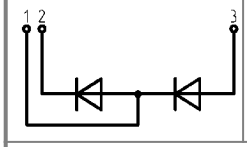
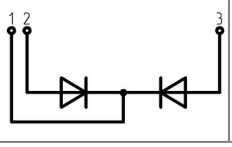
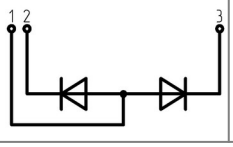
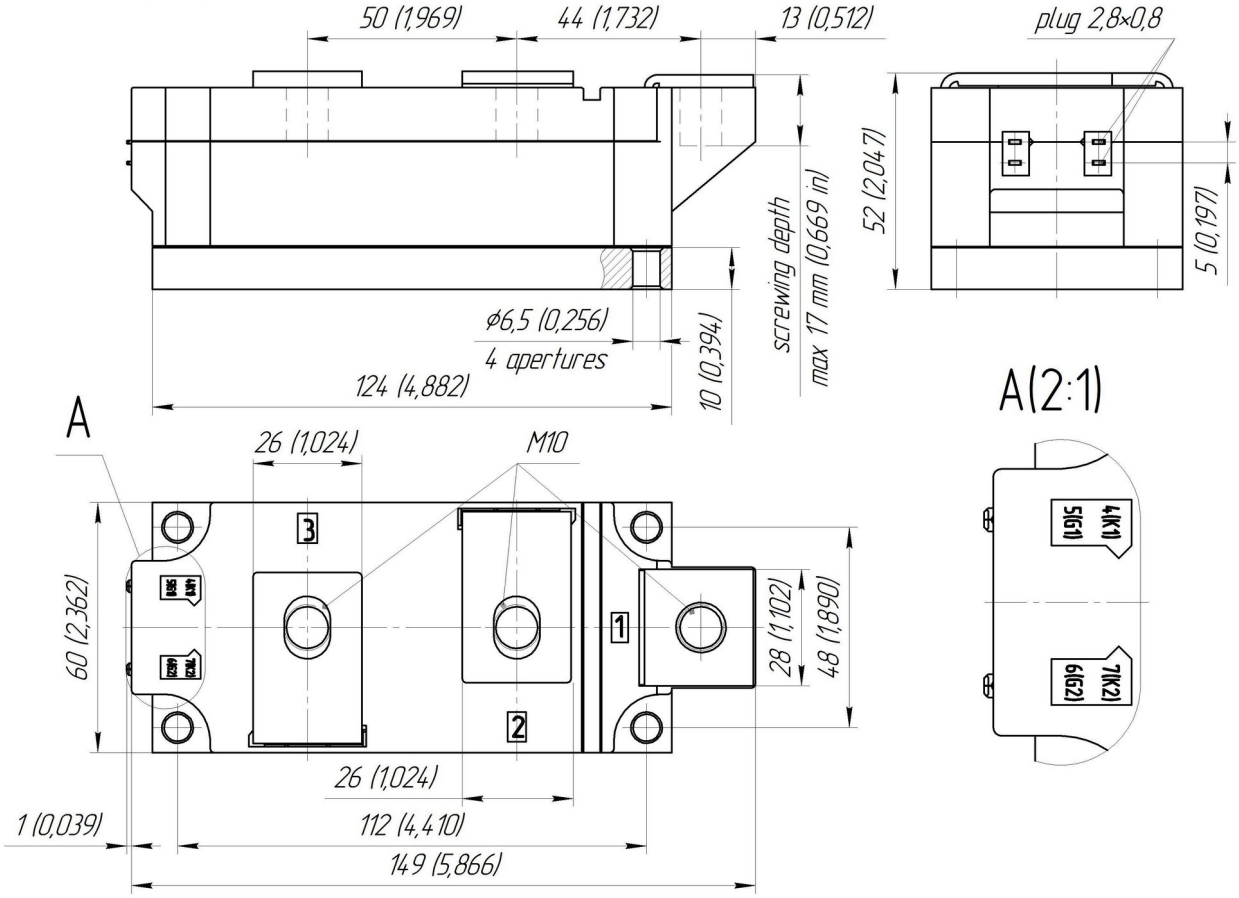
Electrically isolated base plate
Industrial standard package
Simplified mechanical design, rapid assembly
Pressure contact

Double Diode Module For Phase Control MDx-630-18-A2

Average forward current				I_{FAV}		630 A		
Repetitive peak reverse voltage				V_{RRM}		1000 ÷ 1800 V		
V_{RRM}, V	1000	1100	1200	1300	1400	1500	1600	1800
Voltage code	10	11	12	13	14	15	16	18
T_j, °C	– 40 ÷ 150							

MD3		MD4		MD5	
					



All dimensions in millimeters (inches)

MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	Values	Test conditions	
ON-STATE					
I_{FAV}	Average forward current	A	630	T_c=103 °C; 180° half-sine wave; 50 Hz	
I_{FRMS}	RMS forward current	A	989		
I_{FSM}	Surge forward current	kA	19.0 22.0	T_j=$T_{j\,max}$ T_j=25 °C	180° half-sine wave; t_p=10 ms; single pulse; V_R=0 V;
			20.0 23.0	T_j=$T_{j\,max}$ T_j=25 °C	180° half-sine wave; t_p=8.3 ms; single pulse; V_R=0 V;
I^2t	Safety factor	$A^2s\cdot10^3$	1800 2400	T_j=$T_{j\,max}$ T_j=25 °C	180° half-sine wave; t_p=10 ms; single pulse; V_R=0 V;
			1600 2100	T_j=$T_{j\,max}$ T_j=25 °C	180° half-sine wave; t_p=8.3 ms; single pulse; V_R=0 V;
BLOCKING					
V_{RRM}	Repetitive peak reverse voltages	V	1000÷1800	$T_{j\,min}$< T_j <$T_{j\,max}$; 180° half-sine wave; 50 Hz;	
V_{RSM}	Non-repetitive peak reverse voltages	V	1100÷1900	$T_{j\,min}$< T_j <$T_{j\,max}$; 180° half-sine wave; single pulse;	
V_R	Reverse continuous voltages	V	0.6·V_{RRM}	T_j=$T_{j\,max}$;	
THERMAL					
T_{stg}	Storage temperature	°C	-40 ÷ 50		
T_j	Operating junction temperature	°C	-40 ÷ 150		
$T_{c\,op}$	Operating temperature	°C	-40 ÷ 125		
MECHANICAL					
a	Acceleration under vibration	m/s^2	50		

CHARACTERISTICS

Symbols and parameters		Units	Values	Conditions	
ON-STATE					
V_{FM}	Peak forward voltage, max	V	1.40	T_j=25 °C; I_{FM}=1978 A	
$V_{F(TO)}$	Forward threshold voltage, max	V	0.78	T_j=$T_{j\,max}$; 0.5 π I_{FAV} < I_T < 1.5 π I_{FAV}	
r_T	Forward slope resistance, max	mΩ	0.230		
BLOCKING					
I_{RRM}	Repetitive peak reverse current, max	mA	50	T_j=$T_{j\,max}$; V_R=V_{RRM}	
THERMAL					
R_{thjc}	Thermal resistance, junction to case				
	per module	°C/W	0.0325	180° half-sine wave, 50 Hz	
	per arm	°C/W	0.0650		
	per module	°C/W	0.0310	DC	
	per arm	°C/W	0.0620		
R_{thch}	Thermal resistance, case to heatsink				
	per module	°C/W	0.0100		
	per arm	°C/W	0.0200		
INSULATION					
V_{ISOL}	Insulation test voltage	kV	3.00	Sine wave, 50 Hz; RMS	t=60 sec
			3.60		t=1 sec
MECHANICAL					
M_1	Mounting torque (M6)[1)]	Nm	6.00	Tolerance ± 15%	
M_2	Terminal connection torque (M10)[1)]	Nm	12.00	Tolerance ± 15%	
w	Weight, max	g	1500		

PART NUMBERING GUIDE	NOTES
MD 3 - 630 - 18 - A2 - N 1 2 3 4 5 6 1. MD - Rectifier Diode 2. Circuit Schematic: 3 – serial connection 4 – common Cathode 5 – common Anode 3. Average Forward Current, A 4. Voltage Code 5. Package Type (M.A2) 6. Ambient Conditions: N – Normal	[1)] The screws must be lubricated
UL certified file-No. E255404	