

THYRISTOR-DIODE MODULES

M2-25(40,63,80,100,125,160,200,250)-12

DATASHEET IN BRIEF

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

OVERALL DRAWINGS

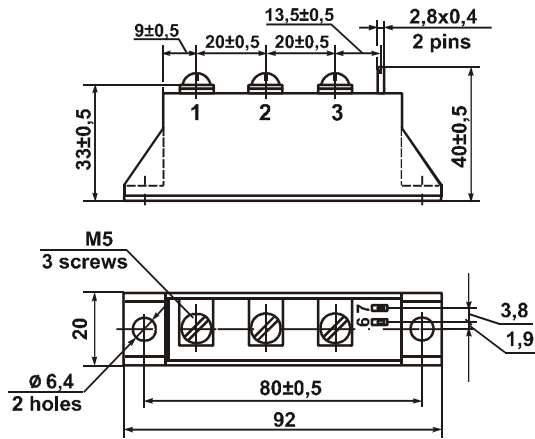


Figure 1

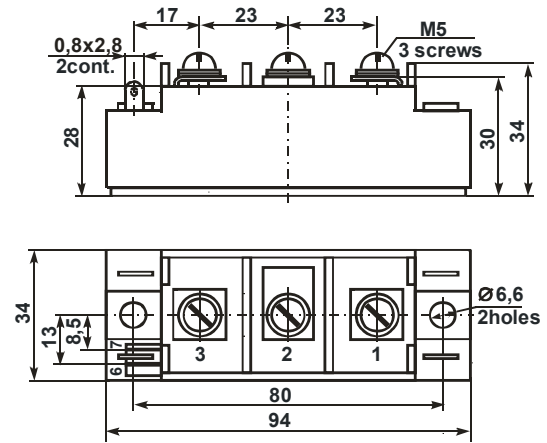


Figure 2

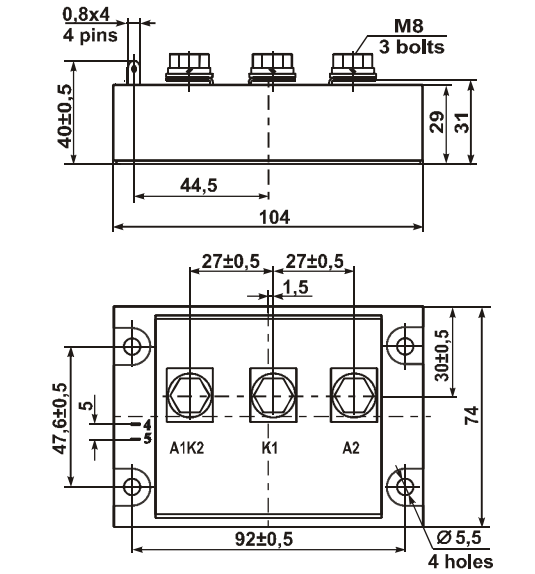


Figure 3

Product description	Figure
M2-25-12	1 or 2, 4
M2-40-12	1 or 2, 4
M2-63-12	1 or 2, 4
M2-80-12	1 or 2, 4
M2-100-12	2, 4
M2-125-12	2, 4
M2-160-12	2, 4
M2-200-12	3, 5
M2-250-12	3, 5

INTERNAL CONNECTION CIRCUITS

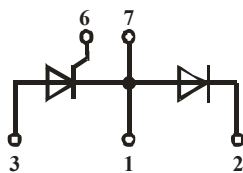


Figure 4

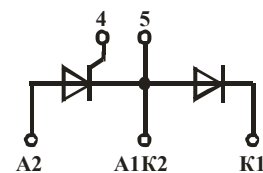


Figure 5

BASIC CHARACTERISTICS

T = 25 °C

Product name	Pulse on-state voltage , U_{TM} , V		Repetitive on-state peak closed, 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, $R_{th(j-c)}$, (°C/W)	
	max	I_{OUT} , A amplit. value	max	U_{OUT} , V	max	U_{OUT} , V	max	max	max	t, minute		min	thyristor max
M2-25-12	1.65	$\pi \cdot I_{T(AV)}$, 10 ms, 50 Hz, sinus	1.0	1200	1.0	1200	2.0	150	4000	1	0.25	0.8	1.2
M2-40-12												0.7	0.9
M2-63-12												0.55	0.6
M2-80-12												0.45	0.5
M2-100-12												0.3	0.4
M2-125-12												0.25	0.3
M2-160-12												0.22	0.25
M2-200-12												0.19	0.21
M2-250-12							200					0.15	0.169

MAXIMUM ALLOWABLE OPERATING MODES

Product name	Repetitive thyristor pulse reverse voltage/ in 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 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}^{**} , °C	
				max	t, ms			max	max
M2-25-12	±1200	25	840	200	10	1000	150	- 40	+125
M2-40-12		40		560					
M2-63-12		63		720					
M2-80-12		80		960					
M2-100-12		100		1350					
M2-125-12		125		2500					
M2-160-12		160		4000					
M2-200-12		200		5000					
M2-250-12	250	6000	100						

* to thyristor
** 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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