



SBD Modules

Features

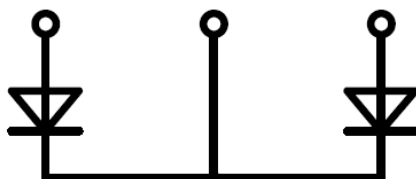
- Dual Diode Construction; May be Paralleled for High Current Output
- High surge current capability
- Designed and qualified for industrial level
- Low forward voltage
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Applications

- Inversion welder
- Uninterruptible power supply and plating power supply
- Ultrasonic cleaner and welder
- Converter and chopper

Product Summary

Parameter	Value	Unit
V_{RRM}	100	V
$I_{F(AV)}$	2X200	A
$I_{FSM}(@ t_p = 10ms)$	3000	A
$V_F(Max)$	0.90	V



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

Parameter	Conditions	Symbol	Values	Unit
Repetitive peak reverse voltage	$T_{vj} = 25^\circ\text{C}$	V_{RRM}	100	V
Average on-state current	$T_C = 100^\circ\text{C}$, per diode	$I_{F(AV)}$	200	A
	$T_C = 100^\circ\text{C}$, per module		400	
Forward surge current	Sine wave, $t_p=10\text{mS}$, $T_{vj}=45^\circ\text{C}$, per diode	I_{FSM}	3000	A
I^2t Value for fusing		I^2t	45000	A^2s
Junction temperature range		T_{vj}	-40 - 150	$^\circ\text{C}$
Storage temperature range		T_{stg}	-40 - 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	$I_F = 200\text{A}$, $T_{vj} = 25^\circ\text{C}$	V_F		0.85	0.90	V
	$I_F = 200\text{A}$, $T_{vj} = 125^\circ\text{C}$			0.75	0.80	
Maximum reverse leakage current	$V_R = V_{RRM}$, $T_{vj} = 25^\circ\text{C}$	I_{RRM}			0.5	mA
	$V_R = V_{RRM}$, $T_{vj} = 125^\circ\text{C}$				5	

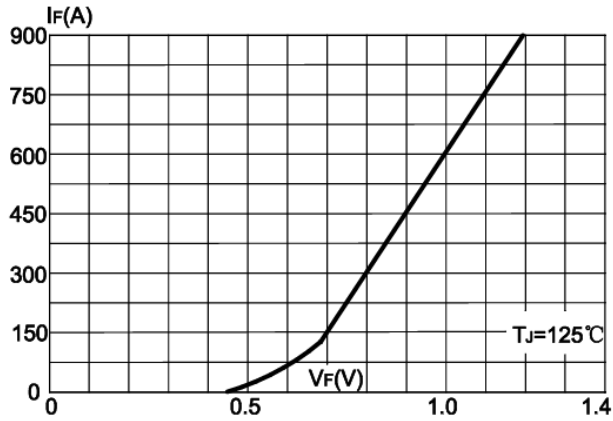
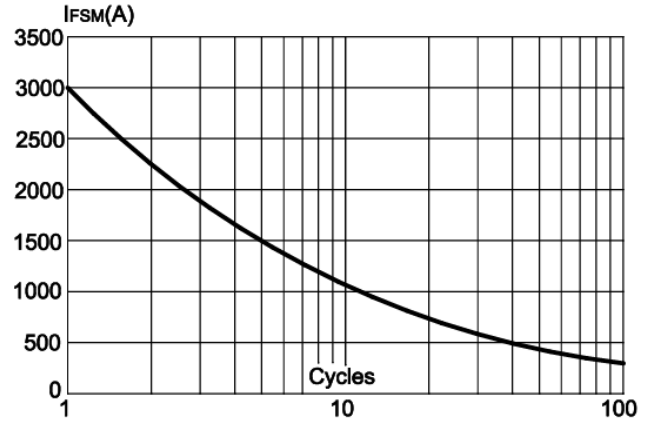
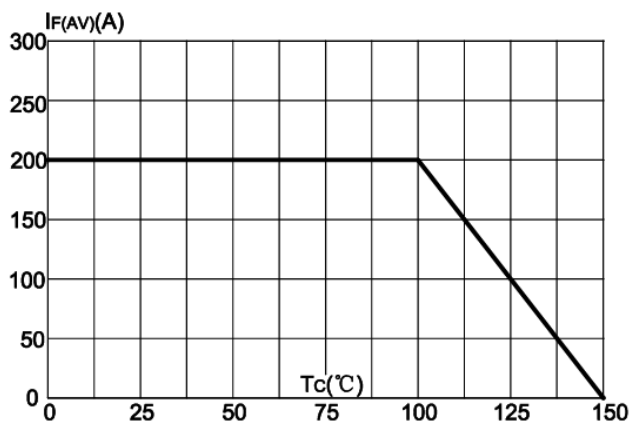
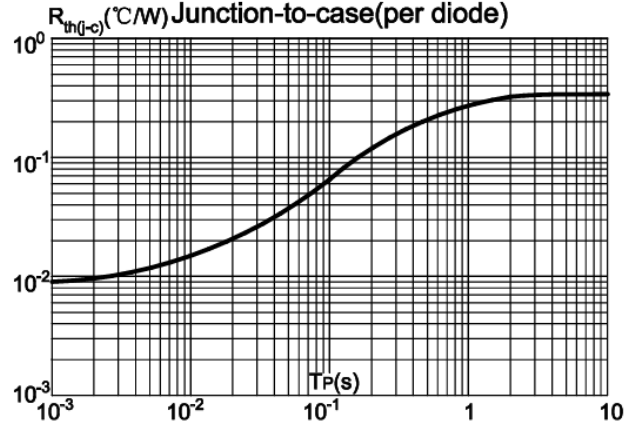
Thermal Characteristics (@ $T_C = 25^\circ\text{C}$ unless otherwise specified)

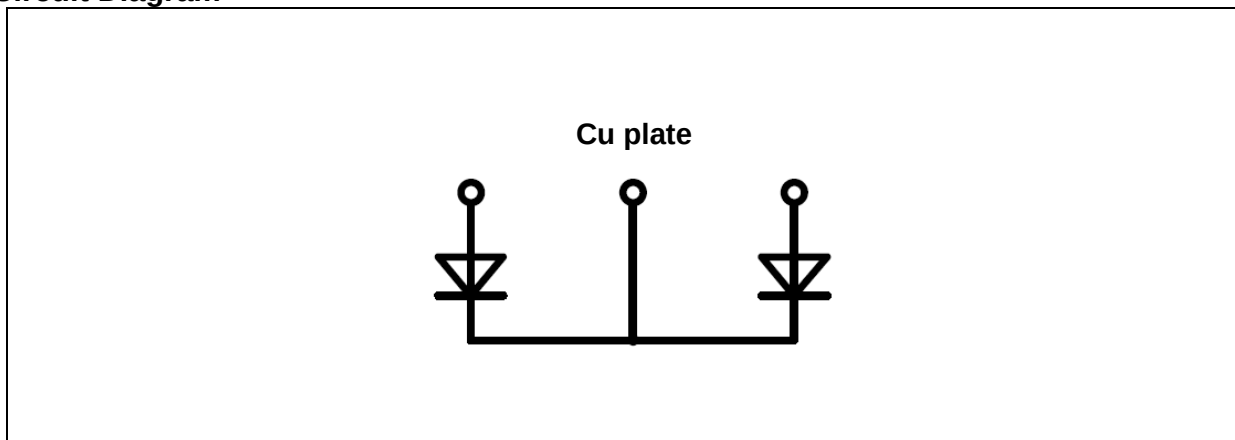
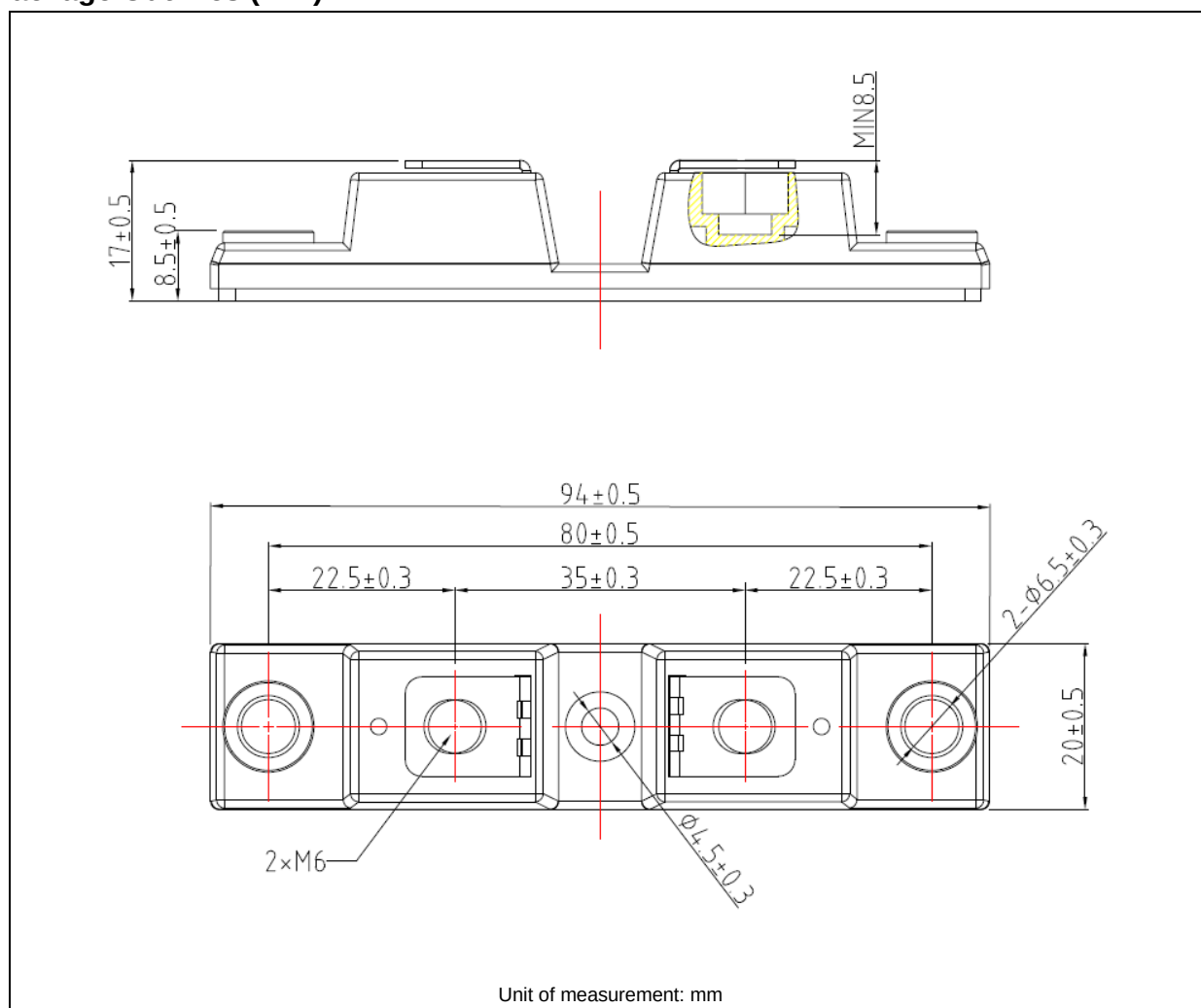
Parameter	Conditions	Symbol	Values			Unit
			Min.	Typ.	Max.	
Thermal resistance, junction to case	per diode	$R_{th(j-c)}$			0.32	K/W
Thermal resistance, junction to case	per module	$R_{th(j-c)}$			0.05	K/W
Mounting torque	Base plate to heatsink screw M6	M	3.0		4.7	N·m
	Electrode to terminal screw M6		3.0		4.7	N·m

Ordering Information

Device	Marking	Package	Weight	Inner Box	Per Carton
JMS400MD01F1U	JMS400MD01F1U	F1	$70 \pm 5\text{g/PCS}$	14PCS	126PCS

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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