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Low forward voltage and leakage current

Low inductance package

High surge current capability

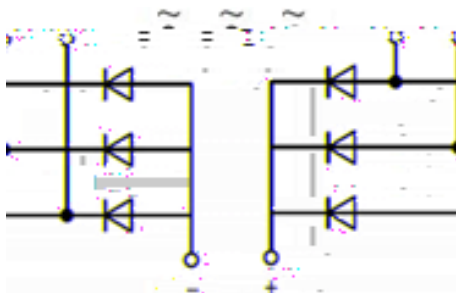
V_{RRM}	1800	V
$I_D(@ T_C = 100^\circ\text{C})$	50	A
$I_{FSM}(@ t_p = 10\text{ms})$	500	A
$V_{FM}(\text{Max})$	1.40	V

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Field supply for DC motors

Line rectifiers for transistorized AC motor controllers

Non-controllable rectifiers for AC/DC converter



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

Repetitive peak reverse voltage	$T_{vj} = 25^\circ\text{C}$	V_{RRM}	1800	V
Non-repetitive peak reverse voltage	$T_{vj} = 25^\circ\text{C}$	V_{RSM}	1900	V
Average forward current	$T_C = 100^\circ\text{C}$	I_D	50	A
Forward surge current	1/2 cycle, Sine wave, 50Hz $T_{vj} = 25$	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	
Storage temperature range		T_{stg}	-40 ~ +125	



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

Peak forward voltage	$I_F=50\text{A}$, $t_P=380$	V_{FM}		1.20	1.40	V
Reverse leakage current	$V_R = V_{RRM}$, $T_{vj} = 25$	I_{RRM}			0.3	mA
	$V_R = V_{RRM}$, $T_{vj} = 150$				5	mA
Threshold voltage	$T_{vj} = 150$, for power loss calculation only	V_{TO}			0.92	V
Dynamic resistance		r_T			4.6	

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

Thermal resistance, junction to case	per diode	$R_{th(j-c)}$			1.45	K/W
Thermal resistance, case to heatsink	per module	$R_{th(c-s)}$			0.07	K/W
Mounting torque	Module and heatsink fixed torque M5	M	4.25		5.75	N·m
	Electrode to terminal screw M5	M	4.25		5.75	N·m

				"	
JMD50TD18D3	JMD50TD18D3	D3	146g/PCS	10PCS	90PCS

FIG.1: Forward characteristics(per diode)

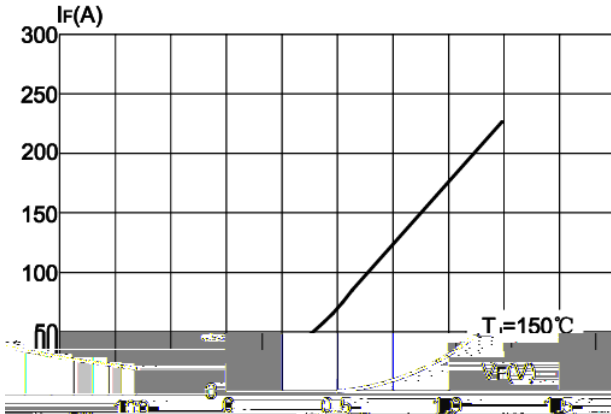


FIG.2: Peak on-state surge current

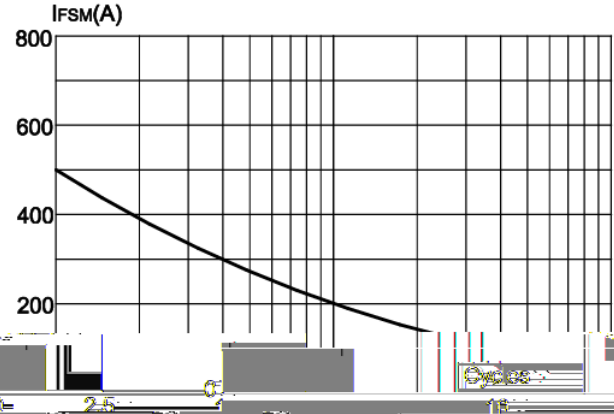


FIG.3: Forward current vs. case temperature

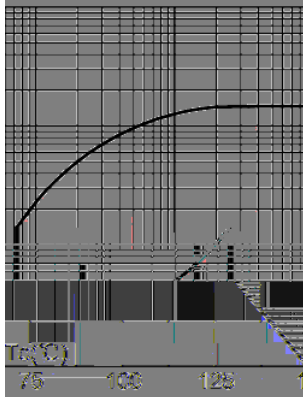


FIG.4: Maximum transient thermal impedance

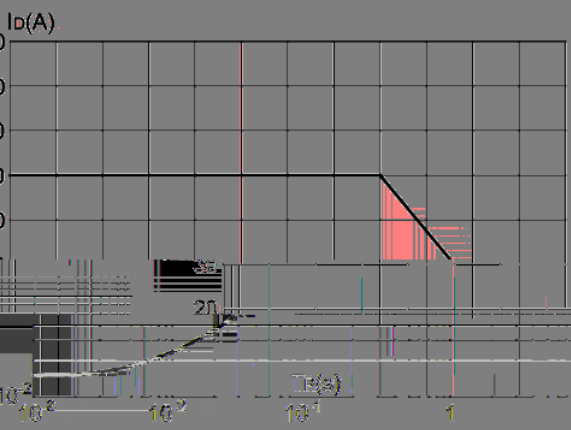
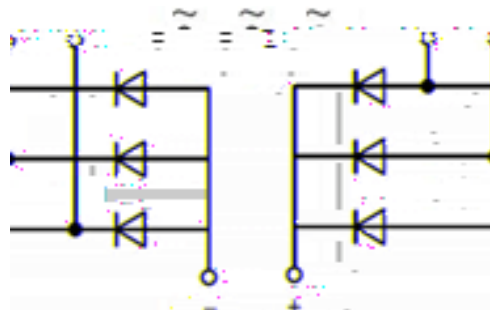
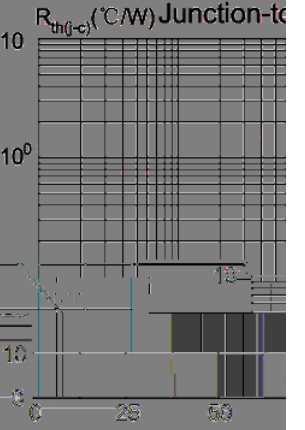
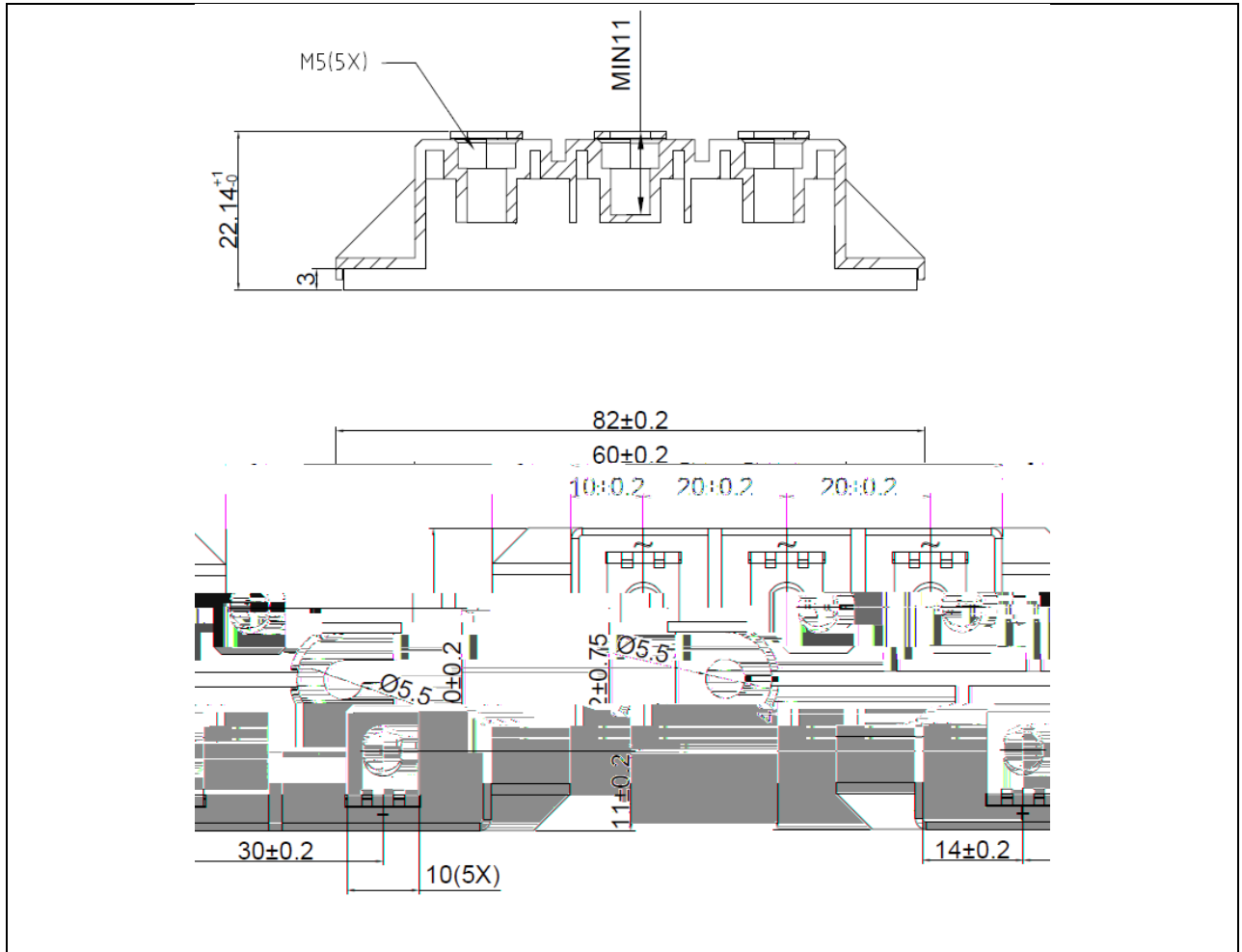


FIG.5: Maximum transient thermal impedance







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