

## THYRISTOR-DIODE MODULE

### MO3-(25, 40, 63, 80, 100, 125, 160, 200, 250)-12; MO3A-(25, 40, 63, 80, 100, 125, 160, 200, 250)-12 DATASHEET IN BRIEF

Thyristor-diode module with opto decoupling is intended for operating in AC circuits.

#### OVERALL DRAWINGS

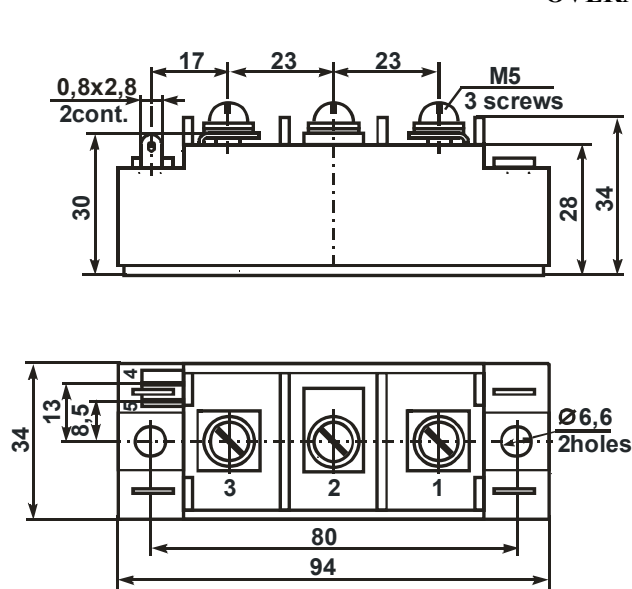


Figure 1

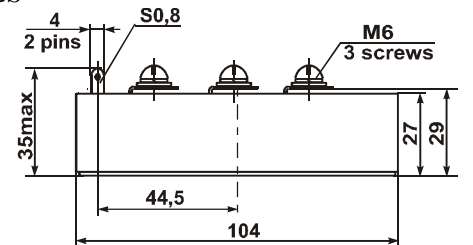


Figure 2

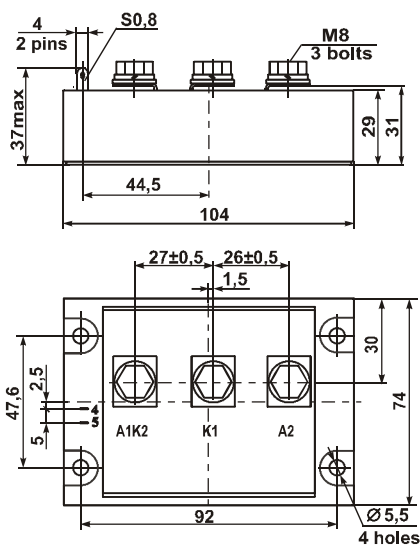
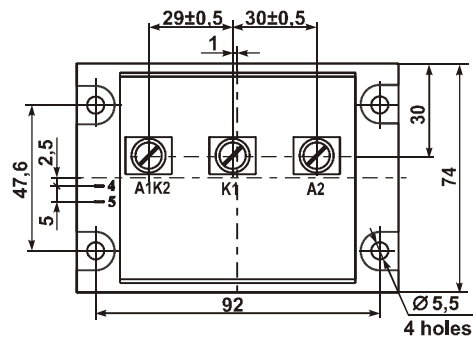


Figure 3

Product description	Figure
MO3(A)-25-12	1, 4
MO3(A)-40-12	1, 4
MO3(A)-63-12	1, 4
MO3(A)-80-12	1, 4
MO3(A)-100-12	1, 4
MO3(A)-125-12	1, 4
MO3(A)-160-12	1, 4 or 2, 5
MO3(A)-200-12	3, 5
MO3(A)-250-12	3, 5

#### INTERNAL CONNECTION CIRCUITS

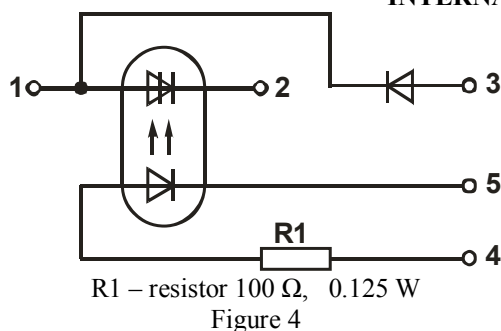


Figure 4

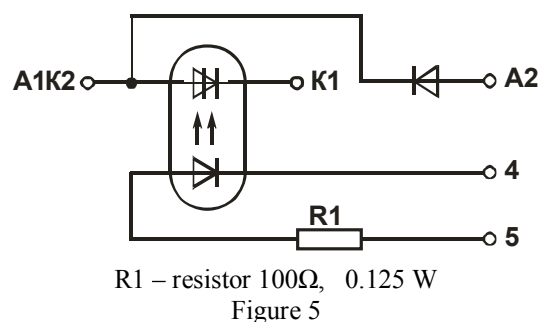


Figure 5

## BASIC CHARACTERISTICS

T = 25 °C

Product name	Peak voltage in thyristor on-state / direct diode peak voltage, $U_{TM} / U_{FM}$ , V		Off-state DC/reverse thyristor (diode) current, $I_D / I_R$ , mA		On-state voltage on control input, $U_{Gon}$ , V ( $I_{Gon}=10$ mA)		Isolation resistance between the power and controlling outputs, $R_{ISOL}$ MΩ		Isolation resistance between power and package radiator, $R_{ISOL}$ in-out MΩ		Electric isolation strength at DC between radiator and power outputs $U_{ISOL}$ out-c, V		Thermal transition-housing radiator resistance $R_{thic}$ , °C/W	
	max	$I_{OUT}$ , A	max	$U_{OUT}$ , V	min	max	min	U, V	min	U, V	min	t, minute	thyristor	diode
													max	max
MO3-25-12	1.65	79	1.0	1200	3.0	4.0	100	500	10	500	4000	1	0.8	1.2
MO3-40-12		126											0.7	0.9
MO3-63-12		198											0.55	0.6
MO3-80-12		251											0.45	0.5
MO3-100-12		314											0.3	0.4
MO3-125-12		393											0.25	0.3
MO3-160-12		503											0.22	0.25
MO3-200-12		628											0.19	0.21
MO3-250-12		785											0.15	0.169

Note –module characteristics values of type MO3A are identical to the characteristic values of the corresponding modules MO3

## MAXIMUM ALLOWABLE 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, $T_c=75$ °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	Transition temperature, $T_{VJ}^{***}$ , °C			
			min	max	max	t, μs	Q	min	max		max	t, ms			min	max	min	max
MO3-25-12	1200	25	10	25	100	100	10	- 3.5	0.8	10	50**	840	1000	150	-40	+125		
MO3-40-12		40															200	
MO3-63-12		63															560	
MO3-80-12		80															720	
MO3-100-12		100															960	
MO3-125-12		125															1350	
MO3-160-12		160															2500	
MO3-200-12		200															4000	
MO3-250-12		250															5000	
																	6000	

\* to thyristor

\*\*10 V – for modules of type MO3A (the value of remaining modes of modules types MO3A are identical with values mode of relevant modules MO3)

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

Precious metals are not contained

5 Naugorskoe shosse, Orel, 302020, Russia  
 Tel. +7(4862) 44-03-44, Fax +7(4862) 47-02-12, E-mail: [mail@electrum-av.com](mailto:mail@electrum-av.com)