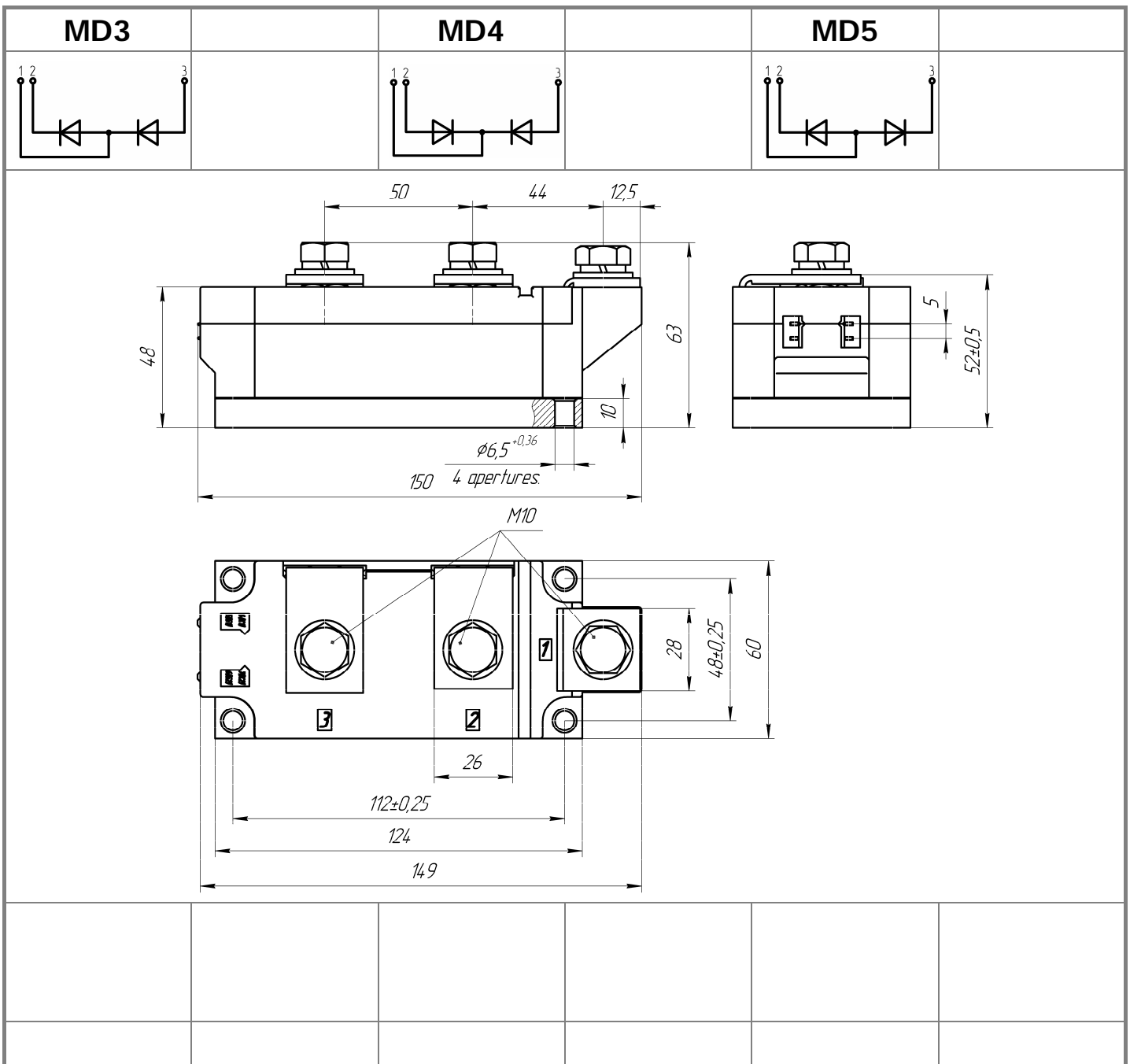




**Double Diode Module
For Phase Control
MDx-470-44-A**

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

Average forward current		I_{FAV}	470 A	
Repetitive peak reverse voltage		V_{RRM}	3800 ÷ 4400 V	
V_{RRM}, V	3800	4000	4200	4400
Voltage code	38	40	42	44
$T_{iV}, °C$	- 40 ÷ 150			




All dimensions in millimeters (inches)

MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	Values	Test conditions	
ON-STATE					
I_{FAV}	Average forward current	A	470	$T_c=100\text{ }^\circ\text{C}$; 180° half-sine wave; 50 Hz	
I_{FRMS}	RMS forward current	A	740		
I_{FSM}	Surge forward current	kA	12.0 14.0	$T_j=T_{j\text{ max}}$ $T_j=25\text{ }^\circ\text{C}$	180° half-sine wave; 50 Hz ($t_p=10\text{ ms}$); single pulse; $V_R=0\text{ V}$;
			13.0 15.0	$T_j=T_{j\text{ max}}$ $T_j=25\text{ }^\circ\text{C}$	180° half-sine wave; 60 Hz ($t_p=8.3\text{ ms}$); single pulse; $V_R=0\text{ V}$;
I^2t	Safety factor	$A^2s\cdot 10^3$	720 980	$T_j=T_{j\text{ max}}$ $T_j=25\text{ }^\circ\text{C}$	180° half-sine wave; 50 Hz ($t_p=10\text{ ms}$); single pulse; $V_R=0\text{ V}$;
			700 930	$T_j=T_{j\text{ max}}$ $T_j=25\text{ }^\circ\text{C}$	180° half-sine wave; 60 Hz ($t_p=8.3\text{ ms}$); single pulse; $V_R=0\text{ V}$;
BLOCKING					
V_{RRM}	Repetitive peak reverse voltages	V	3800÷4400	$T_{j\text{ min}} < T_j < T_{j\text{ max}}$; 180° half-sine wave; 50 Hz;	
V_{RSM}	Non-repetitive peak reverse voltages	V	3900÷4500	$T_{j\text{ min}} < T_j < T_{j\text{ max}}$; 180° half-sine wave; 50 Hz; single pulse;	
V_R	Reverse continuous voltages	V	$0.75V_{RRM}$	$T_j=T_{j\text{ max}}$;	
THERMAL					
T_{stg}	Storage temperature	$^\circ\text{C}$	-40 ÷ 125		
T_j	Operating junction temperature	$^\circ\text{C}$	-40 ÷ 150		
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	1.70	$T_j=25\text{ }^\circ\text{C}$; $I_{FM}=1256\text{ A}$	
			1.75	$T_j=T_{j\text{ max}}$; $I_{FM}=1200\text{ A}$	
$V_{F(TO)}$	Forward threshold voltage, max	V	0.85	$T_j=T_{j\text{ max}}$;	
r_T	Forward slope resistance, max	$\text{m}\Omega$	0.600	$0.5\pi I_{FAV} < I_T < 1.5\pi I_{FAV}$	
BLOCKING					
I_{RRM}	Repetitive peak reverse current, max	mA	50	$T_j=T_{j\text{ max}}$; $V_R=V_{RRM}$	
THERMAL					
R_{thjc}	Thermal resistance, junction to case			180° half-sine wave, 50 Hz	
	per module	$^\circ\text{C/W}$	0.0340		
	per arm	$^\circ\text{C/W}$	0.0680		
	per module	$^\circ\text{C/W}$	0.0325	DC	
per arm	$^\circ\text{C/W}$	0.0650			
R_{thch}	Thermal resistance, case to heatsink				
	per module	$^\circ\text{C/W}$	0.0100		
	per arm	$^\circ\text{C/W}$	0.0200		
INSULATION					
V_{ISOL}	Insulation test voltage	kV	3.00	Sine wave, 50 Hz; RMS	t=1 min
			3.60		t=1 sec
MECHANICAL					
M_1	Mounting torque (M6) ¹⁾	Nm	6.00	Tolerance $\pm 15\%$	
M_2	Terminal connection torque (M10) ¹⁾	Nm	12.00	Tolerance $\pm 10\%$	
w	Weight	g	1500		

PART NUMBERING GUIDE						NOTES				
MD	3	-	470	-	44	-	A	-	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.A) 6. Ambient Conditions: N – Normal										
		UL certified file-No. E255404								

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