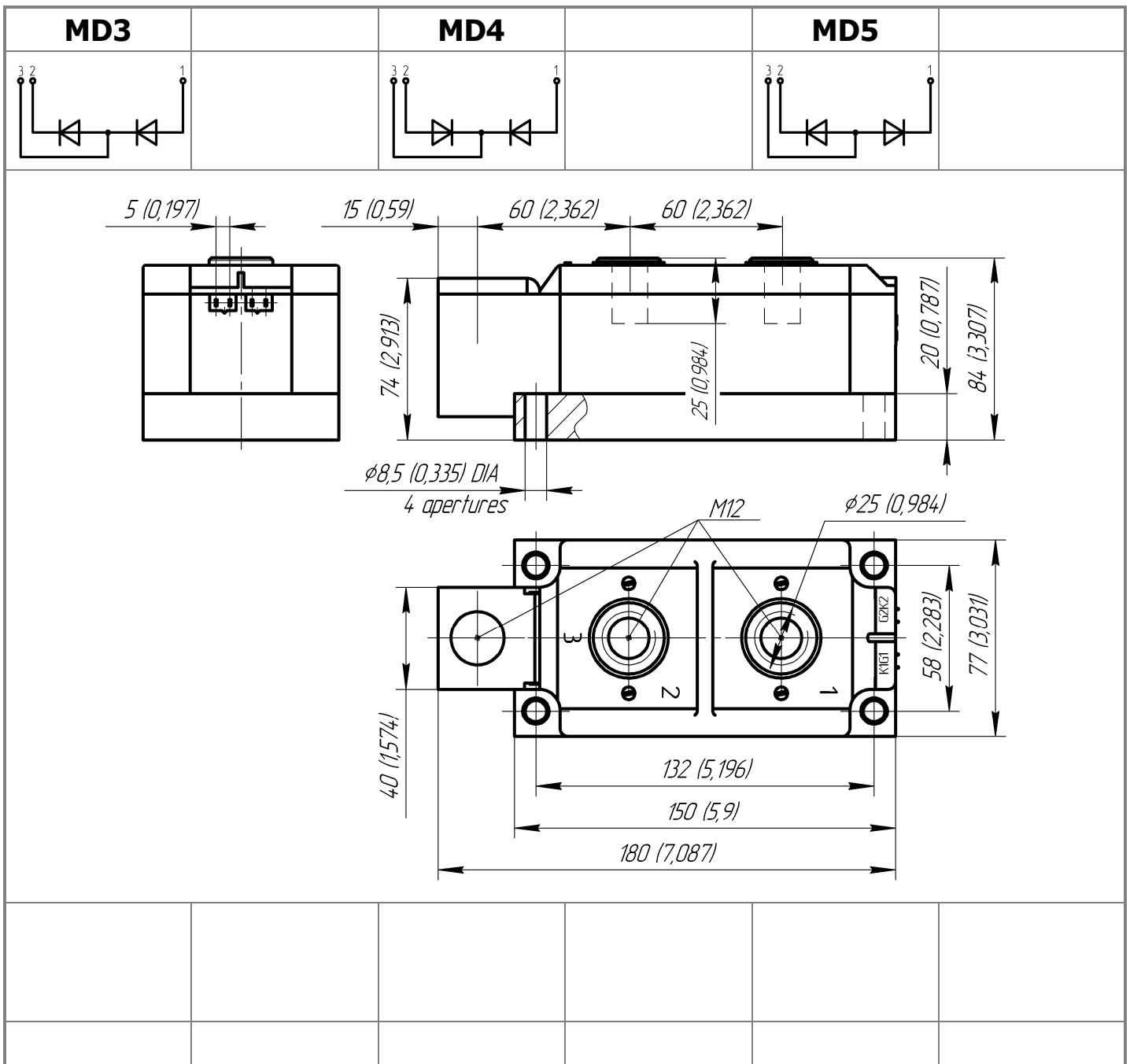




Double Diode Module
For Phase Control
MDx-800-44-D

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

Average forward current		I_{FAV}		800 A	
Repetitive peak reverse voltage		V_{RRM}		3800 ÷ 4400 V	
V_{RRM}, V	3800	4000	4200	4400	
Voltage code	38	40	42	44	
$T_{jv}, ^\circ C$	- 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	800 665	$T_c = 85\text{ }^\circ\text{C}$; $T_c = 100\text{ }^\circ\text{C}$; 180° half-sine wave; 50 Hz
I_{FRMS}	RMS forward current	A	1256	$T_c = 85\text{ }^\circ\text{C}$; 180° half-sine wave; 50 Hz
I_{FSM}	Surge forward current	kA	23.0 26.0	$T_j = T_{j\max}$ $T_j = 25\text{ }^\circ\text{C}$ 180° half-sine wave; 50 Hz ($t_p = 10\text{ ms}$); single pulse; $V_R = 0\text{ V}$;
			25.0 29.0	$T_j = T_{j\max}$ $T_j = 25\text{ }^\circ\text{C}$ 180° half-sine wave; 60 Hz ($t_p = 8.3\text{ ms}$); single pulse; $V_R = 0\text{ V}$;
I^2t	Safety factor	$A^2s \cdot 10^3$	2645 3380	$T_j = T_{j\max}$ $T_j = 25\text{ }^\circ\text{C}$ 180° half-sine wave; 50 Hz ($t_p = 10\text{ ms}$); single pulse; $V_R = 0\text{ V}$;
			2590 3490	$T_j = T_{j\max}$ $T_j = 25\text{ }^\circ\text{C}$ 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	$T_{j\min} < T_j < T_{j\max}$; 180° half-sine wave; 50 Hz;
V_{RSM}	Non-repetitive peak reverse voltages	V	3900÷4500	$T_{j\min} < T_j < T_{j\max}$; 180° half-sine wave; 50 Hz; single pulse;
V_R	Reverse continuous voltages	V	$0.75 \cdot V_{RRM}$	$T_j = T_{j\max}$;
THERMAL				
T_{stg}	Storage temperature	°C	- 40 ÷ 125	
T_j	Operating junction temperature	°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	1.77	$T_j = 25\text{ }^\circ\text{C}$; $I_{FM} = 2512\text{ A}$
$V_{F(TO)}$	Forward threshold voltage, max	V	0.90	$T_j = T_{j\max}$;
r_T	Forward slope resistance, max	$m\Omega$	0.370	$0.5 \pi I_{FAV} < I_T < 1.5 \pi I_{FAV}$
BLOCKING				
I_{RRM}	Repetitive peak reverse current, max	mA	100	$T_j = T_{j\max}$; $V_R = V_{RRM}$
THERMAL				
R_{thjc}	Thermal resistance, junction to case			180° half-sine wave, 50 Hz
	per module	°C/W	0.0250	
	per arm	°C/W	0.0500	
R_{thch}	Thermal resistance, case to heatsink			
	per module	°C/W	0.0080	
	per arm	°C/W	0.0160	
INSULATION				
V_{ISOL}	Insulation test voltage	kV	3.00	Sine wave, 50 Hz; $t = 1\text{ min}$
			3.60	RMS $t = 1\text{ sec}$
MECHANICAL				
M_1	Mounting torque (M8) ¹⁾	Nm	9.00	Tolerance $\pm 15\%$
M_2	Terminal connection torque (M12) ¹⁾	Nm	18.00	Tolerance $\pm 10\%$
w	Weight	g	3500	

PART NUMBERING GUIDE						NOTES			
MD	3	-	800	-	44	-	D	-	N
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.D) 6. Ambient Conditions: N – Normal									
						1) The screws must be lubricated			