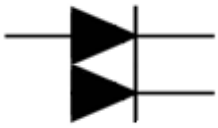
PHASE CONTROL DIODE MODULES

MDDA-160

- V_{RRM} = **400 V-1600 V**
- $I_{F(AV)}$ = **160 A** (T_C = 89 °C)
- I_{FSM} = **6 kA** (T_j = 125 °C)



- Presspack construction
- Heat transfer through AlN ceramic isolated metal baseplate
- High reliability at thermal cycles (10^5 at ΔT_C = 70 ºC)
- Case width 34 mm

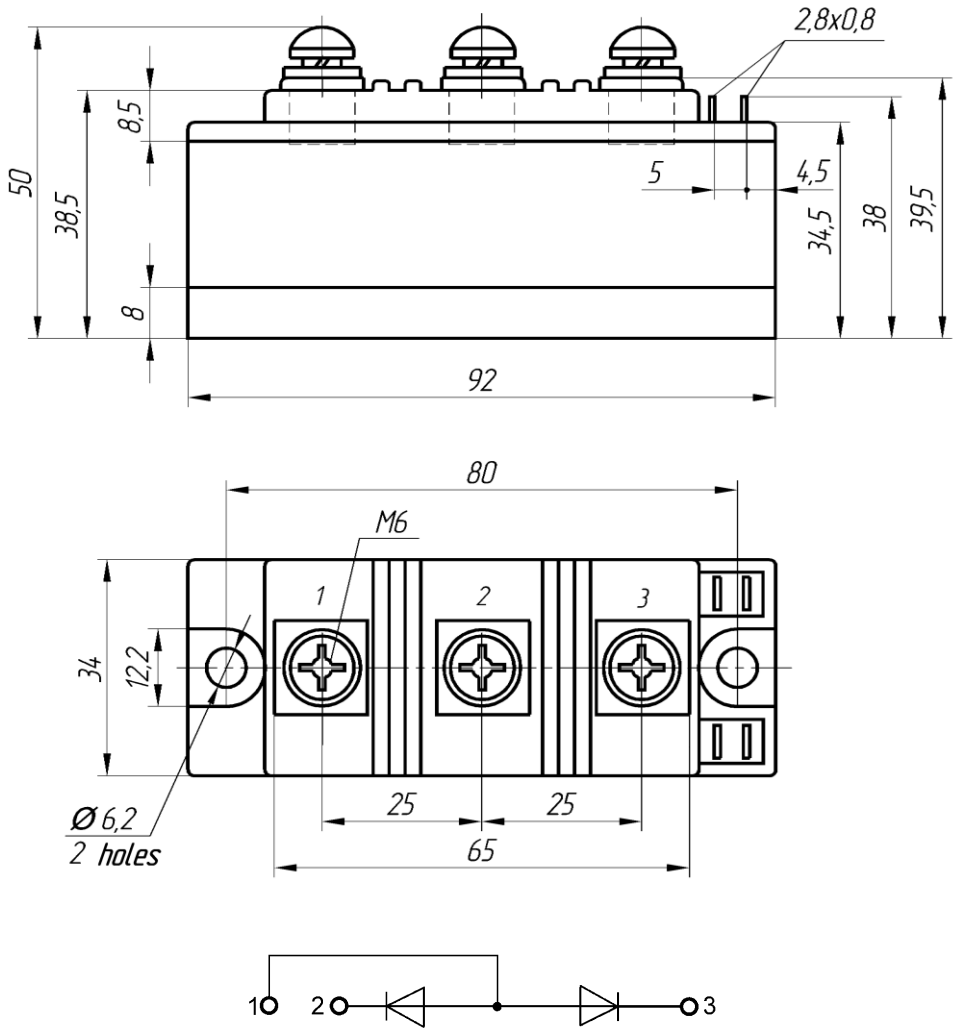
MAXIMUM RATED VALUES

Parameter and conditions	Symbol	Values	Units
Repetitive peak reverse voltage, T_j = - 40 …+ 125 °C	V_{RRM}	400-1600	V
Non- repetitive peak reverse voltage, T_j = - 40 …+ 125 °C	V_{RSM}	500-1700	
Repetitive peak reverse current, T_j = 125 °C, $V_R = V_{RRM}$	I_{RRM}	30	mA
Maximum average on-state current, f = 50 Hz, T_C = 89 °C	$I_{F(AV)}$	160	A
RMS on-state current, T_C = 89 °C	I_{FRMS}	251	
Surge non-repetitive current, T_j = 125 °C, t_p = 10 ms, V_R = 0	I_{FSM}	6	kA
Safety factor	I^2t	$0{,}180 \cdot 10^6$	A^2s
Operation junction temperature range	T_j	-40 … +125	°C
Storage temperature range	T_{stg}	-40 … +50	

MDDA-160

ELECTRICAL CHARACTERISTICS					
Parameter and conditions	**Symbol**	**Values**			**Units**
		min	**type**	max	
Maximum peak forward voltage, T_j = 25 °C, I_F = 500 A,	V_{FM}	-	-	1,25	V
On-state threshold voltage, T_j = 125 °C, I_F = 250 - 700 A	$V_{F(TO)}$	-	-	0,90	
On-state slope resistance, T_j = 125 °C, I_F = 250 - 700 A	r_T	-	-	0,55	mΩ
Electrical isolated baseplate (RMS), f = 50 Hz, t = 1 sec/1min	V_{isol}	-	-	3000/2500	V
THERMAL PARAMETERS					
Thermal resistance junction to case	$R_{th(j-c)}$	-	-	0,180	°C/W
Thermal resistance case to heatsink	$R_{th(c-h)}$	-	-	0,010	
MECHANICAL PARAMETERS					
Weight	w	-	0,45	-	kg
Heatsink mounting torque	M_s	4	-	6	Nm
Terminal connection torque	M_t	1,5	-	3,5	Nm
Maximum acceleration (at nominal mounting force)	a	-	-	50	m/s^2

MDDA-160



1– Anode; 2, 3 – Cathode

Device Outline Drawing

(dimensions in mm)

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