



JMD50TD16D0

Three Phase Rectifier Bridge Module

Features

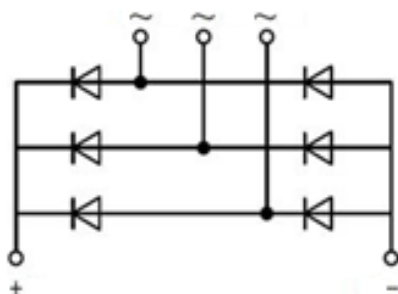
- Low forward voltage and leakage current
- Low inductance package
- High surge current capability

Product Summary

Parameter	Value	Unit
V_{RRM}	1600	V
$I_D(@T_C=100^{\circ}C)$	50	A
$I_{FSM}(@t_p=10ms)$	500	A
$V_{FM}(Max)$	1.40	V

Applications

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



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

Parameter	Conditions	Symbol	Values	Unit
Repetitive peak reverse voltage	$T_{vj} = 25^{\circ}C$	V_{RRM}	1600	V
Non-repetitive peak reverse voltage	$T_{vj} = 25^{\circ}C$	V_{RSM}	1700	V
Average forward current	$T_C = 100^{\circ}C$	I_D	50	A
Forward surge current	1/2 cycle, Sine wave, 50Hz $T_{vj} = 25^{\circ}C$	I_{FSM}	500	A
I^2t value for fusing		I^2t	1250	A^2s
RMS isolation voltage	A.C 50Hz(1s/1min)	V_{ISO}	3600/3000	V
Junction temperature range		T_{vj}	-40 ~ +150	$^{\circ}C$
Storage temperature range		T_{stg}	-40 ~ +125	$^{\circ}C$

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

Parameter	Conditions	Symbol	Values			Unit
			Min.	Typ.	Max.	
Peak forward voltage	$I_F=50\text{A}$, $t_P=380\mu\text{s}$	V_{FM}		1.20	1.40	V
Reverse leakage current	$V_R = V_{RRM}$, $T_{vj} = 25^\circ\text{C}$	I_{RRM}			0.2	mA
	$V_R = V_{RRM}$, $T_{vj} = 150^\circ\text{C}$				3	mA
Threshold voltage	$T_{vj} = 150^\circ\text{C}$, for power loss calculation only	V_{TO}			0.95	V
Dynamic resistance		r_T			7.0	m Ω

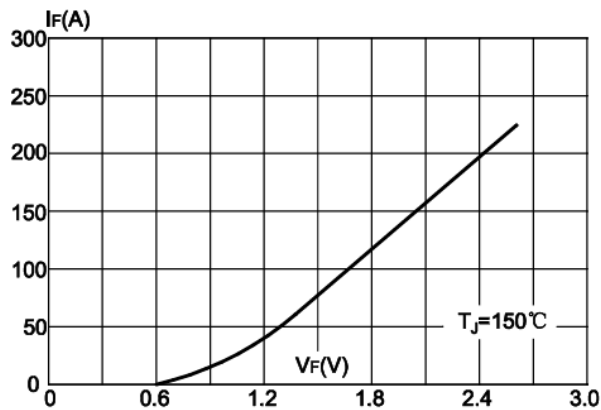
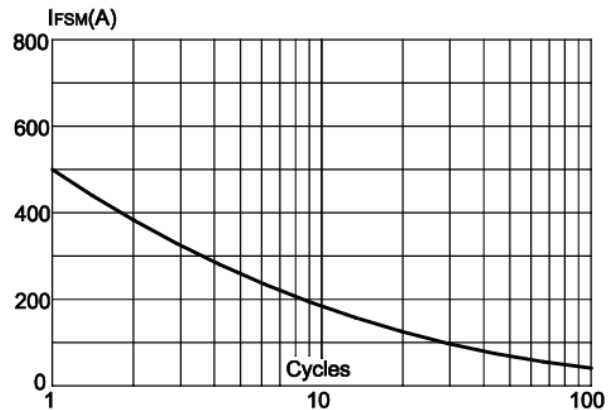
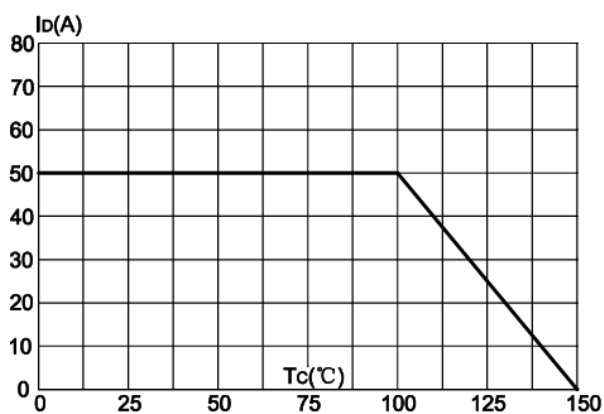
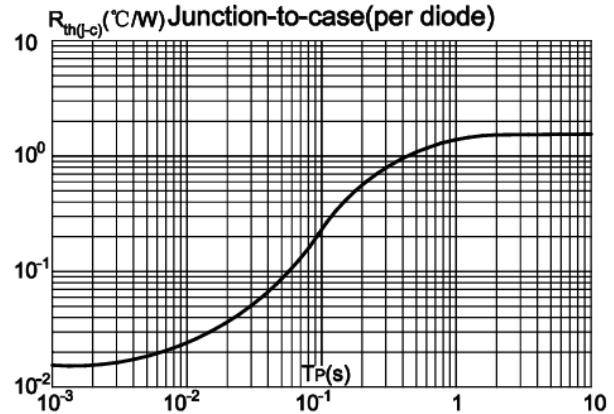
Thermal Characteristics (@ $T_C = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Conditions	Symbol	Values			Unit
			Min.	Typ.	Max.	
Thermal resistance, junction to case	per diode	$R_{th(j-c)}$			1.5	K/W
Thermal resistance, case to heatsink	per module	$R_{th(c-s)}$			0.2	K/W
Mounting torque	Module and heatsink fixed torque	M	2.5		3.5	N·m

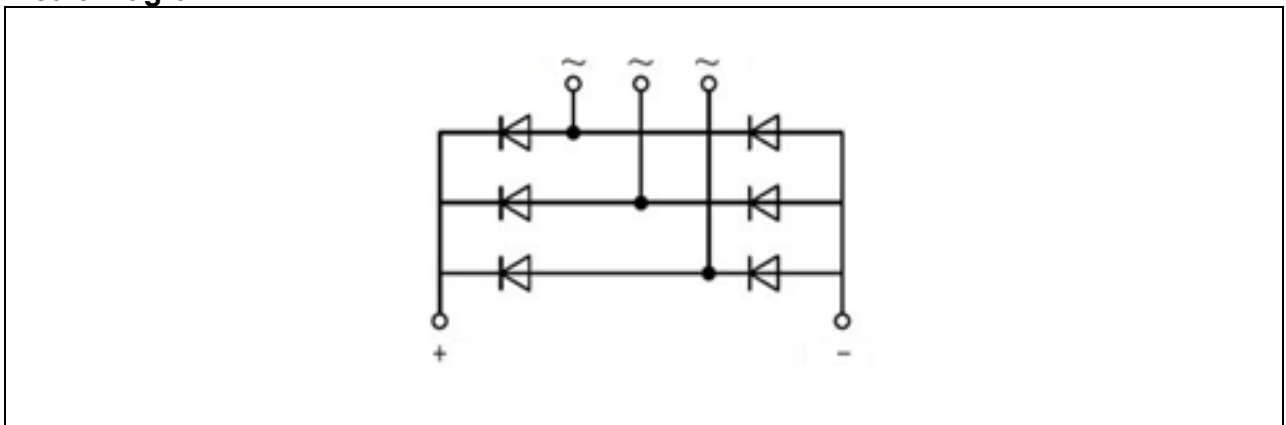
Ordering Information

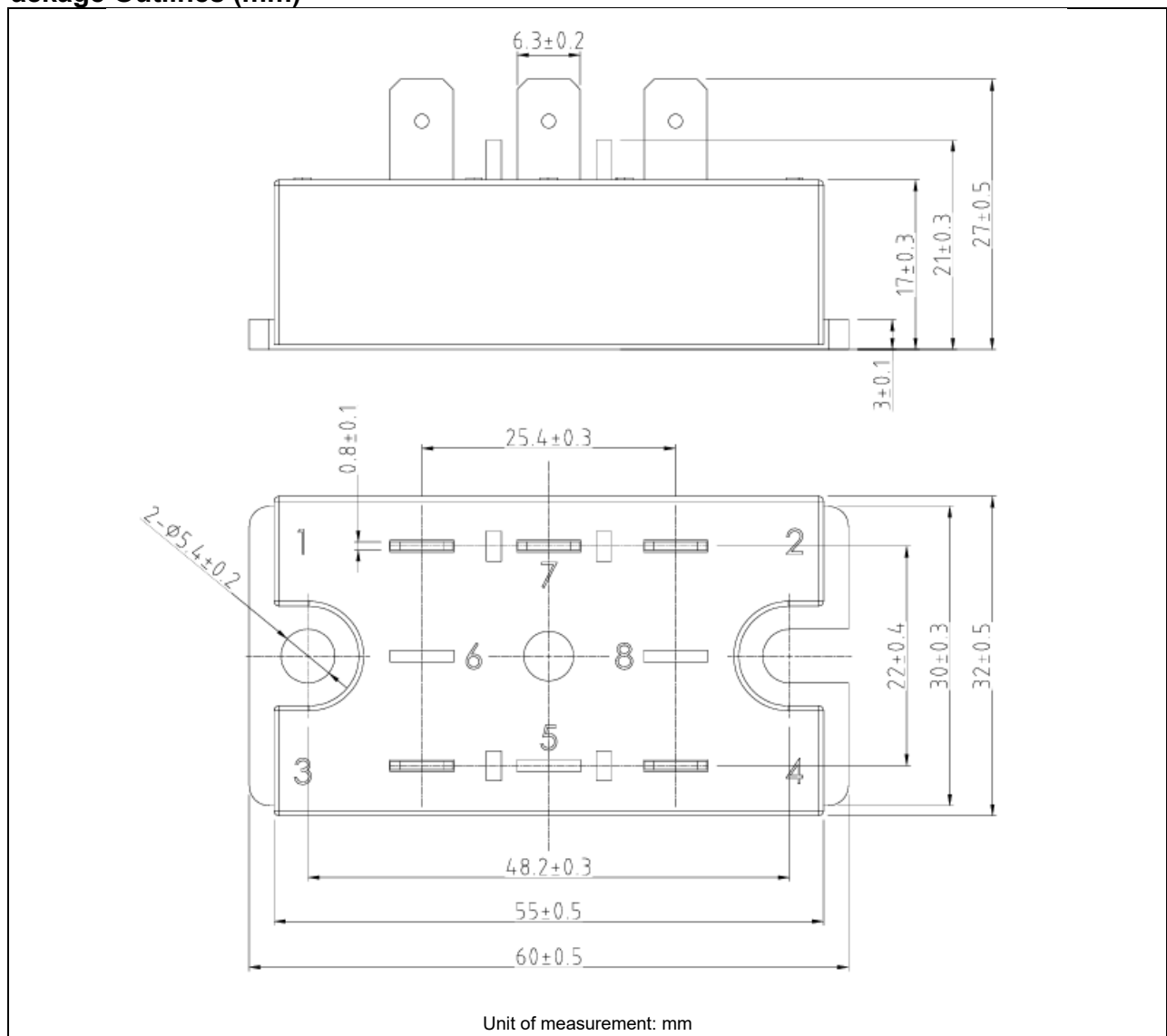
Device	Marking	Package	Weight	Inner Box	Per Carton
JMD50TD16D0	JMD50TD16D0	D0	78g/PCS	28PCS	140PCS

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


Circuit Diagram



Package Outlines (mm)




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