

THYRISTOR-THYRISTOR MODULES

M1.2-25(40,63,80,100,125,160,200,250)-16

DATASHEET IN BRIEF

Thyristor-thyristor modules are intended for using in switch elements of controllable rectifiers, converters (inverters), power regulators for powerful DC and AC loads.

OVERALL DRAWINGS

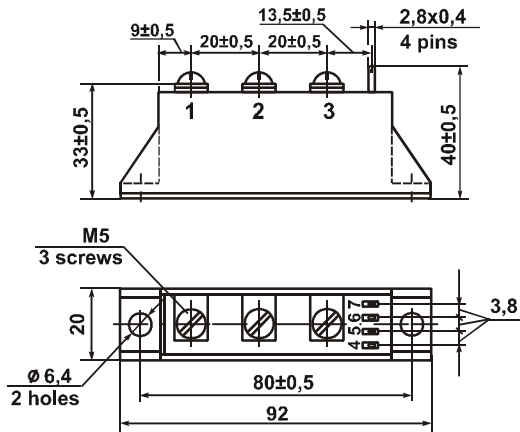


Figure 1

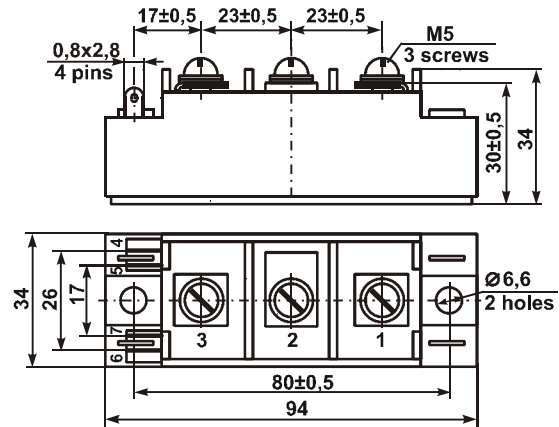


Figure 2

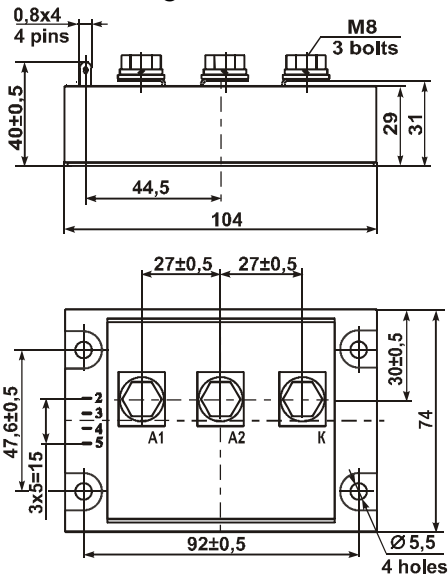


Figure 3

| Product description | Figure |
|---------------------|-----------|
| M1.2-25-16 | 1 or 2, 4 |
| M1.2-40-16 | 1 or 2, 4 |
| M1.2-63-16 | 1 or 2, 4 |
| M1.2-80-16 | 1 or 2, 4 |
| M1.2-100-16 | 2, 4 |
| M1.2-125-16 | 2, 4 |
| M1.2-160-16 | 2, 4 |
| M1.2-200-16 | 3, 5 |
| M1.2-250-16 | 3, 5 |

INTERNAL CONNECTION CIRCUITS

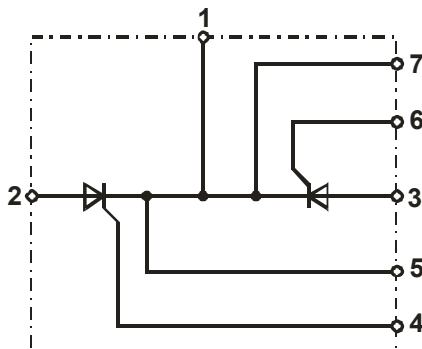


Figure 4

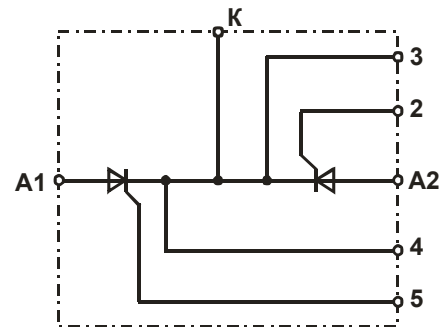


Figure 5

BASIC CHARACTERISTICS

T = 25 °C

| Product name | Pulse on-state voltage, U_{TM} , V | | Repetitive peak off-state current, I_{DRM} , mA | | Repetitive peak reverse thyristor current, I_{RRM} , mA | | Gate trigger DC voltage, U_{GT} , V | Gate trigger DC I_{GT} , mA | Electric isolation strength at DC between radiator and power outputs, U_{ISOL} , V | | Gate non-trigger DC voltage, U_{GD} , (V) $T_j = 125^\circ\text{C}$ | Thermal junction-cooler resistance, $R_{th(j-c)}$, ($^\circ\text{C}/\text{W}$) |
|--------------|--------------------------------------|--|---|---------------|---|---------------|---------------------------------------|-------------------------------|--|-----------|--|---|
| | max | I_{OUT} , A amplif. value | max | U_{OUT} , V | max | U_{OUT} , V | max | max | min | t, minute | | |
| M1.2-25-16 | 1.65 | $\pi \cdot I_{T(AV)}$, 10 ms, 50 Hz, sinus | 1.0 | ± 1600 | 1.0 | ± 1600 | 2.0 | 150 | 4000 | 1 | 0.25 | 1.5 |
| M1.2-40-16 | | | | | | | | | | | | 0.7 |
| M1.2-63-16 | | | | | | | | | | | | 0.55 |
| M1.2-80-16 | | | | | | | | 0.45 | | | | |
| M1.2-100-16 | | | | | | | | 0.3 | | | | |
| M1.2-125-16 | | | | | | | | 0.25 | | | | |
| M1.2-160-16 | | | | | | | | 0.22 | | | | |
| M1.2-200-16 | | | | | | | | 0.22 | | | | |
| M1.2-250-16 | | | | | | | | 0.17 | | | | |

MAXIMUM ALLOWABLE OPERATING MODES

| Product name | Repetitive thyristor pulse reverse voltage/ off-state, U_{RRM} / U_{DRM} , V | Average open state current with cooler $I_{T(AV)}^*$, A, $T_c=85^\circ\text{C}$ | Commutation voltage, U_{com} , V | Surge open state current, I_{TSM}^* , A | | Critical speed of voltage build-up in off-state, $(du_d / dt)_{cr}$, V/ μs | Critical rate of rise of on-state current, $(di_T / dt)_{cr}$, A/ μs | Junction temperature, T_{vj}^{**} , $^\circ\text{C}$ | |
|--------------|--|---|------------------------------------|---|-----|--|--|--|------|
| | | | | t, ms | max | | | min | max |
| M1.2-25-16 | ± 1600 | 25 | 1150 | 200 | 10 | 1000 | 150 | - 40 | +125 |
| M1.2-40-16 | | 40 | | 560 | | | | | |
| M1.2-63-16 | | 63 | | 720 | | | | | |
| M1.2-80-16 | | 80 | | 960 | | | | | |
| M1.2-100-16 | | 100 | | 1350 | | | | | |
| M1.2-125-16 | | 125 | | 2500 | | | | | |
| M1.2-160-16 | | 160 | | 4000 | | | | | |
| M1.2-200-16 | | 200 | | 5000 | | | | | |
| M1.2-250-16 | | 250 | | 6000 | | | | | |

* to thyristor

** when opposite-parallel connection in DC circuits

*** the modules are designed for operating in equipment with using of coolers that support transition temperature in the prescribed ranges.

Precious metals are not contained.

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