



MK300.06NI

NOT INSULATED FAST RECOVERY DIODE MODULE

Output Current **300 A**

Blocking Voltage **600 V**



| V_{RRM} [V] | V_{RSM} [V] | V_{OUT} [V] | P/N |
|------------------|------------------|------------------|------------|
| 600 | 700 | 190 | MK300.06NI |
| | | | |
| | | | |
| | | | |

Features

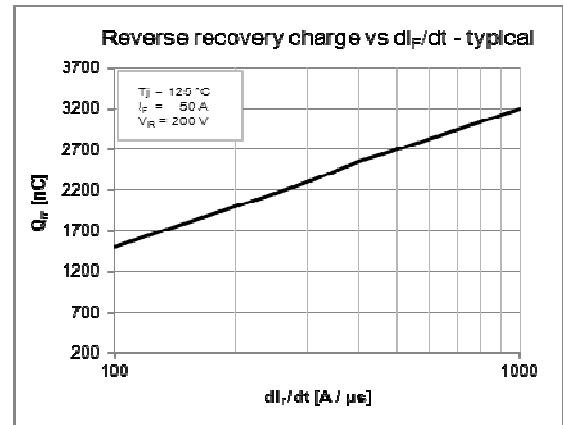
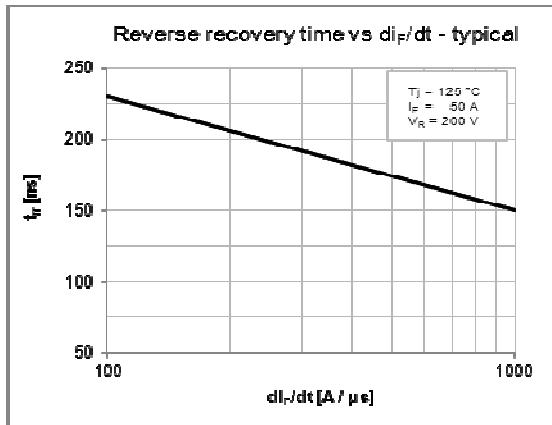
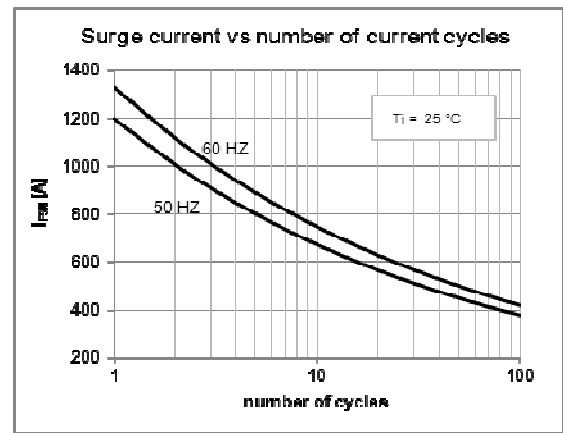
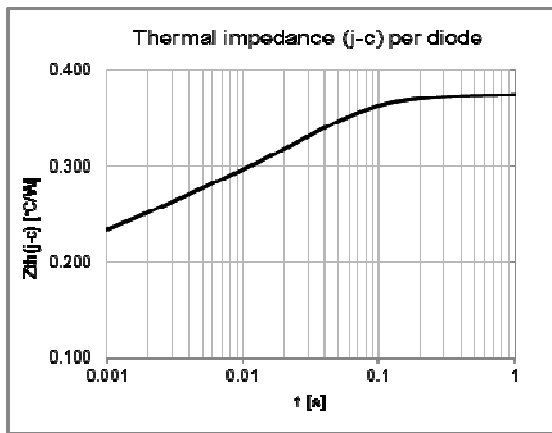
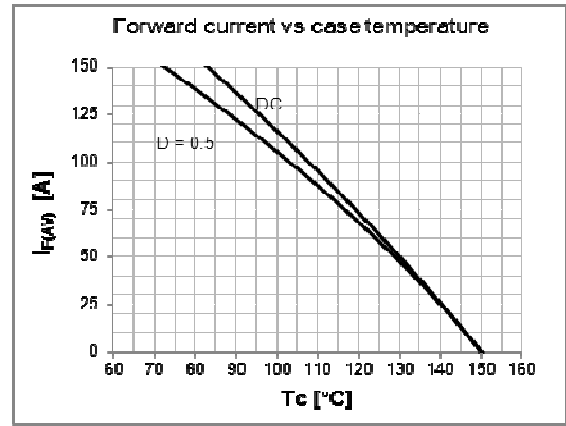
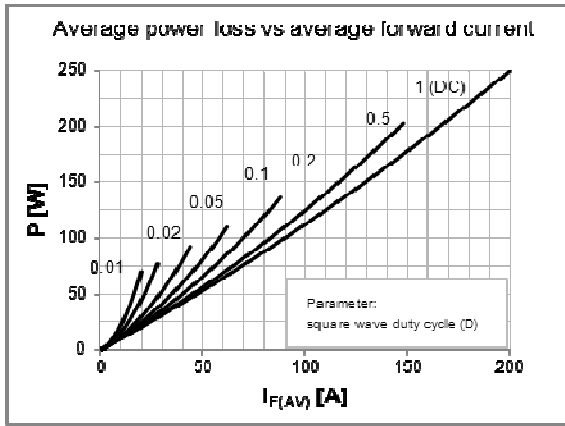
- Short recovery time
- Low switching losses
- Soft recovery behavior

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 | $T_c = 73\text{ °C}$ | | 150 A |
| I_{FRM} | Repetitive forward current, max | Square wave, 20 kHz | | 300 A |
| I_{RRM} | Max repetitive peak reverse current | $V = V_{RRM}$ | 150 | 4 mA |
| $V_{F(TO)}$ | Threshold voltage | | 150 | 1 V |
| r_F | Forward slope resistance | | 150 | 1,3 mΩ |
| V_{FM} | Peak forward voltage, max | $I_F = 150\text{ A}$ | 150 | 1,43 V |
| I_{FSM} | Surge forward current | Half sine wave, 10 ms | 25 | 1200 A |
| I^2t | Max I^2t for fusing | | 25 | 7200 A ² s |
| C_T | Junction capacitance, typ | $V = V_{RRM}$ | 25 | 70 pF |
| Q_{rr} | Reverse recovery charge, typ | $I_F = 50\text{ A}$ | 125 | 2400 nC |
| I_{rr} | Reverse recovery current, typ | $V_R = 200\text{ V}$ | | 22 A |
| t_{rr} | Reverse recovery time, typ | $dI_F / dt = 200\text{ A} / \mu\text{s}$ | | 210 ns |
| T_{jmax} | Operating junction temperature | | | -40 / 150 °C |
| $R_{th(j-c)}$ | Thermal resistance (junction to case) | DC operation | | 0,38 °C/W |

| Module characteristics | | Conditions | Value |
|------------------------|--|---|------------|
| I_{OUT} | Output current (center tap connection) | $T_c = 86\text{ °C}$ | 300 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 |



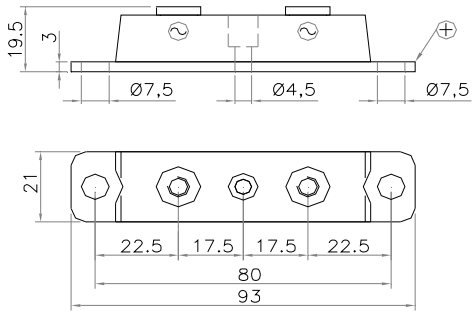


Fig.1 MK300.06NI-SS6-FIX6-HP-P80-TE

Code:MK4003000122

Special Version:Cu Base: 3x21x93

Cu Base: 3x21x92

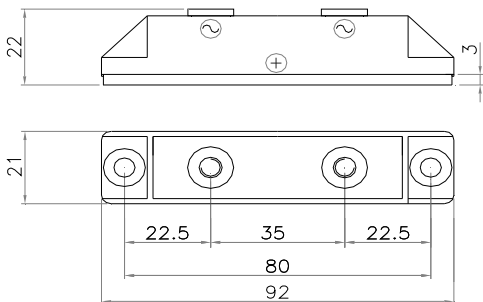


Fig.2 MK300.06NI-SS6-FIX5-HP-P80-TA

Code:MK4003000119

MK300.06NI-SS5-FIX5-HP-P80-TA

Code:MK4003000115

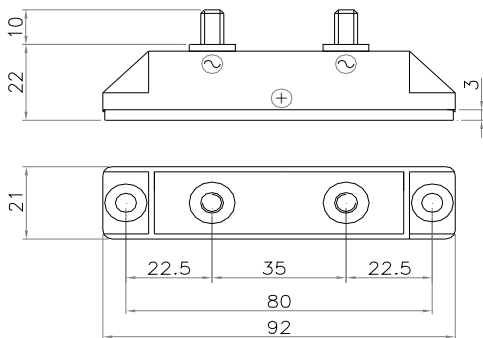


Fig.3 MK300.06NI-MM6x10-FIX5-HP-P80-TA

Code:MK4003000099

MK300.06NI-MM5x10-FIX5-HP-P80-TA

Code:MK4003000083

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

Mounting fix:
 FIX= \varnothing 5,5
 FIX= \varnothing 7,5 (only Fig.1)

Profile:
 HP=High Profile LP=Low Profile

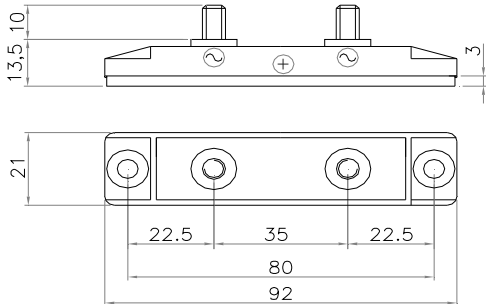


Fig.4 MK300.06NI-MM6x10-FIX5-LP-P80-TA
 Code:MK4003000103
 MK300.06NI-MM5x10-FIX5-LP-P80-TA
 Code:MK4003000087

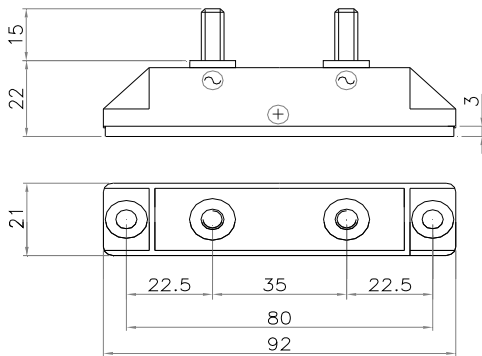


Fig.5 MK300.06NI-MM6x15-FIX5-HP-P80-TA
 Code:MK4003000107
 MK300.06NI-MM5x15-FIX5-HP-P80-TA
 Code:MK4003000091

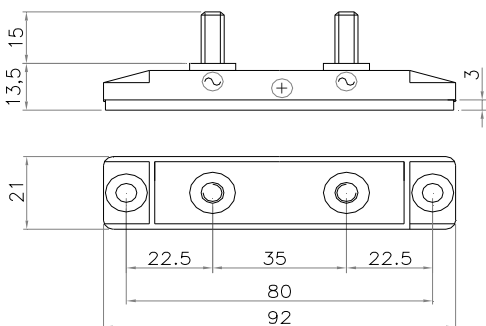


Fig.6 MK300.06NI-MM6x15-FIX5-LP-P80-TA
 Code:MK4003000111
 MK300.06NI-MM5x15-FIX5-LP-P80-TA
 Code:MK4003000095

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

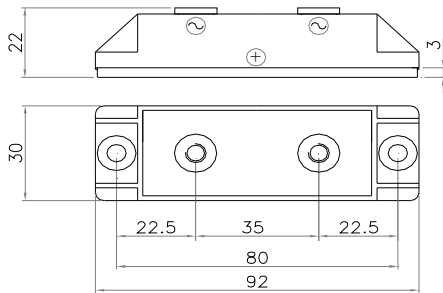


Fig.7 MK300.06NI-SS6-FIX5-HP-P80-TA
 Code:MK4003000121
 MK300.06NI-SS5-FIX5-HP-P80-TA
 Code:MK4003000117

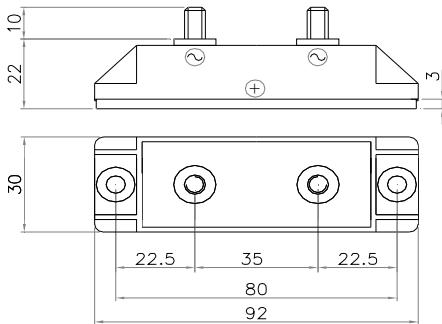


Fig.8 MK300.06NI-MM6x10-FIX5-HP-P80-TA
 Code:MK4003000101
 MK300.06NI-MM5x10-FIX5-HP-P80-TA
 Code:MK4003000085

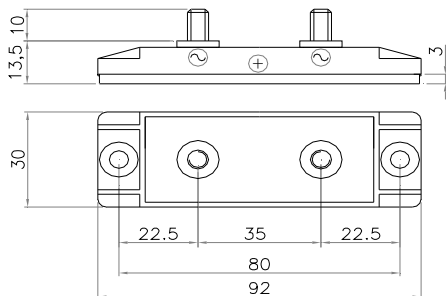


Fig.9 MK300.06NI-MM6x10-FIX5-LP-P80-TA
 Code:MK4003000105
 MK300.06NI-MM5x10-FIX5-LP-P80-TA
 Code:MK4003000089

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

Mounting fix:
 FIX= Ø5,5

Profile:
 HP=High Profile LP=Low Profile

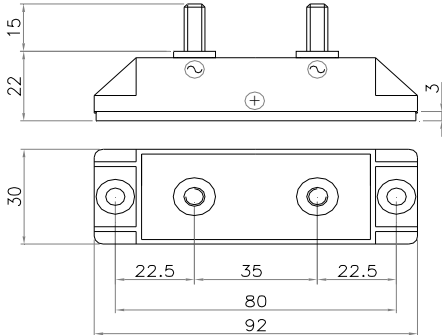


Fig.10 MK300.06NI-MM6x15-FIX5-HP-P80-TA
 Code:MK4003000109
 MK300.06NI-MM5x15-FIX5-HP-P80-TA
 Code:MK4003000093

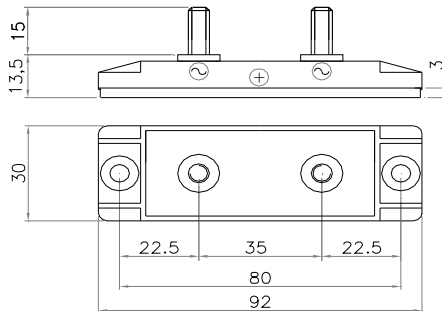


Fig.11 MK300.06NI-MM6x15-FIX5-LP-P80-TA
 Code:MK4003000113
 MK300.06NI-MM5x15-FIX5-LP-P80-TA
 Code:MK4003000097

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

Mounting fix:
 FIX= Ø5,5

Profile:
 HP=High Profile LP=Low Profile

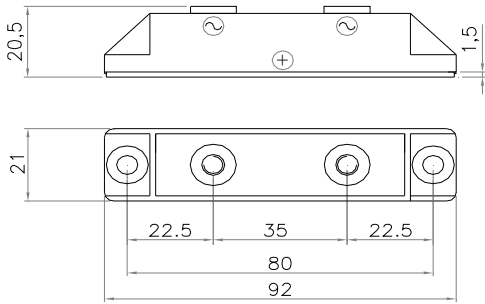


Fig.12 MK300.06NI-SS6-FIX5-HP-P80-TA

Code:MK4003000118

MK300.06NI-SS5-FIX5-HP-P80-TA

Code:MK4003000114

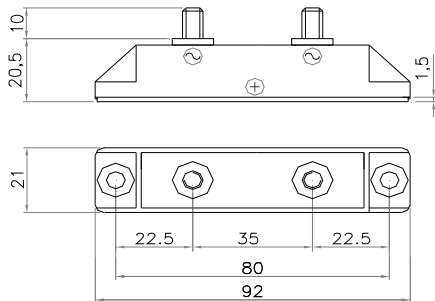


Fig.13 MK300.06NI-MM6x10-FIX5-HP-P80-TA

Code:MK4003000098

MK300.06NI-MM5x10-FIX5-HP-P80-TA

Code:MK4003000082

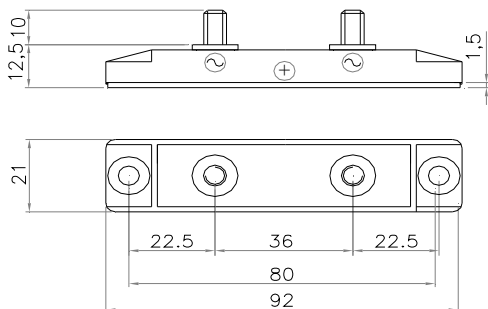


Fig.14 MK300.06NI-MM6x10-FIX5-LP-P80-TA

Code:MK4003000102

MK300.06NI-MM5x10-FIX5-LP-P80-TA

Code:MK4003000086

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

Mounting fix:
 FIX= Ø5,5

Profile:
 HP=High Profile LP=Low Profile

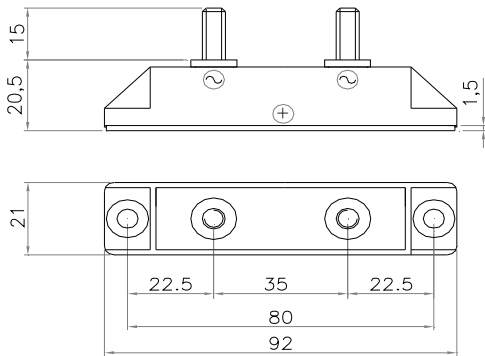


Fig.15 MK300.06NI-MM6x15-FIX5-HP-P80-TA
 Code:MK4003000106
 MK300.06NI-MM5x15-FIX5-HP-P80-TA
 Code:MK4003000090

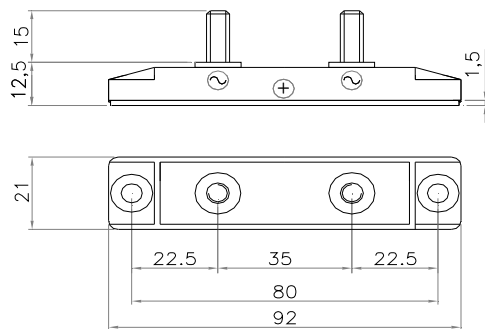


Fig.16 MK300.06NI-MM6x15-FIX5-LP-P80-TA
 Code:MK4003000110
 MK300.06NI-MM5x15-FIX5-LP-P80-TA
 Code:MK4003000094

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

Mounting fix:
 FIX= Ø5,5

Profile:
 HP=High Profile LP=Low Profile

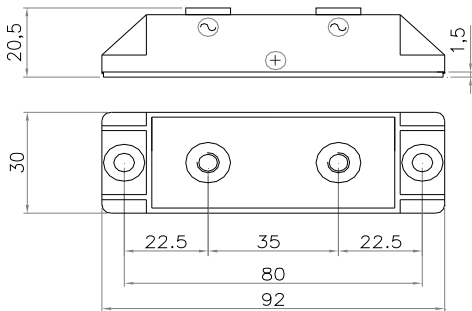


Fig.17 MK300.06NI-SS6-FIX5-HP-P80-TA
 Code:MK4003000120
 MK300.06NI-SS5-FIX5-HP-P80-TA
 Code:MK4003000116

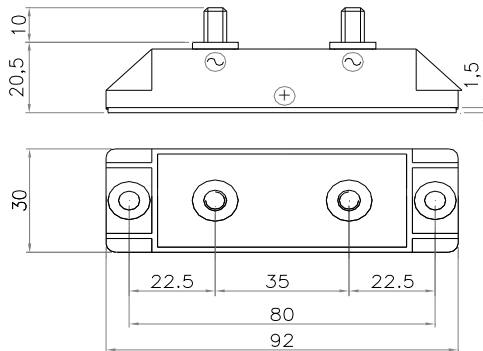


Fig.18 MK300.06NI-MM6x10-FIX5-HP-P80-TA
 Code:MK4003000100
 MK300.06NI-MM5x10-FIX5-HP-P80-TA
 Code:MK4003000084

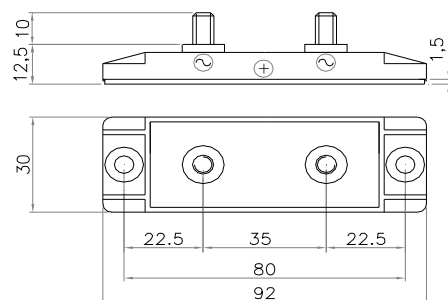


Fig.19 MK300.06NI-MM6x10-FIX5-LP-P80-TA
 Code:MK4003000104
 MK300.06NI-MM5x10-FIX5-LP-P80-TA
 Code:MK4003000088

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

Mounting fix:
 FIX= Ø5,5

Profile:
 HP=High Profile LP=Low Profile

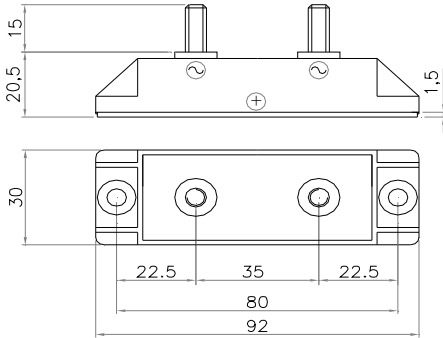


Fig.20 MK300.06NI-MM6x15-FIX5-HP-P80-TA
 Code:MK4003000108
 MK300.06NI-MM5x15-FIX5-HP-P80-TA
 Code:MK4003000092

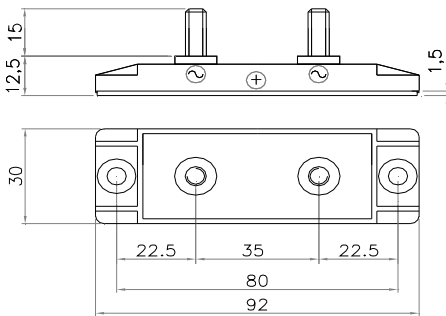


Fig.21 MK300.06NI-MM6x15-FIX5-LP-P80-TA
 Code:MK4003000112
 MK300.06NI-MM5x15-FIX5-LP-P80-TA
 Code:MK4003000096

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

Mounting fix:
 FIX= Ø5,5

Profile:
 HP=High Profile LP=Low Profile