



MK600.06NI

NOT INSULATED FAST RECOVERY DIODE MODULE

Output Current **600 A**

Blocking Voltage **600 V**



V_{RRM} [V]	V_{RSM} [V]	V_{OUT} [V]	P/N
600	700	190	MK600.06 NI

Features

- Short recovery time
- Low switching losses
- Soft recovery behavior

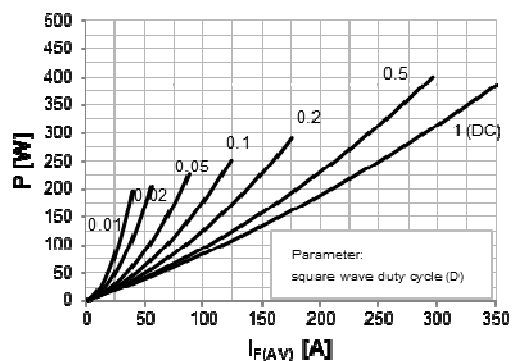
Applications

- Antiparallel diode for high frequency switching devices
- Free-wheeling diode in converters or motor controllers
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

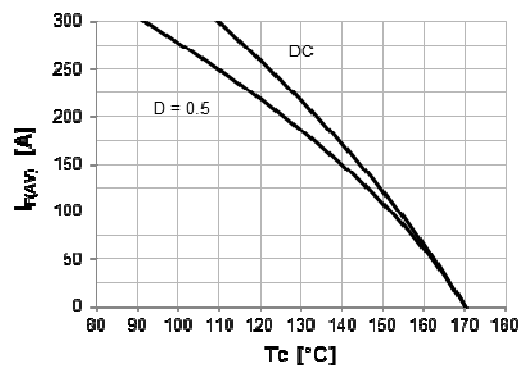
Diodes characteristics		Conditions	T_j [°C]	Value
$I_{F(AV)}$	Average forward current	$T_c = 92^\circ\text{C}$		300 A
I_{FRM}	Repetitive forward current, max	Square wave, 20 kHz		500 A
I_{RRM}	Max repetitive peak reverse current	$V = V_{RRM}$	170	4 mA
$V_{F(TO)}$	Threshold voltage		170	0,7 V
r_F	Forward slope resistance		170	1,04 m Ω
V_{FM}	Peak forward voltage, max	$I_F = 300$ A	170	1,20 V
I_{FSM}	Surge forward current	Half sine wave, 10 ms	25	2300 A
I^2t	Max I^2t for fusing		25	26450 A ² s
C_T	Junction capacitance, typ	$V = V_{RRM}$	25	140 pF
Q_{rr}	Reverse recovery charge, typ	$I_F = 100$ A	125	3000 nC
I_{rr}	Reverse recovery current, typ	$V_R = 200$ V		28 A
t_{rr}	Reverse recovery time, typ	$dI_F / dt = 200$ A / μ s		225 ns
T_{jmax}	Operating junction temperature			-40 / 150 °C
$R_{th(j-c)}$	Thermal resistance (junction to case)			0,19 °C/W

Module characteristics		Conditions	Value
I_{OUT}	Output current (center tap connection)	$T_c = 92^\circ\text{C}$	600 A
$R_{th(c-h)}$	Thermal resistance (case to heatsink)	Mounting surface flat, smooth and greased	0,150 °C/W
T_{stg}	Max storage temperature		150 °C
W	Weight		117 g
M_1	Mounting torque, $\pm 15\%$		5,5 N·m
			48 lb·inch
M_2	Terminal connection torque, $\pm 15\%$		4,0 N·m
			35 lb·inch

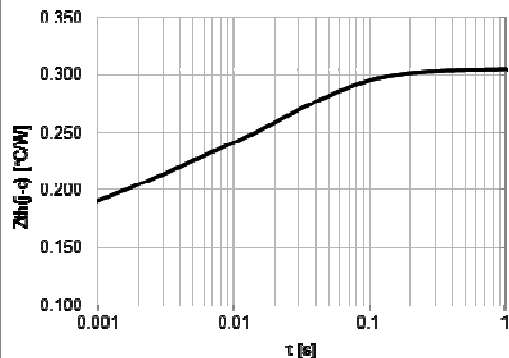
Average power loss vs average forward current



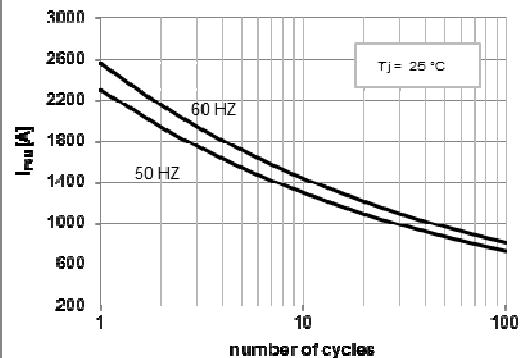
Forward current vs case temperature



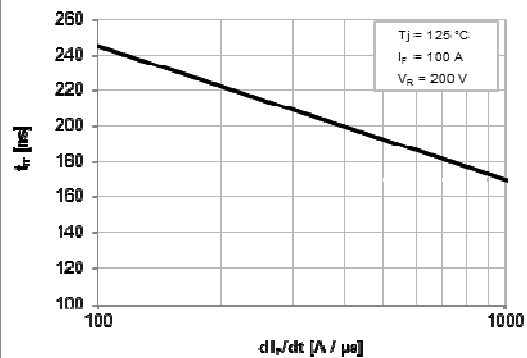
Thermal impedance (j-c) per diode



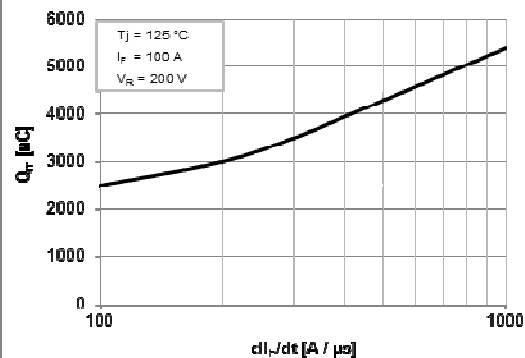
Surge current vs number of current cycles



Reverse recovery time vs di_F/dt - typical



Reverse recovery charge vs di_F/dt - typical



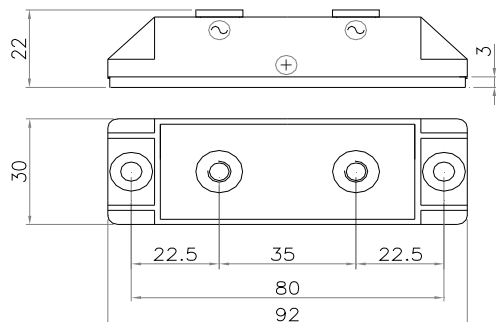


Fig.1 MK600.06NI-SS6-FIX5-HP-P80-TA

Code:MK4006000059

MK600.06NI-SS5-FIX5-HP-P80-TA

Code:MK4006000057

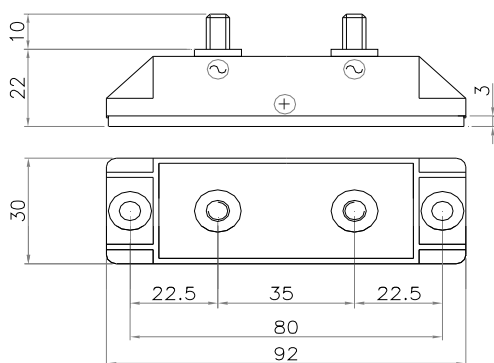


Fig.2 MK600.06NI-MM6x10-FIX5-HP-P80-TA

Code:MK4006000049

MK600.06NI-MM5x10-FIX5-HP-P80-TA

Code:MK4006000041

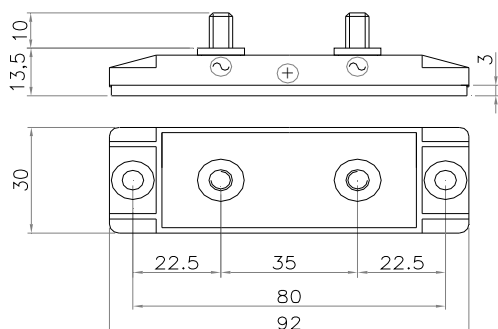


Fig.3 MK600.06NI-MM6x10-FIX5-LP-P80-TA

Code:MK4006000051

MK600.06NI-MM5x10-FIX5-LP-P80-TA

Code:MK4006000043

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

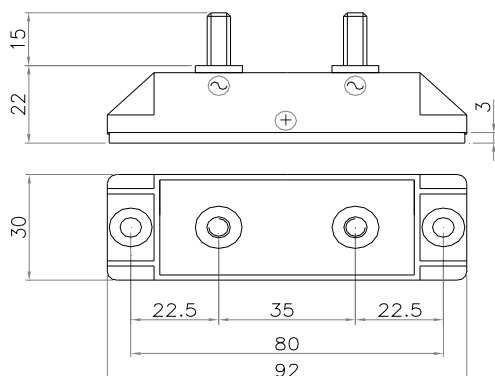


Fig.4 MK600.06NI-MM6x15-FIX5-HP-P80-TA

Code:MK4006000053

MK600.06NI-MM5x15-FIX5-HP-P80-TA

Code:MK4006000045

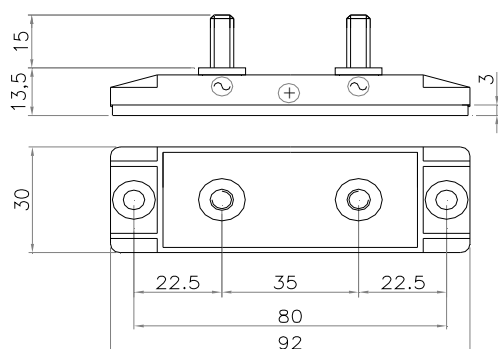


Fig.5 MK600.06NI-MM6x15-FIX5-LP-P80-TA

Code:MK4006000055

MK600.06NI-MM5x15-FIX5-LP-P80-TA

Code:MK4006000047

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

Mounting fix:
 FIX= Ø5,5

Profile:
 HP=High Profile LP=Low Profile

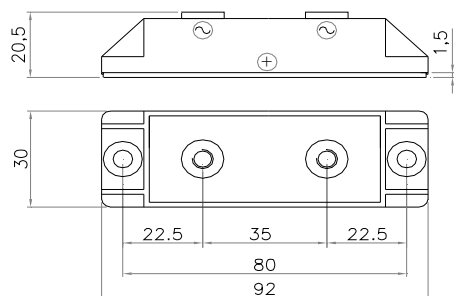


Fig.6 MK600.06NI-SS6-FIX5-HP-P80-TA

Code:MK4006000058

MK600.06NI-SS5-FIX5-HP-P80-TA

Code:MK4006000056

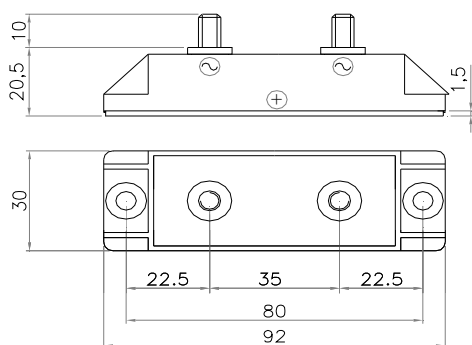


Fig.7 MK600.06NI-MM6x10-FIX5-HP-P80-TA

Code:MK4006000048

MK600.06NI-MM5x10-FIX5-HP-P80-TA

Code:MK4006000040

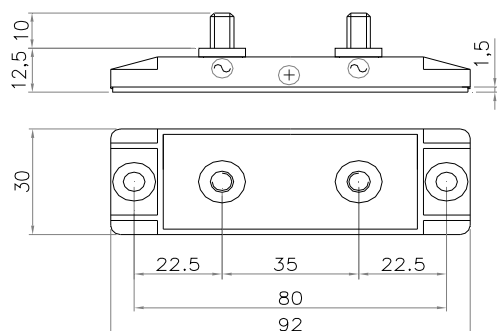


Fig.8 MK600.06NI-MM6x10-FIX5-LP-P80-TA

Code:MK4006000050

MK600.06NI-MM5x10-FIX5-LP-P80-TA

Code:MK4006000042

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

Mounting fix:
FIX= Ø5,5

Profile:
HP=High Profile LP=Low Profile

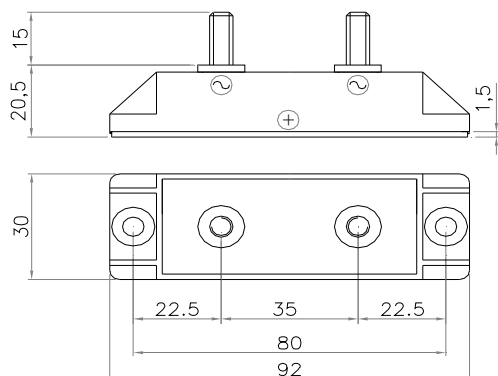


Fig.9 MK600.06NI-MM6x15-FIX5-HP-P80-TA

Code:MK4006000052

MK600.06NI-MM5x15-FIX5-HP-P80-TA

Code:MK4006000044

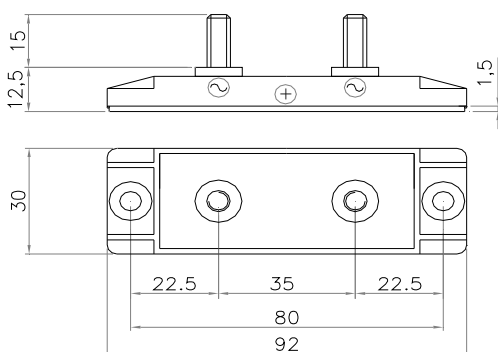


Fig.10 MK600.06NI-MM6x15-FIX5-LP-P80-TA

Code:MK4006000054

MK600.06NI-MM5x15-FIX5-LP-P80-TA

Code:MK4006000046

Power fix:

SS=Screw (M6 or M5)

MM=Bolt (M6 or M5)

Mounting fix:

FIX= Ø5,5

Profile:

HP=High Profile LP=Low Profile