SINGLE-PHASE DIODE BRIDGE MODULE
M5-63-12; M5-100-12; M5-160-12; M5-200-12; M5-250-12

DATASHEET IN BRIEF

A single-phase diode bridge module is intended for rectifying (conversion of alternating voltage into pulsating direct voltage).

OVERALL DRAWING AND MODULE CIRCUIT

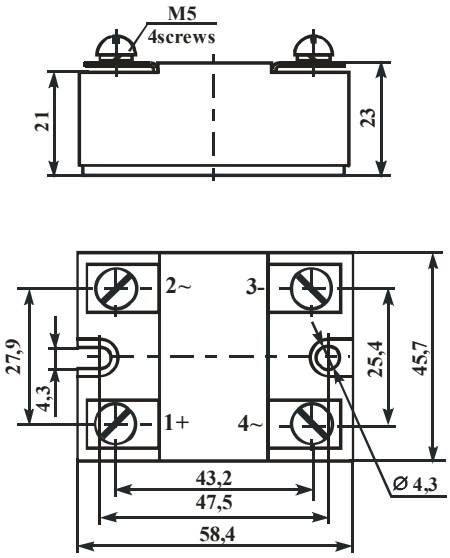


Figure 1

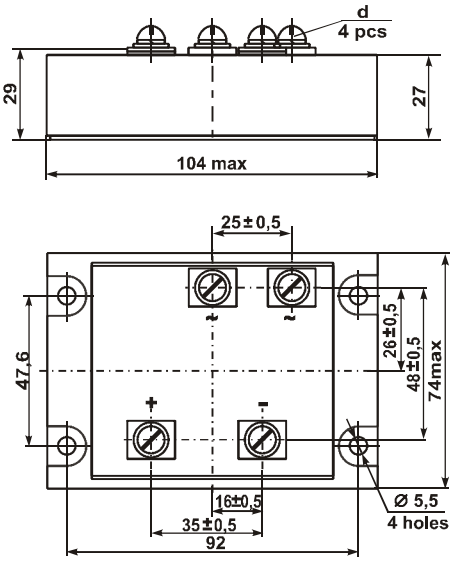
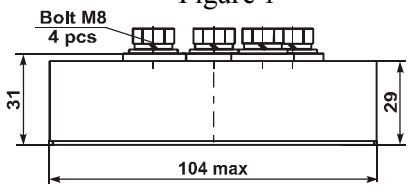


Figure 2



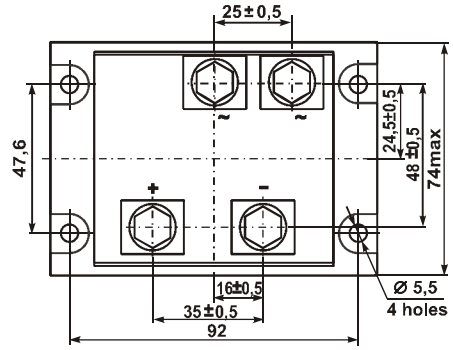


Figure 3

Module description	Figure	d
M5-63-12	1	-
M5-100-12	2	Screw M5
M5-160-12	2	Screw M6
M5-200-12	3	-
M5-250-12	3	-

INTERNAL CONNECTION CIRCUIT

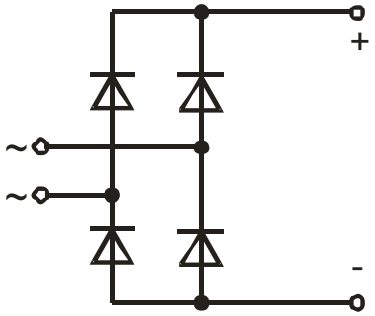


Figure 4

BASIC CHARACTERISTICS

T = 25 °C

Product name	Reverse gate current, I_R, mA		Diode pulse direct voltage, V_{FM}, V		Electric isolation strength at AC current between radiator and outputs, U_{ISOL}, V		Thermal junction-cooler to diode resistance Rth(j-c), °C / W
	max	U_{RRM}, V	max	I_O, A	min	t, minute	max
M5-63-12	1.5	1200	1.65	63	2500	1	1.3
M5-100-12				100			0.6
M5-160-12				160			0.4
M5-200-12				200			0.3
M5-250-12				250			0.2

MAXIMUM-ALLOWABLE OPERATING MODES

Product name	Diode pulse reverse voltage		Average rectified direct current, $I_{O(AV)}$, A	Rms input voltage V_{RMS}, V	Non-repetitive pulse current, I_{FSM}, A		Maximum switching frequency, f_{com}, kHz	Junction temperature, T_J,* °C	
	non-repetitive, V_{RSM}, V	repetitive, V_{RRM}, V				T_J, °C			
	max	max	max	max	max			min	max
M5-63-12	1300	1200	63	630	300	125	3	- 40	+125
M5-100-12			100		600				
M5-160-12			160		1200				
M5-200-12			200		1400				
M5-250-12			250		1600				
* 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.

PRECIOUS AND NONFERROUS METALS

The module contains nonferrous metals: Copper……... g.
Brass... …….. g.

OPERATING AND MOUNTING RECOMMENDATION

Connection of the electric conductors and cables to the modules' terminals shall be effected using the screws and washes including in the supply package. Connection of the wires shall be effected using connectors having a corrosion-resistant coat, cleaned from foreign accretions. The torque for the screw joints: (2.0±0.15) N·m – for M5, (2.5±0.15) N·m – for M6, (3.2±0.15) N·m – for M8. After the screws tightening is recommended covering the connection with paint.

The core sections of external conductors and cables depending on nominal current of the net in which is supposed to use the module is shown in the table.

SIZES OF EXTERNAL WIRES CORE SECTIONS

Nominal current, A	Core section of external wires and cables, mm^2	
	min	max
63	6	25
100	10	50
160	25	90
200	50	120

Connection of the electric conductors and cables to the modules' terminals shall be effected using the screws and washes including in the supply package. Connection of the wires shall be effected using connectors having a corrosion-resistant coat, cleaned from foreign accretions. The torque for the screw joints: (2.0±0.15) N·m – for M5, (2.5±0.15) N·m – for M6, (3.2±0.15) N·m – for M8. After the screws tightening is recommended covering the connection with paint.

The modules are mounted in equipment on the mounting surfaces of coolers or on heat-conducting equipment surfaces providing the heat mode of the module, in any orientation using screws M5 tightened with torque (4.0 ± 0.5) N·m.

The contact surface should have roughness Ra not more than 10 μm. Mounting of the modules on the mounting surface or cooler is necessary to effect using thermal-conducting pastes to increase the thermal balance.

For thermal control of the relay is mandatory required to use an external cooler.

Choosing of cooler – according to the information at website www.electrum-av.com.

The module is nonrepairable.

MANUFACTURER GUARANTEES

The manufacturer guarantees the module quality if a consumer complies with all the requirements of storage, installation and operation, as well as guidance on the application.

The warranty operation period is 2 years from the acceptance, and in case of reverification – from the date of the reverification.

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