30
40
50
ID [A]


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


DC Output current vs case temperature
Id [A]
60
50
40
30
20
10
0
125
130
135
140
145
150
Tc [°C]


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


Thermal impedance per diode
Zthj-a [°C/W]
10.0
1.0
0.1
0.0
0.001
0.01
0.1
1
10
t [s]

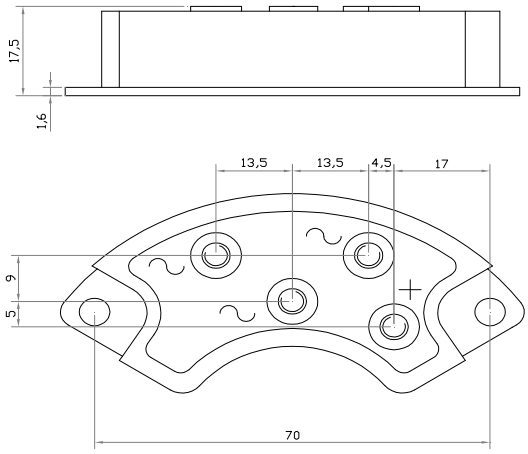


Fig.1

MSS50.04P-SS5-FIX5-LP-P70-TG
Code: 9300005000010
MSS50.06P-SS5-FIX5-LP-P70-TG
Code: 9300005000012
MSS50.08P-SS5-FIX5-LP-P70-TG
Code: 9300005000014
MSS50.12P-SS5-FIX5-LP-P70-TG
Code: 9300005000016
MSS50.16P-SS5-FIX5-LP-P70-TG
Code: 9300005000018

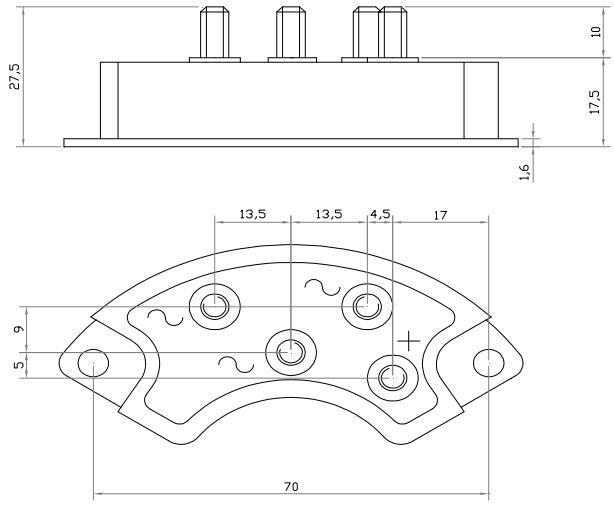


Fig.2

MSS50.04P-MM5x10-FIX5-LP-P70-TG
Code: 9300005000011
MSS50.06P-MM5x10-FIX5-LP-P70-TG
Code: 9300005000013
MSS50.08P-MM5x10-FIX5-LP-P70-TG
Code: 9300005000015
MSS50.12P-MM5x10-FIX5-LP-P70-TG
Code: 9300005000017
MSS50.16P-MM5x10-FIX5-LP-P70-TG
Code: 9300005000019

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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