

# THYRISTOR-DIODE MODULES

## M3-25(40,63,80,100,125,160,200,250)-16

### DATASHEET IN BRIEF

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

### OVERALL DRAWINGS

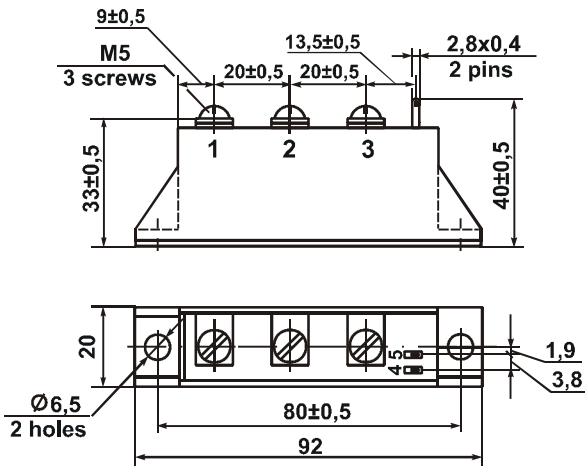


Figure 1

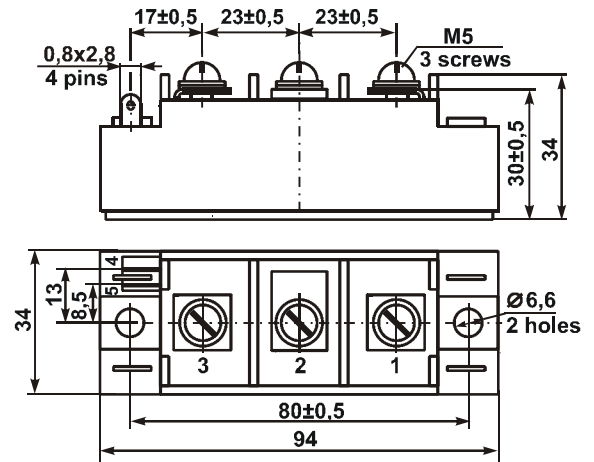


Figure 2

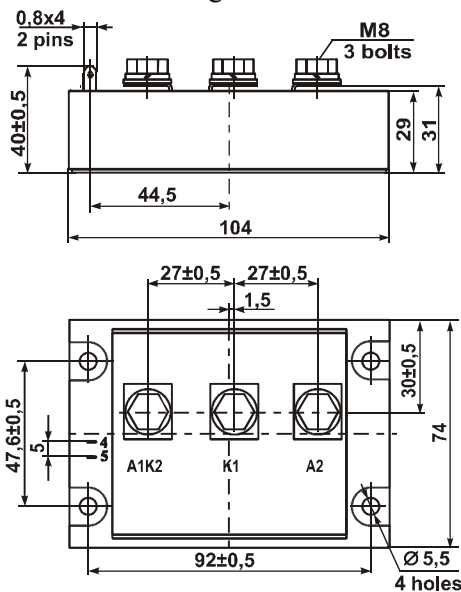


Figure 3

Product description	Figure
M3-25-16	1 or 2, 4
M3-40-16	1 or 2, 4
M3-63-16	1 or 2, 4
M3-80-16	1 or 2, 4
M3-100-16	2, 4
M3-125-16	2, 4
M3-160-16	2, 4
M3-200-16	3, 5
M3-250-16	3, 5

### INTERNAL CONNECTION CIRCUITS

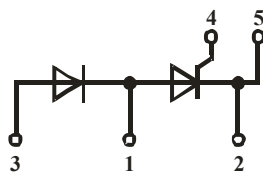


Figure 4

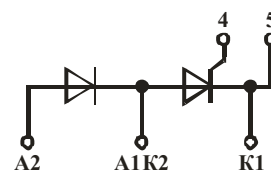


Figure 5

## 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 direct 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, $R_{th(j-c)}$ of package, ( $^\circ\text{C}/\text{W}$ )	
	max	$I_{OUT}$ , A ampl. value	max	$U_{OUT}$ , V	max	$U_{OUT}$ , V	max	max	min	t, minute		max	thyristor
M3-25-16	1.65	$\pi \cdot I_{T(AV)}$ , 10 ms, 50 Hz, sinus	1.0	1600	1.0	1600	3.0	150	4000	1	0.25	0.8	1.2
M3-40-16												0.7	0.9
M3-63-16												0.55	0.6
M3-80-16												0.45	0.5
M3-100-16												0.3	0.4
M3-125-16												0.25	0.3
M3-160-16												0.22	0.25
M3-200-16												0.19	0.21
M3-250-16												0.15	0.169

## MAXIMUM PERMISSIBLE OPERATING MODES

Product name	Repetitive thyristor pulse reverse voltage/ off-state, $U_{RRM} / U_{DRM}$ , V	Average on-state current with cooler $I_{T(AV)}$ *, A, $T=85^\circ\text{C}$	Commutation voltage, $U_{com}$ , V	Surge on-state current, $I_{TSM}$ *, A		Critical rate of rise of off-state voltage, $(du_d / dt)_{cr}$ , V/ $\mu\text{s}$	Critical rate of rise of on-state current, $(di_T / dt)_{cr}$ , A/ $\mu\text{s}$	Junction temperature, $T_{vj}$ **, $^\circ\text{C}$	
				max	t, ms			max	max
M3-25-16	$\pm 1600$	25	1150	200	10	1000	150	- 40	+125
M3-40-16		40		560					
M3-63-16		63		720					
M3-80-16		80		960					
M3-100-16		100		1350					
M3-125-16		125		2500					
M3-160-16		160		4000					
M3-200-16		200		5000					
M3-250-16		250		6000					

\* to thyristor  
 \*\* the modules are designed to operate in equipment with using of coolers that support transition temperature in the 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)