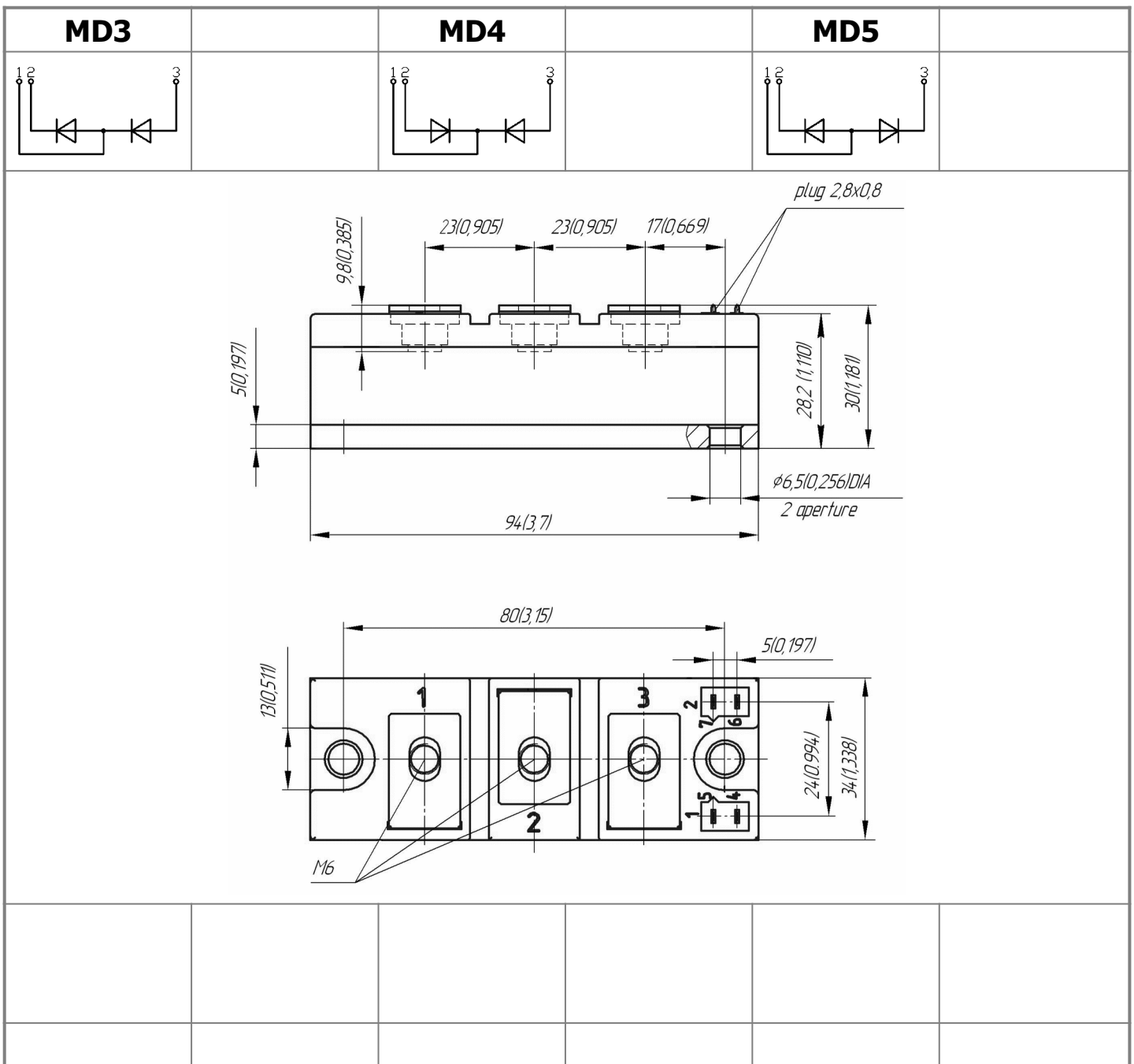




**Double Diode Module
For Phase Control
MDx-160-36-F**

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

Average forward current			I_{FAV}	160 A
Repetitive peak reverse voltage			V_{RRM}	3000 ÷ 3600 V
V_{RRM}, V	3000	3200	3400	3600
Voltage code	30	32	34	36
$T_j, ^\circ C$	- 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	160	$T_c = 98\text{ }^\circ\text{C}$;	
I_{FRMS}	RMS forward current	A	251	180° half-sine wave; 50 Hz	
I_{FSM}	Surge forward current	kA	4.5	$T_j = T_{j\max}$ $T_j = 25\text{ }^\circ\text{C}$	180° half-sine wave; $t_p = 10\text{ ms}$; single pulse; $V_R = 0\text{ V}$;
			5.5		
I^2t	Safety factor	$A^2s \cdot 10^3$	100	$T_j = T_{j\max}$ $T_j = 25\text{ }^\circ\text{C}$	180° half-sine wave; $t_p = 10\text{ ms}$; single pulse; $V_R = 0\text{ V}$;
			150		
			80	$T_j = T_{j\max}$ $T_j = 25\text{ }^\circ\text{C}$	180° half-sine wave; $t_p = 8.3\text{ ms}$; single pulse; $V_R = 0\text{ V}$;
			120		
BLOCKING					
V_{RRM}	Repetitive peak reverse voltages	V	3000÷3600	$T_{j\min} < T_j < T_{j\max}$; 180° half-sine wave; 50 Hz;	
V_{RSM}	Non-repetitive peak reverse voltages	V	3100÷3700	$T_{j\min} < T_j < T_{j\max}$; 180° half-sine wave; single pulse;	
V_R	Reverse continuous voltages	V	$0.6 \cdot V_{RRM}$	$T_j = T_{j\max}$;	
THERMAL					
T_{stg}	Storage temperature	°C	- 40 ÷ 50		
T_j	Operating junction temperature	°C	- 40 ÷ 150		
$T_{c\text{ op}}$	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	2.00	$T_j = 25\text{ }^\circ\text{C}$; $I_{FM} = 500\text{ A}$	
$V_{F(TO)}$	Forward threshold voltage, max	V	0.93	$T_j = T_{j\max}$;	
r_T	Forward slope resistance, max	$m\Omega$	2.000	$0.5 \pi I_{FAV} < I_T < 1.5 \pi I_{FAV}$	
BLOCKING					
I_{RRM}	Repetitive peak reverse current, max	mA	50	$T_j = T_{j\max}$; $V_R = V_{RRM}$	
THERMAL					
R_{thjc}	Thermal resistance, junction to case				
	per module	°C/W	0.0950	180° half-sine wave, 50 Hz	
	per arm	°C/W	0.1900		
	per module	°C/W	0.0900	DC	
per arm	°C/W	0.1800			
R_{thch}	Thermal resistance, case to heatsink				
	per module	°C/W	0.0300		
	per arm	°C/W	0.0600		
INSULATION					
V_{ISOL}	Insulation test voltage	kV	3.00	Sine wave, 50 Hz; RMS	$t = 60\text{ sec}$
			3.60		$t = 1\text{ sec}$
MECHANICAL					
M_1	Mounting torque (M6) ¹⁾	Nm	6.00	Tolerance $\pm 15\%$	
M_2	Terminal connection torque (M6) ¹⁾	Nm	6.00	Tolerance $\pm 15\%$	
w	Weight, max	g	350		

PART NUMBERING GUIDE						NOTES				
MD	3	-	160	-	36	-	F	-	N	¹⁾ The screws must be lubricated
1	2		3		4		5		6	
1. MD - Rectifier Diode 2. Circuit Schematic 3. Average Forward Current, A 4. Voltage Code 5. Package Type (M.F) 6. Ambient Conditions: N – Normal										
		UL certified file-No. E255404								

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