

ELECTRUM



**configuration
for pulse supply
sources**

1. Circuit

- single-cycle based on higher or lower switch (Figure 1);
- two-cycle based on two transistors (Figure 2);
- two-cycle based on H-моста (Figure 3);
- two-cycle based on skew bridge (Figure 4).

2. Peak voltage

- low-voltage sources: up to 200 V based on MOSFET-transistors;
- Average voltage: up to 1700 V based on IGBT-transistors;
- high-voltage sources: up to 6500 V based on IGBT-transistors.

3. Maximum average current

- Low power (up to 50 A);
- Average power (up to 200 A);
- High power (higher than 200 A).

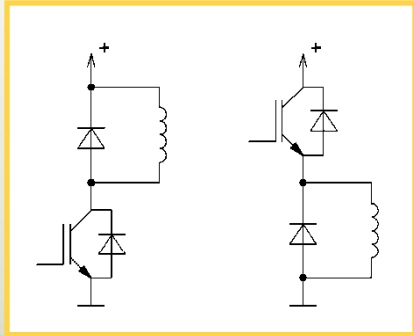


FIGURE 1

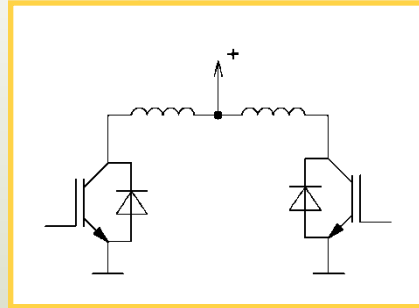


FIGURE 2

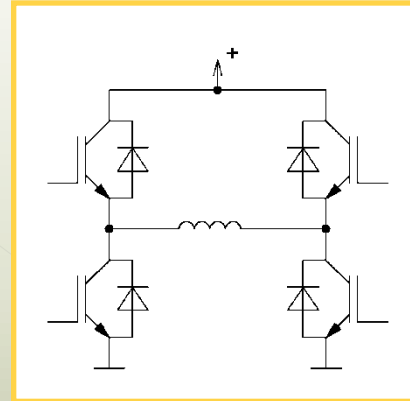


FIGURE 3

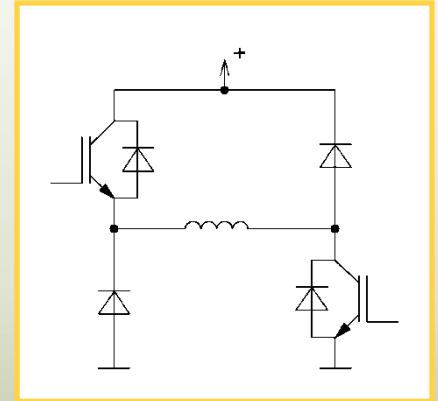


FIGURE 4

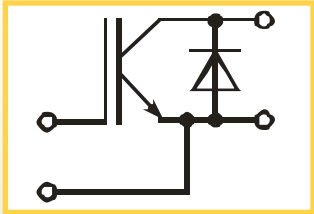
NEW SEMICONDUCTOR POWER IS COMING...

Assembly type selection for pulse supply sources

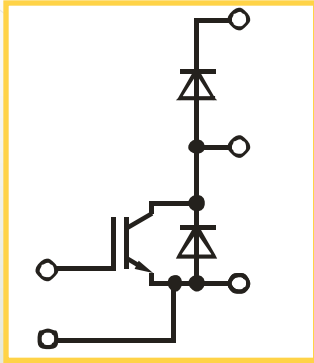
Circuit	≤250 V			600, 1200 V			>1200 V	
	≤50 A	50...200 A	200...400 A	≤50 A	50...200 A	200...400 A	≤50 A	
Figure 1	1xM9 + 1xM4.1Sch			1xM10(11)			1xM9 + 1xM4.1FRD	1xM9 + 1xM4.1FRD
Figure 2	1xM12.1		2xM9	1xM12.1			2xM9	1xM12.1
Figure 3	1xM13B	2xM12	4xM9	1xM13B	2xM12	4xM9	2xM12	
Figure 4	1xM13C	2xM9 + 2xM4.1Sch		1xM13C	1xM10 + 1xM11	2xM9 + 2xM4.1FRD	2xM9 + 2xM4.1FRD	

M4.1 – single fast-recovery diode (FRD) or Schottky diode (Sch)

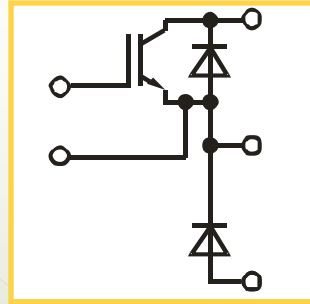
NEW SEMICONDUCTOR POWER IS COMING...



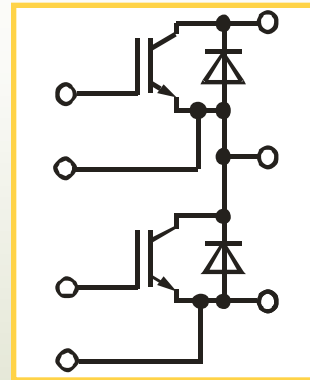
M9



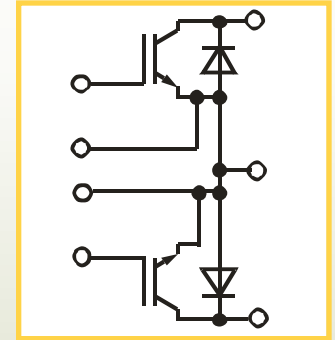
M10



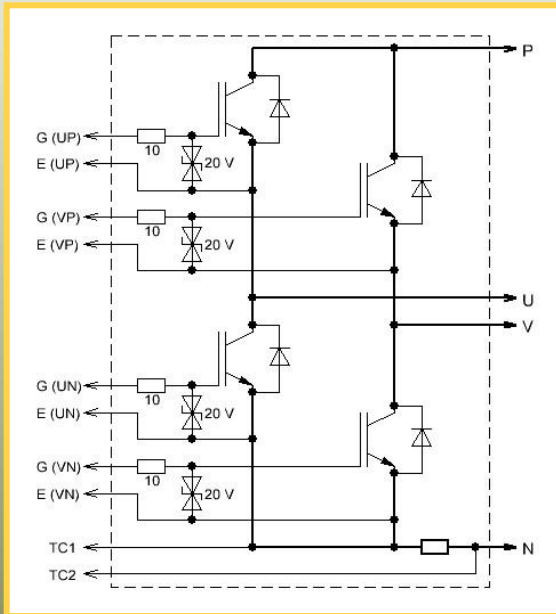
M11



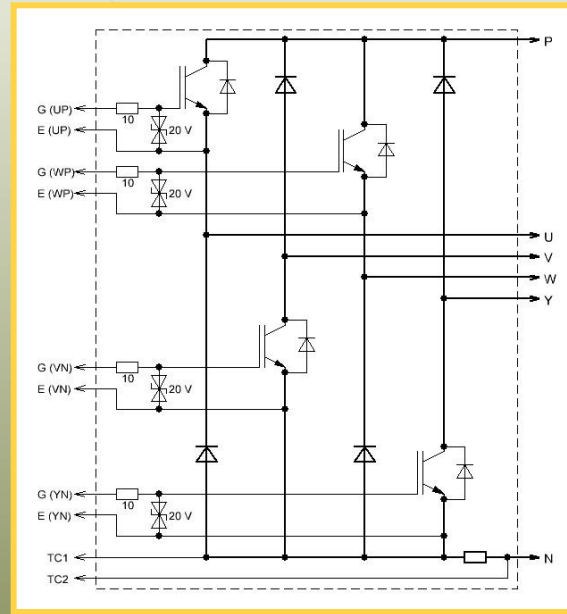
M12



M12.1



M13B



M13C (M13B1 – ONE SINGLE BRIDGE)

NEW SEMICONDUCTOR POWER IS COMING...

Type	MOSFET-transistors					IGBT-transistors		High-voltage IGBT-transistors	
	40 V	60 V	100 V	200 V	250 V	600 V	1200 V	3300 V	6500 V
M4.1Sch		80,120,160, 200,240, 320,400	80,120,160, 200,240, 320,400	80,120,160, 200,240, 320,400					
M4.1FRD							50,100,150, 200,250, 300,400	100,200	50,100
M9	100,200, 300,400, 500	150,220,300, 360,450	120,160, 200,250, 300,400	120,160, 200,240, 320,400	120,150, 200,240, 300		50,100,200, 300,400	50,100	25,50
M10							50,100, 150,200		
M11							50,100, 150,200		
M12	100,200, 300,400, 500	75,150, 220,300	120,160, 200,250	120,160,200	120		50,100, 150,200	50,100	25,50
M12.1	100,200, 300,400, 500	75,150, 220,300	120,160, 200,250	120,160,200	120		50,100, 150,200	50,100	25,50
M13B			10,30, 50,90	10,30, 50,90		10,30,50	10,30,50		
M13MB			10	10		10			
M13B-PP4			2	2		1			
M13C			10,30, 50,90	10,30, 50,90		10,30,50	10,30,50		

In the cells shown an amount of maximum DC of the modules

For the converters based on IGBT-transistors reasonable to use the modules-analogues in the design versions «E2», «E3-1», «E3-2», «M1», «M2». The modules also can be used as analogues of modules produced by «Semikron», «Infineon», «Microsemi».

Version	Type	Peak voltage		
		600 V	1200 V	1700 V
E2	M10	75	50,75,100,150	
	M11	75	150	
	M12	50,75,100,150	50,75,100,150	
E3-1 (E3-2)	M9		200,300,400,600	
	M10	300	150,200,300,400	
	M11	300	150,200,300,400	
	M12	200,300,400,600	150,200,300,400	
M1	M10	350,450,600	150,200,300,400	150,200,300
	M11	350,450,600	150,200,300,400	150,200,300
	M12	350,450,600	150,200,300,400	150,200,300
	M12.1	350,450,600	150,200,300,400	150,200,300
	M13B		150,200	100,150
	M13B1		150,200	100,150
M2	M10	200,300	50,75,100,150	50
	M11	200,300	50,75,100,150	50
	M12	200,300	50,75,100,150	50
	M12.1	100,200	50,75,100	50
	M13B	100,150	50,75,100	50
	M13B1	100,150	50,75,100	50

In the cells shown an amount of maximum DC of the modules



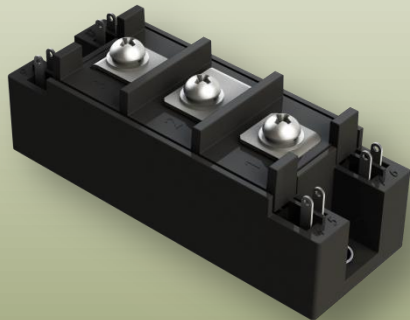
HOUSING «DM» (CURRENT UP TO 400 A)



HOUSING «E2» (CURRENT UP TO 150 A)

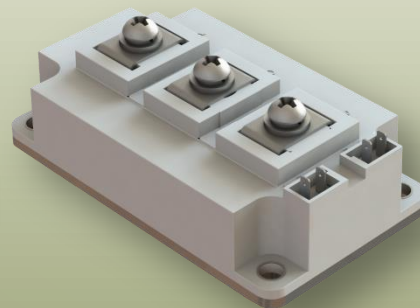


HOUSING «PP» (CURRENT UP TO 10 A)



E2 – ANALOGUE OF Semitrans 2

(SEMIKRON, INFINEON)



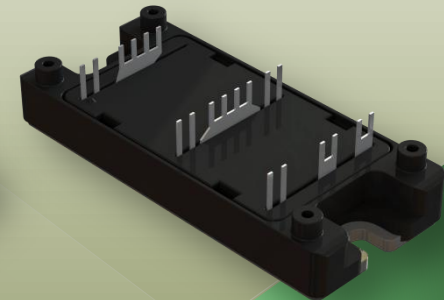
E3-1 – ANALOGUE OF Semitrans 3

(SEMIKRON, INFINEON)



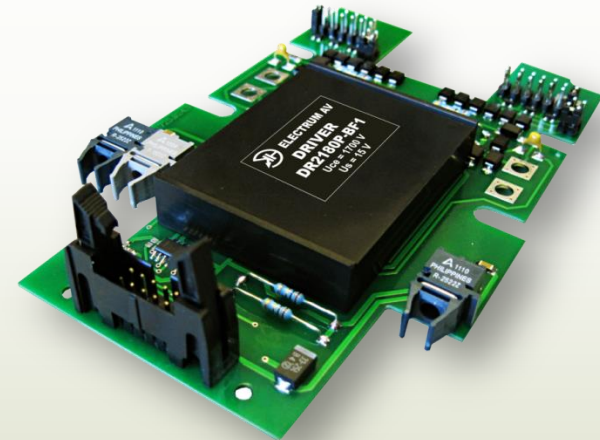
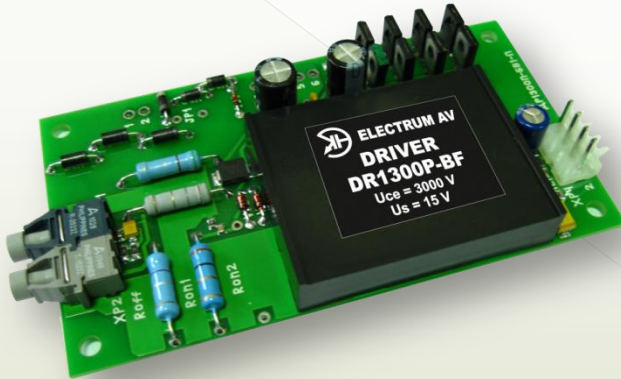
M1 – ANALOGUE OF SP6

(MICROSEMI)



M2 – ANALOGUE OF SP4

(MICROSEMI)

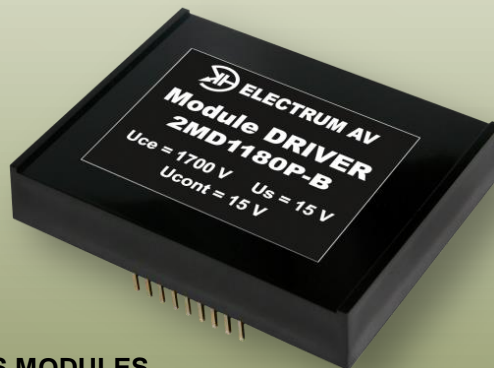


DRIVERS

- OUTPUT CURRENT UP TO 30 A
- OPERATION FREQUENCY UP TO 200 kHz
- TRANSISTOR CONTROL UP TO 3300 V

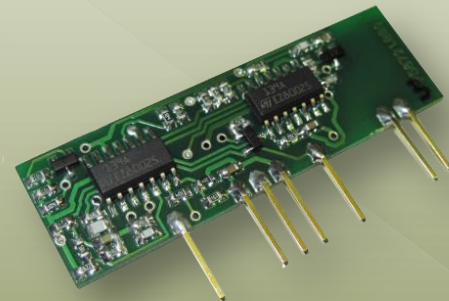
DRIVERS-ANALOGUES OF «CT CONCEPT» AND «SEMIKRON»

- OUTPUT CURRENT UP TO 48 A
- OPERATION FREQUENCY UP TO 100 kHz
- TRANSISTOR CONTROL UP TO 6500 V



DRIVERS MODULES

- OUTPUT CURRENT UP TO 18 A
- OPERATION FREQUENCY UP TO 100 kHz
- TRANSISTOR CONTROL UP TO 1700 V



DRIVERS' MODULES – ANALOGUES OF «POWEREX»

- OUTPUT CURRENT UP TO 12 A
- OPERATION FREQUENCY UP TO 20 kHz
- TRANSISTOR CONTROL UP TO 1200 V

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