

## MKK400.04NI

### NOT INSULATED FAST RECOVERY DIODE MODULE

**Output Current**            **400 A**

**Blocking Voltage**        **400 V**



$V_{RRM}$ [V]	$V_{RSM}$ [V]	$V_{OUT}$ [V]	P/N
400	500	125	MKK400.04NI

#### Features

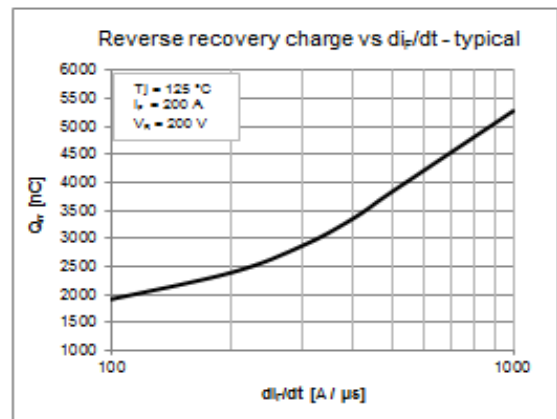
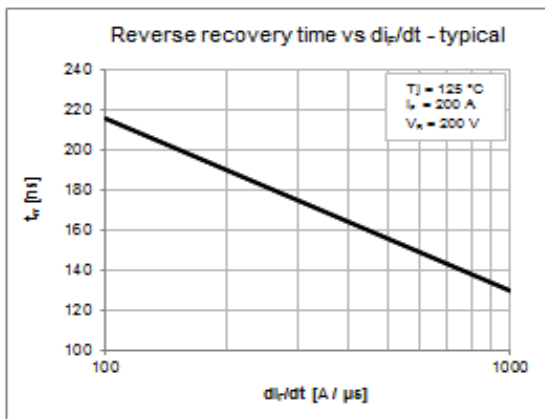
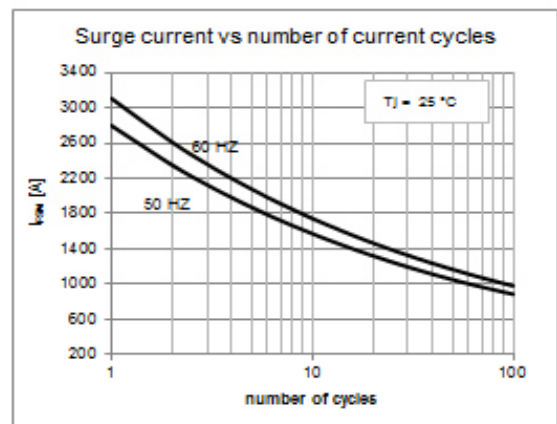
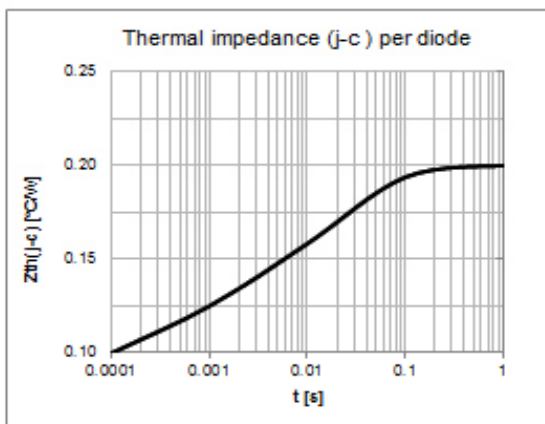
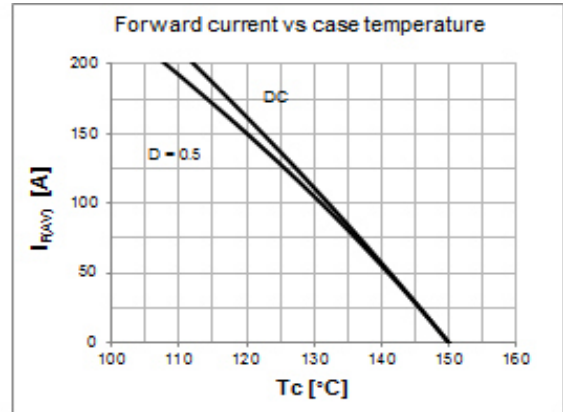
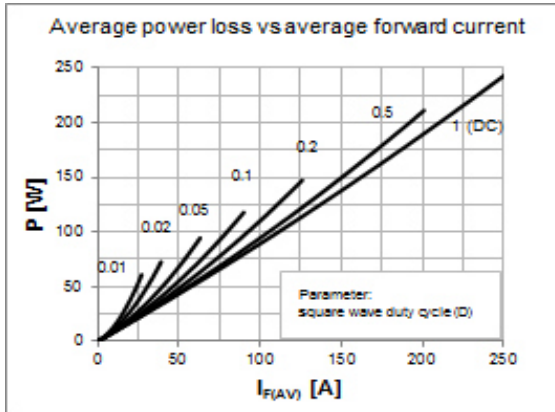
- Short recovery time
- Low switching losses
- Soft recovery behavior

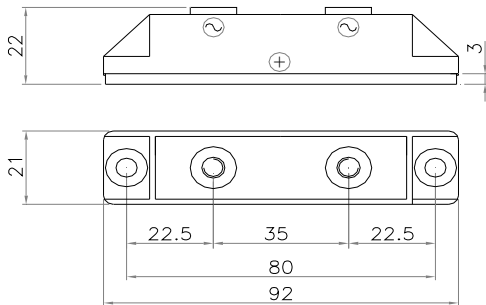
#### Applications

- 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	Tj [°C]	Value
$I_{F(AV)}$	Average forward current	$T_C = 104\text{ °C}$		200 A
$I_{FRM}$	Repetitive forward current, max	Square wave, 20 kHz		400 A
$I_{RRM}$	Max repetitive peak reverse current	$V = V_{RRM}$	150	4 mA
$V_{F(TO)}$	Threshold voltage		150	0,7 V
$r_F$	Forward slope resistance		150	1,15 mΩ
$V_{FM}$	Peak forward voltage, max	$I_F = 200\text{ A}$	150	1,10 V
$I_{FSM}$	Surge forward current	Half sine wave, 10 ms	25	2300 A
$I^2t$	Max $I^2t$ for fusing		25	26450 A <sup>2</sup> s
$C_T$	Junction capacitance, typ	$V = V_{RRM}$	25	140 pF
$Q_{rr}$	Reverse recovery charge, typ	$I_F = 100\text{ A}$	125	3000 nC
$I_{rr}$	Reverse recovery current, typ	$V_R = 200\text{ V}$		28 A
$t_{rr}$	Reverse recovery time, typ	$di_F / dt = 200\text{ A} / \mu\text{s}$		225 ns
$T_{jmax}$	Operating junction temperature			-40 / 150 °C
$R_{th(j-c)}$	Thermal resistance (junction to case)			0,20 °C/W

Module characteristics		Conditions	Value
$I_{OUT}$	Output current (center tap connection)	$T_C = 104\text{ °C}$	400 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		115 g
$M_1$	Mounting torque, ± 15 %		5,5 N·m
			48 lb·inch
$M_2$	Terminal connection torque, ± 15 %		4,0 N·m
			35 lb·inch



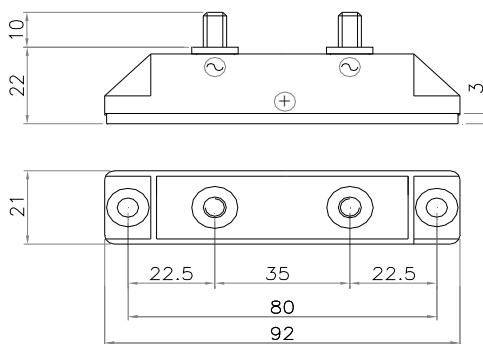


**Fig.1** MKK400.04NI-SS6-FIX5-HP-P80-TA

Code:940004000039

MKK400.04NI-SS5-FIX5-HP-P80-TA

Code:940004000037

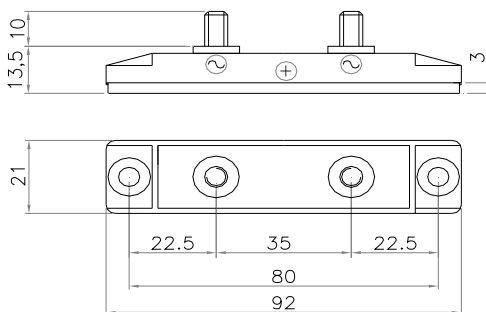


**Fig.2** MKK400.04NI-MM6x10-FIX5-HP-P80-TA

Code:940004000029

MKK400.04NI-MM5x10-FIX5-HP-P80-TA

Code:940004000021



**Fig.3** MKK400.04NI-MM6x10-FIX5-LP-P80-TA

Code:940004000031

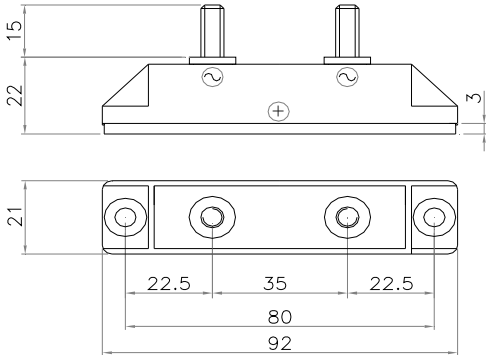
MKK400.04NI-MM5x10-FIX5-LP-P80-TA

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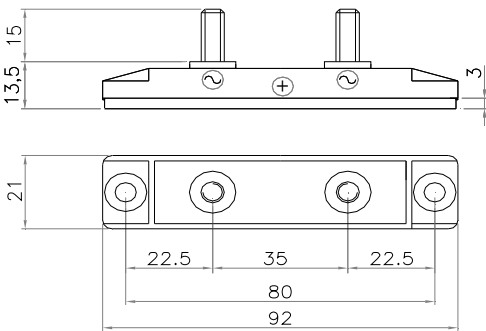
**Power fix:**  
 SS=Screw (M6 or M5)  
 MM=Bolt (M6 or M5)

**Mounting fix:**  
 FIX= Ø5,5

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



**Fig.4** MKK400.04NI-MM6x15-FIX5-HP-P80-TA  
 Code:940004000033  
 MKK400.04NI-MM5x15-FIX5-HP-P80-TA  
 Code:940004000025



**Fig.5** MKK400.04NI-MM6x15-FIX5-LP-P80-TA  
 Code:940004000035  
 MKK400.04NI-MM5x15-FIX5-LP-P80-TA  
 Code:940004000027

**Power fix:**

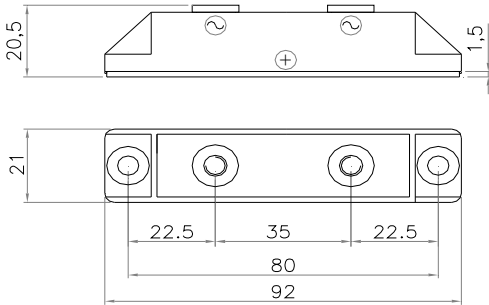
SS=Screw (M6 or M5)  
 MM=Bolt (M6 or M5)

**Mounting fix:**

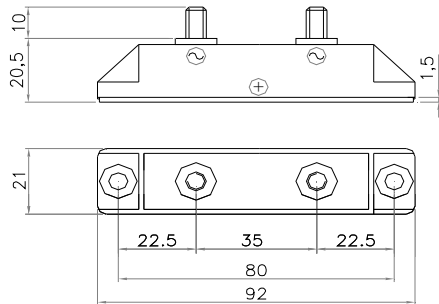
FIX= Ø5,5

**Profile:**

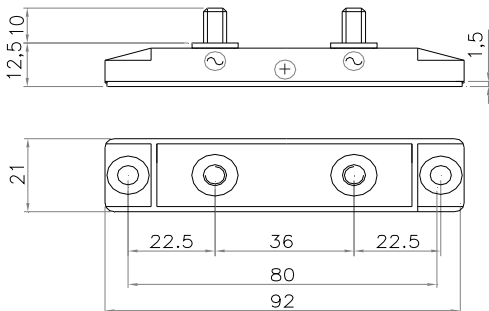
HP=High Profile LP=Low Profile



**Fig.6** MKK400.04NI-SS6-FIX5-HP-P80-TA  
 Code:940004000038  
 MKK400.04NI-SS5-FIX5-HP-P80-TA  
 Code:940004000036



**Fig.7** MKK400.04NI-MM6x10-FIX5-HP-P80-TA  
 Code:940004000028  
 MKK400.04NI-MM5x10-FIX5-HP-P80-TA  
 Code:940004000020

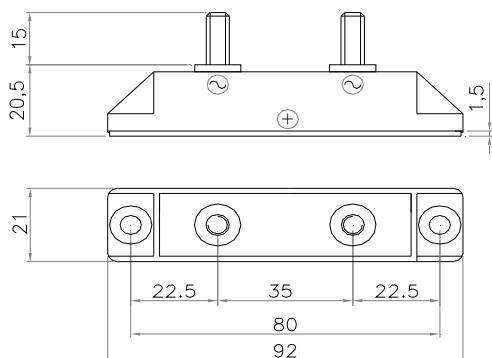


**Fig.8** MKK400.04NI-MM6x10-FIX5-LP-P80-TA  
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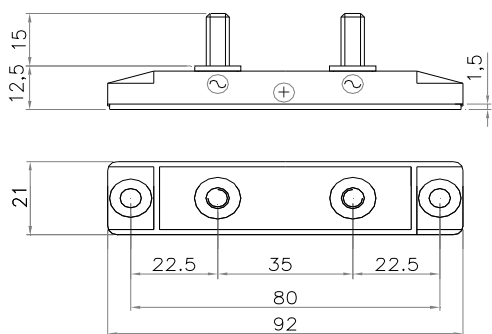
**Power fix:**  
 SS=Screw (M6 or M5)  
 MM=Bolt (M6 or M5)

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

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



**Fig.9** MKK400.04NI-MM6x15-FIX5-HP-P80-TA  
 Code:940004000032  
 MKK400.04NI-MM5x15-FIX5-HP-P80-TA  
 Code:940004000024



**Fig.10** MKK400.04NI-MM6x15-FIX5-LP-P80-TA  
 Code:940004000034  
 MKK400.04NI-MM5x15-FIX5-LP-P80-TA  
 Code:940004000026

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

**Mounting fix:**  
 FIX= Ø5,5

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