



JMD120TD18D1W

Three Phase Rectifier Bridge Module

Features

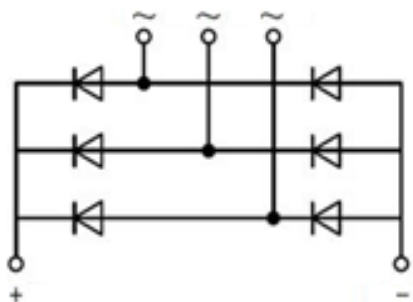
- Low forward voltage and leakage current
- Low inductance package
- High surge current capability

Product Summary

Parameter	Value	Unit
V_{RRM}	1800	V
I_D	120	A
$I_{FSM}(@ t_p = 10ms)$	1300	A
$V_F(Max)$	1.35	V

Applications

- Field supply for DC motors
- Line rectifiers for transistorized AC motor controllers
- Non-controllable rectifiers for AC/DC converter



Absolute Maximum Ratings (@ $T_c = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Conditions	Symbol	Values	Unit
Repetitive peak reverse voltage		V_{RRM}	1800	V
Non-repetitive peak reverse voltage		V_{RSM}	1900	V
Output current	$T_c = 100^\circ\text{C}$	I_D	120	A
Forward surge current	1/2 cycle, Sine wave, 50Hz $T_{vj} = 25^\circ\text{C}$	I_{FSM}	1300	A
I^2t value for fusing		I^2t	8450	A^2s
RMS isolation voltage	A.C 50Hz(1s/1min)	V_{ISO}	3600/3000	V
Junction temperature range		T_J	$-40 \sim +150$	$^\circ\text{C}$
Storage temperature range		T_{stg}	$-40 \sim +125$	$^\circ\text{C}$

**Electrical Characteristics (@ $T_C = 25^\circ\text{C}$ unless otherwise specified)**

Parameter	Conditions	Symbol	Values			Unit
			Min.	Typ.	Max.	
Forward voltage	$I_F = 120\text{A}$, $T_{vj} = 25^\circ\text{C}$	V_F			1.35	V
Reverse leakage current	$V_R = V_{RRM}$, $T_{vj} = 25^\circ\text{C}$	I_{RRM}			0.5	mA
	$V_R = V_{RRM}$, $T_{vj} = 150^\circ\text{C}$				10	mA
Threshold voltage	For power loss calculation only $T_{vj} = 150^\circ\text{C}$,	V_{TO}			0.80	V
Dynamic resistance		r_T			3.2	m Ω

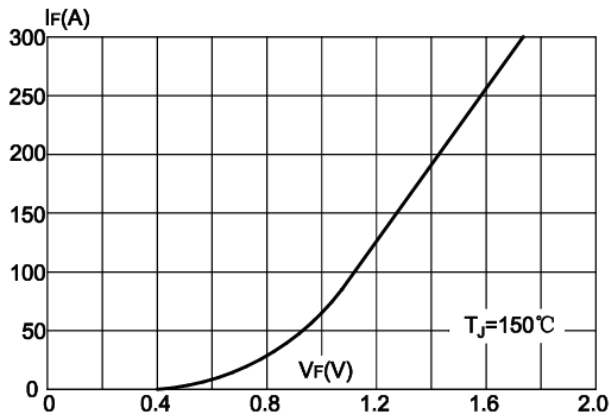
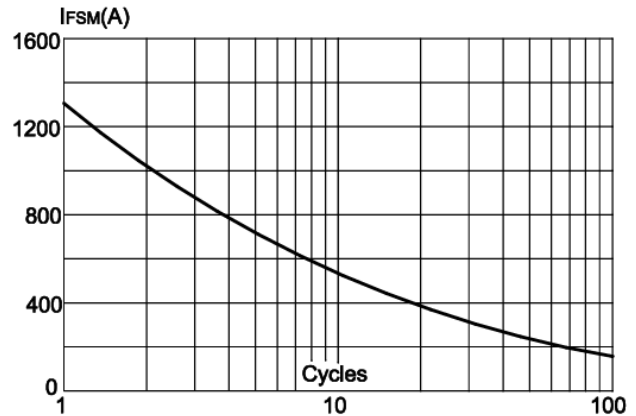
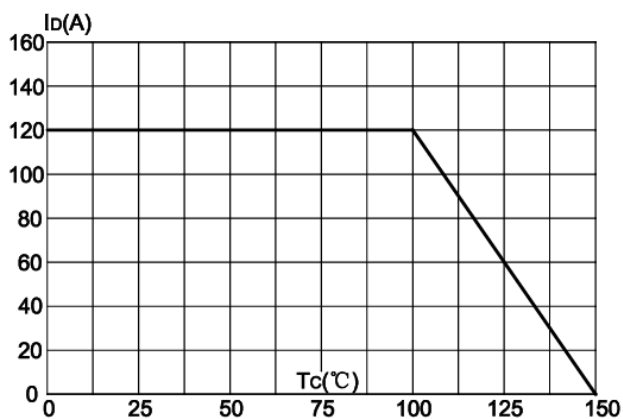
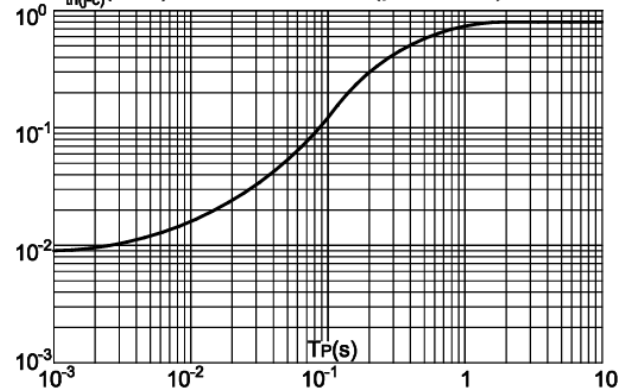
Thermal Characteristics (@ $T_C = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Conditions	Symbol	Values			Unit
			Min.	Typ.	Max.	
Thermal impedance (junction to case)	per diode	$R_{th(j-c)}$			0.8	K/W
Mounting torque	Base plate to heatsink screw M6	M	4.25		5.75	N·m
	Electrode to terminal screw M6		4.25		5.75	N·m

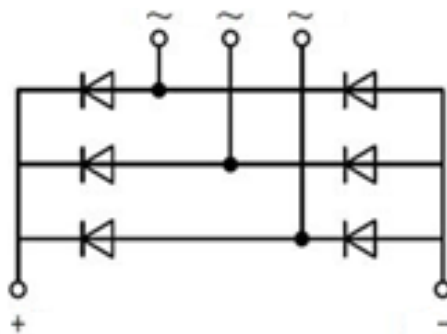
Ordering Information

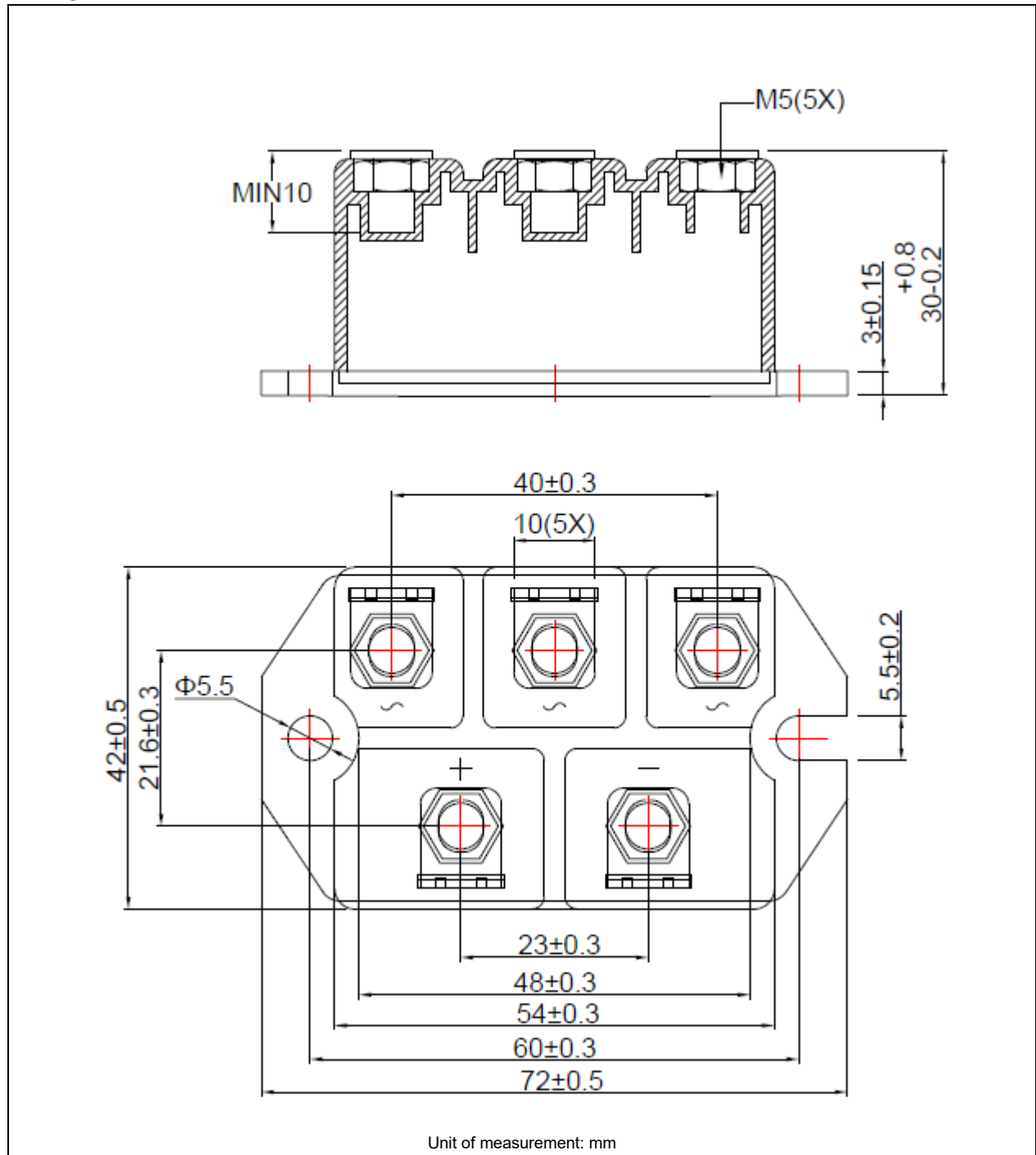
Device	Marking	Package	Weight	Inner Box	Per Carton
JMD120TD18D1W	JMD120TD18D1W	D1	132g/PCS	4PCS	48PCS

Typical Electrical & Thermal Characteristics

FIG.1: Forward characteristics(per diode)

FIG.2: Peak on-state surge current

FIG.3: Forward current vs. case temperature

FIG.4: Maximum transient thermal impedance
 $R_{th(j-c)}$ ($^\circ\text{C/W}$) Junction-to-case(per diode)


Circuit Diagram



Package Outlines (mm)




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