

OPTOTHYRISTOR MODULES

MO1-25(40,63,80,100,125,160,200,250)-12; MO1A-25(40,63,80,100,125,160,200,250)-12 DATASHEET IN BRIEF

Thyristor-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

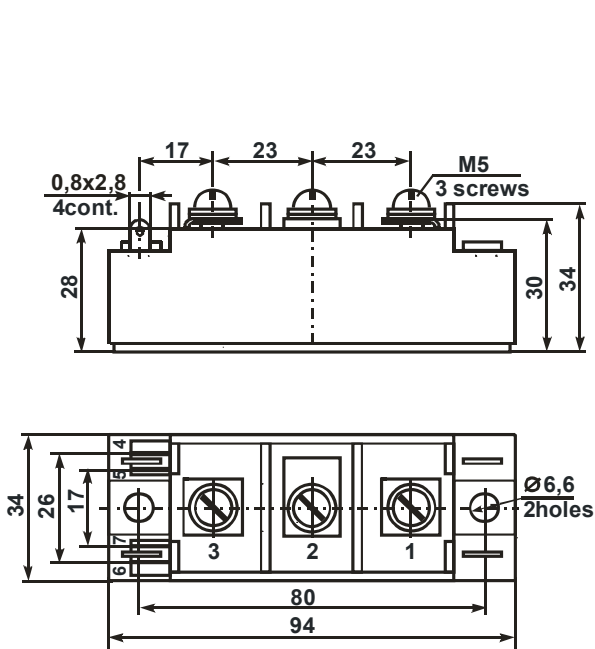


Figure 1

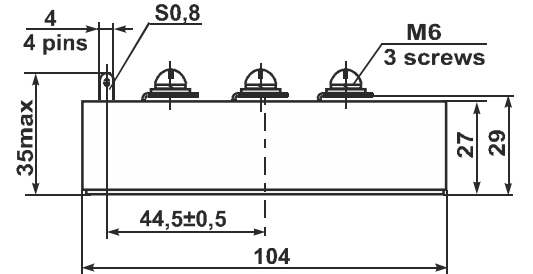


Figure 2

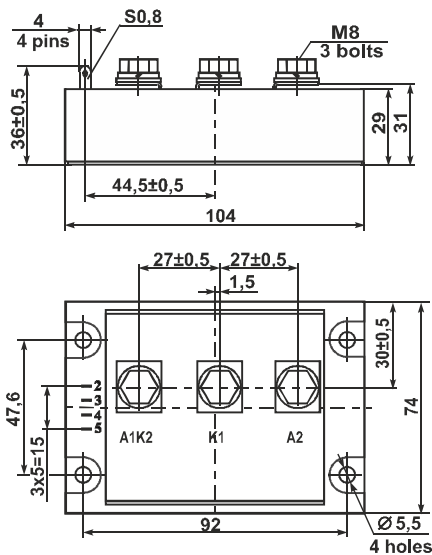
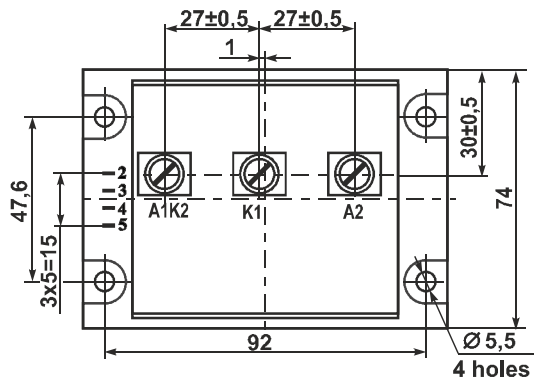


Figure 3

| Product description | Figure |
|---------------------|--------------|
| MO1(A)-25-12 | 1, 4 |
| MO1(A)-40-12 | 1, 4 |
| MO1(A)-63-12 | 1, 4 |
| MO1(A)-80-12 | 1, 4 |
| MO1(A)-100-12 | 1, 4 |
| MO1(A)-125-12 | 1, 4 |
| MO1(A)-120-12 | 1, 4 or 2, 5 |
| MO1(A)-200-12 | 3, 5 |
| MO1(A)-250-12 | 3, 5 |

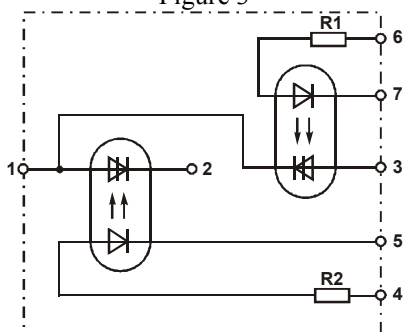


Figure 4

R1, R2– limiting resistors 100 Ω 0.125 W

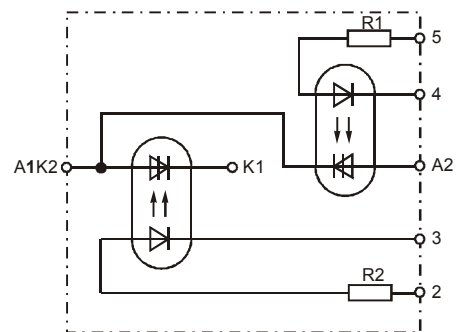


Figure 5

BASIC CHARACTERISTICS

T = 25 °C

| Product name | Pulse open state voltage, U_{TM} , V | | Closed state DC/reverse current, I_D / I_R , mA | | On state voltage loss on control input, U_{Gon} , V ($I_{Gon}=10$ mA) | | Electric isolation strength at DC, U_{ISOL} , V | | Isolation resistance between power and controlling outputs, R_{ISOL} , MΩ | | Isolation resistance between power and controlling outputs and package radiator, $R_{ISOL in-out}$, MΩ | | Thermal resistance transition-package radiator R_{thic} , °C/W |
|--------------|----------------------------------------|---------------|---------------------------------------------------|---------------|-----------------------------------------------------------------------------|-----|---------------------------------------------------|-----------|-----------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------|------|------------------------------------------------------------------|
| | max | I_{OUT} , A | max | U_{OUT} , V | min | max | min | t, minute | min | U, V | min | U, V | max |
| MO1-25-12 | 1.65 | 79 | 1 | ±1200 | 3.0 | 4.0 | 4000 | 1 | 100 | 500 | 10 | 500 | 0.8 |
| MO1-40-12 | | 126 | | | | | | | | | | | 0.7 |
| MO1-63-12 | | 198 | | | | | | | | | | | 0.55 |
| MO1-80-12 | | 251 | | | | | | | | | | | 0.45 |
| MO1-100-12 | | 314 | | | | | | | | | | | 0.3 |
| MO1-125-12 | | 393 | | | | | | | | | | | 0.25 |
| MO1-160-12 | | 503 | | | | | | | | | | | 0.22 |
| MO1-200-12 | | 628 | | | | | | | | | | | 0.19 |
| MO1-250-12 | | 785 | | | | | | | | | | | 0.15 |

Note –module characteristics values of kind MO1A are identical to the characteristic values of corresponding modules MO1

MAXIMUM PERMISSIBLE OPERATING MODES

| Product name | Repetitive pulse reverse voltage/closed state, U_{RRM} / U_{DRM} , V | Average open state current with cooler $I_{T(AV)}$, A, $T_c=85$ °C | Controlling input current corresponding to on-state, I_{Gon} , mA | | Controlling pulse input current corresponding to on-state, I_{GMon} , mA | | Input off state voltage, U_{Goff} , V | | Surge on state current*, I_{TSM} , A | Switching voltage, U_{sw} , V | | Critical rate of rise of off-state voltage, $(du_d / dt)_{cr}$, V/μs | Critical rate of rise of on-state current, $(di_T / dt)_{cr}$, A/ μs | Junction temperature, T_{vj}^{***} , °C | | | |
|--------------|------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|-----|----------------------------------------------------------------------------|-------|-----------------------------------------|-------|----------------------------------------|---------------------------------|------|-----------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------|-----|------|------|
| | | | min | max | max | t, μs | Q | min | | max | max | | | t, ms | min | max | min |
| MO1-25-12 | ±1200 | 25 | 10 | 25 | 100 | 100 | 10 | - 3,5 | 0.8 | 10 | 50** | 840 | 1000 | 150 | -40 | +125 | |
| MO1-40-12 | | 40 | | | | | | | | | | | | | | | 200 |
| MO1-63-12 | | 63 | | | | | | | | | | | | | | | 560 |
| MO1-80-12 | | 80 | | | | | | | | | | | | | | | 720 |
| MO1-100-12 | | 100 | | | | | | | | | | | | | | | 960 |
| MO1-125-12 | | 125 | | | | | | | | | | | | | | | 1350 |
| MO1-160-12 | | 160 | | | | | | | | | | | | | | | 2500 |
| MO1-200-12 | | 200 | | | | | | | | | | | | | | | 4000 |
| MO1-250-12 | | 250 | | | | | | | | | | | | | | | 5000 |
| | | | | | | | | | | | | | | | | | 6000 |

* to thyristor
 **10 V – for modules of kind MO1A (the value of remaining modes of modules kinds MO1A are identical with modes values of corresponding modules MO1)
 ***the modules are designed for operating in the equipment with using of coolers supporting transition temperature in the prescribed ranges

Precious metals are not contained

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