

DIODE-THYRISTOR MODULE

MO2-(25, 40, 63, 80, 100, 125, 160, 200, 250)-12; MO2A-(25, 40, 63, 80, 100, 125, 160, 200, 250)-12 DATASHEET IN BRIEF

Diode-thyristor module with opto decoupling is designed for using in switch elements of controlled rectifiers, converters (inverters), power regulators for powerful loads of DC and AC.

OVERALL DRAWINGS

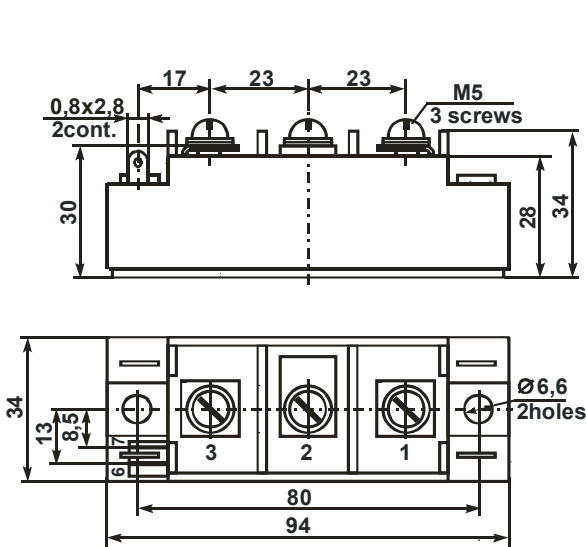


Figure 1

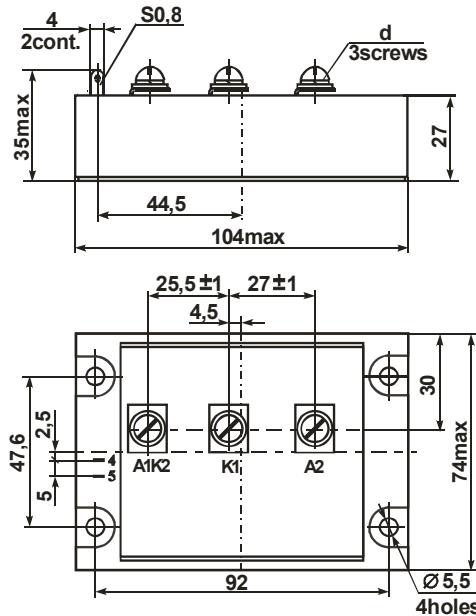


Figure 2

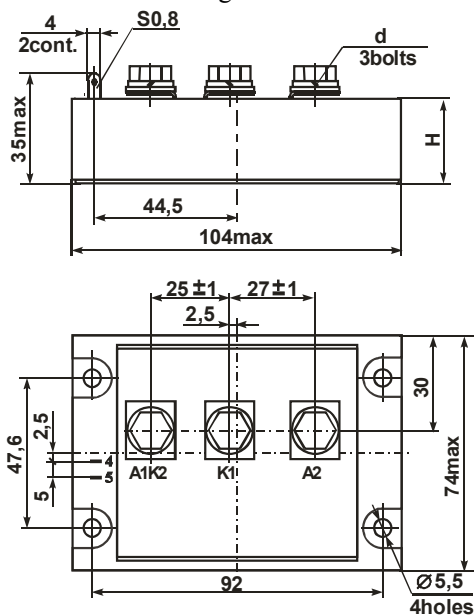


Figure 3

| Product description | Figure | H, MM |
|---------------------|--------------|-------|
| MO2(A)-25-12 | 1, 4 | - |
| MO2(A)-40-12 | 1, 4 | - |
| MO2(A)-63-12 | 1, 4 | - |
| MO2(A)-80-12 | 1, 4 | - |
| MO2(A)-100-12 | 1, 4 | - |
| MO2(A)-125-12 | 1, 4 | - |
| MO2(A)-160-12 | 1, 4 or 2, 5 | - |
| MO2(A)-200-12 | 3, 5 | 29 |
| MO2(A)-250-12 | 3, 5 | 29 |

INTERNAL CONNECTION CIRCUITS

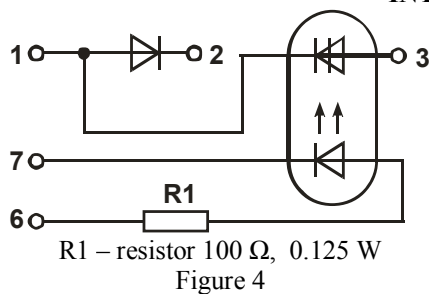


Figure 4

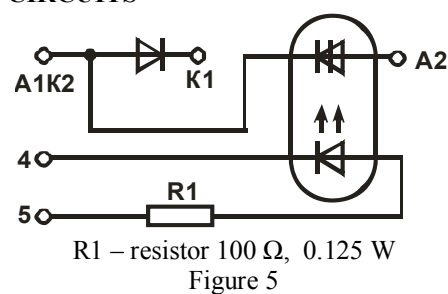


Figure 5

BASIC CHARACTERISTICS

T = 25 °C

| Product name | Pulse on-state voltage/pulse DC diode current, U_{TM} , V | | Off-state DC/thyristor (diode) reverse current, I_D / I_R , mA | | On-state voltage on control input, U_{Gon} , V ($I_{Gon}=10$ mA) | | Isolation resistance between power outputs and controlling outputs, R_{ISOL} , M Ω | | Isolation resistance between power outputs and housing radiator, R_{ISOL} in-out, M Ω | | Electric isolation strength at DC between radiator and power outputs, U_{ISOL} , V | | Thermal transition-housing radiator resistance R_{thic} , °C/W | |
|--------------|---|---------------|--|---------------|--|-----|---|------|--|------|--|-----------|--|-------|
| | | | | | | | | | | | | | thyristor | diode |
| | max | I_{OUT} , A | max | U_{OUT} , V | min | max | min | U, V | min | U, V | min | t, minute | max | max |
| MO2-25-12 | 1.65 | 79 | 1.0 | ±1200 | 3.0 | 4.0 | 100 | 500 | 10 | 500 | 4000 | 1 | 0.8 | 1.2 |
| MO2-40-12 | | 126 | | | | | | | | | | | 0.7 | 0.9 |
| MO2-63-12 | | 198 | | | | | | | | | | | 0.55 | 0.6 |
| MO2-80-12 | | 251 | | | | | | | | | | | 0.45 | 0.5 |
| MO2-100-12 | | 314 | | | | | | | | | | | 0.3 | 0.4 |
| MO2-125-12 | | 393 | | | | | | | | | | | 0.25 | 0.3 |
| MO2-160-12 | | 503 | | | | | | | | | | | 0.22 | 0.25 |
| MO2-200-12 | | 628 | | | | | | | | | | | 0.19 | 0.21 |
| MO2-250-12 | | 785 | | | | | | | | | | | 0.15 | 0.169 |

Note –module characteristics values of type MO2A are identical to the characteristic values of the corresponding modules MO2

MAXIMUM PERMISSIBLE OPERATING MODES

| Product name | Repetitive pulse reverse voltage/off-state, U_{RRM} / U_{DRM} , V | Average on-state current with cooler $I_{T(AV)}$, A, $T_a=85$ °C | Controlling input current corresponding to on-state, I_{Gon} , mA | | Controlling pulse input current corresponding to on-state, I_{GMon} , mA | | | Off-state input voltage, U_{Goff} , V | | On state surge current*, I_{TSM} , A | Switching voltage, U_{sw} , V | | Critical rate of rise of off-state voltage, $(du_d / dt)_{cr}$, V/ μ s | Critical rate of rise of on-state current, $(di_T / dt)_{cr}$, A/ μ s | Junction temperature, T_{VJ}^{***} , °C | | | |
|--------------|---|---|---|-----|--|------------|-----|---|-----|--|---------------------------------|-------|---|--|---|------|------|-----|
| | | | min | max | max | t, μ s | Q | min | max | | max | t, ms | | | min | max | min | max |
| | | | max | max | min | max | min | max | min | | max | min | | | max | min | max | min |
| MO2-25-12 | ±1200 | 25 | 10 | 25 | 100 | 100 | 10 | - 3.5 | 0.8 | 10 | 50** | 840 | 1000 | 150 | -40 | +125 | | |
| MO2-40-12 | | 40 | | | | | | | | | | | | | | | 200 | |
| MO2-63-12 | | 63 | | | | | | | | | | | | | | | 560 | |
| MO2-80-12 | | 80 | | | | | | | | | | | | | | | 720 | |
| MO2-100-12 | | 100 | | | | | | | | | | | | | | | 960 | |
| MO2-125-12 | | 125 | | | | | | | | | | | | | | | 1350 | |
| MO2-160-12 | | 160 | | | | | | | | | | | | | | | 2500 | |
| MO2-200-12 | | 200 | | | | | | | | | | | | | | | 4000 | |
| MO2-250-12 | | 250 | | | | | | | | | | | | | | | 5000 | |
| | | 6000 | | | | | | | | | | | | | | | | |

* to thyristor

**10 V – for modules of type MO2A (the value of remaining modes of modules types MO2A are identical with values modes of corresponding modules MO2)

***the modules are designed for operating in the equipment with using of coolers, supporting transition temperature in prescribed ranges

Precious metals are not contained

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