

THYRISTOR-DIODE MODULES

M3-25(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 power DC and AC loads.

OVERALL DRAWINGS

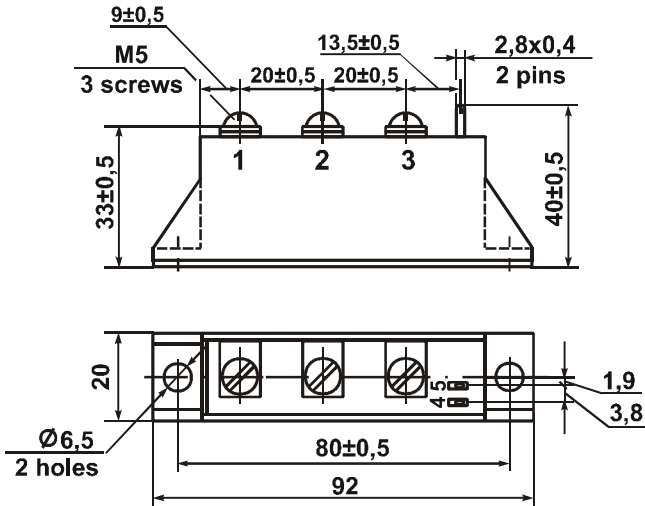


Figure 1

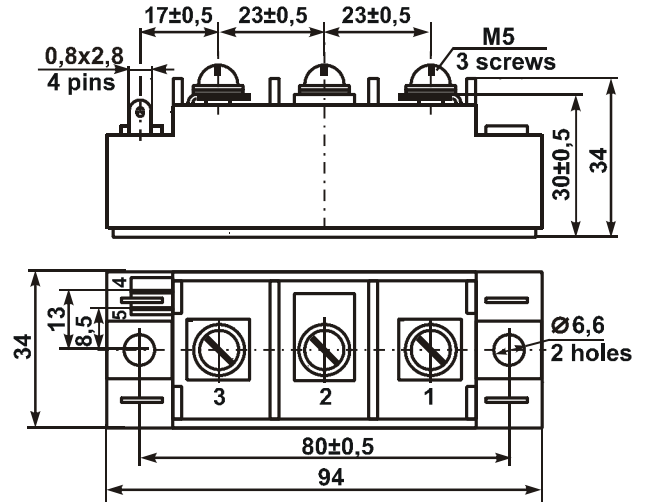


Figure 2

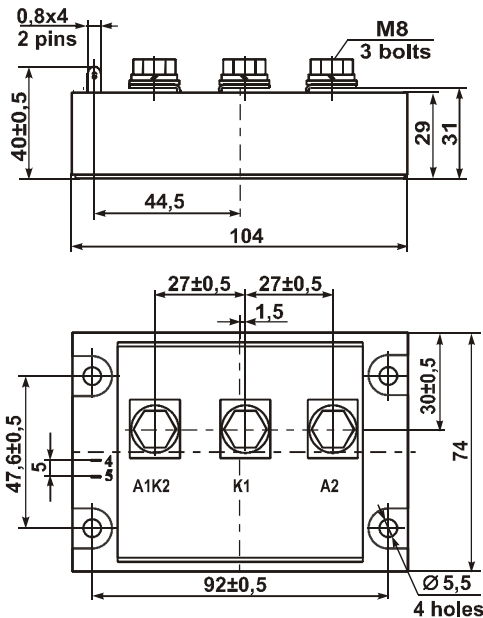


Figure 3

Product description	Figure
M3-25-12	1 or 2, 4
M3-40-12	1 or 2, 4
M3-63-12	1 or 2, 4
M3-80-12	1 or 2, 4
M3-100-12	2, 4
M3-125-12	2, 4
M3-160-12	2, 4
M3-200-12	3, 5
M3-250-12	3, 5

INTERNAL CONNECTION CIRCUITS

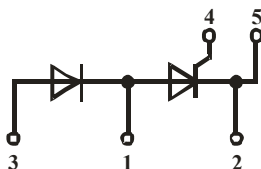


Figure 4

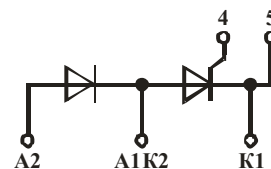


Figure 5

BASIC CHARACTERISTICS

T = 25 °C

Product name	Pulse on-state voltage, U_{TM} , V		Repetitive 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, $R_{th(j-c)}$, ($^\circ\text{C}/\text{W}$)	
	max	I_{OUT} , A ampl. value	max	U_{OUT} , V	max	U_{OUT} , V	max	max	min	t , minute		max	thyristor
M3-25-12	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
M3-40-12								0.7				0.9	
M3-63-12								0.55				0.6	
M3-80-12								0.45				0.5	
M3-100-12								0.3				0.4	
M3-125-12								0.25				0.3	
M3-160-12								0.22				0.25	
M3-200-12								0.19				0.21	
M3-250-12								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, $T_c=85^\circ\text{C}$	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/ μs	Critical rate of rise of on-state current, $(di_T / dt)_{cr}$, A/ μs	Junction temperature of package, T_{vj}^{**} , $^\circ\text{C}$	
				max	t , ms			max	max
M3-25-12	± 1200	25	840	200	10	1000	150	- 40	+125
M3-40-12		40		560					
M3-63-12		63		720					
M3-80-12		80		960					
M3-100-12		100		1350					
M3-125-12		125		2500					
M3-160-12		160		4000					
M3-200-12		200		5000					
M3-250-12		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

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