



Diode Modules

Features

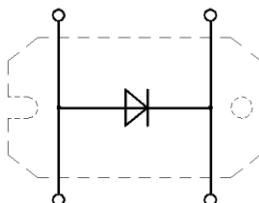
- Low forward voltage drop
- Fully insulated package
- Easy to use and parallel
- Industry standard outline
- Designed and qualified for industrial level

Product Summary

Parameter	Value	Unit
V_{RRM}	1800	V
$I_{F(AV)}$	150	A
$I_{FSM}(@ t_p = 10ms)$	2500	A
$V_F(Max)$	1.25	V

Applications

- Welding
- SMPS



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}	1800	V
Non-repetitive peak reverse voltage	$T_{vj} = 25^\circ\text{C}$	V_{RSM}	1900	V
Average on-state current	$T_C = 50^\circ\text{C}$, per diode	$I_{F(AV)}$	150	A
Forward surge current	1/2 cycle, Sine wave, 50Hz $T_{vj} = 25^\circ\text{C}$	I_{FSM}	2500	A
I^2t Value for fusing		I^2t	88200	A^2s
RMS isolation voltage	A.C 50Hz(1s/1min)	V_{ISO}	3000/2500	V
Junction temperature range		T_J	-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	$I_F = 150\text{A}$, $T_{vj} = 25^\circ\text{C}$	V_F		1.10	1.25	V
Reverse leakage current	$V_R = V_{RRM}$, $T_{vj} = 25^\circ\text{C}$	I_R			200	μA
	$V_R = V_{RRM}$, $T_{vj} = 150^\circ\text{C}$				10	mA

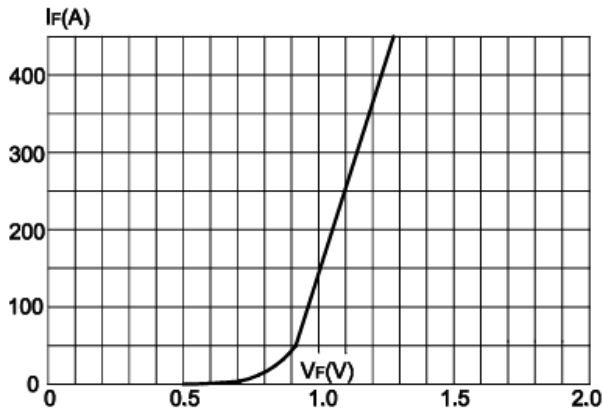
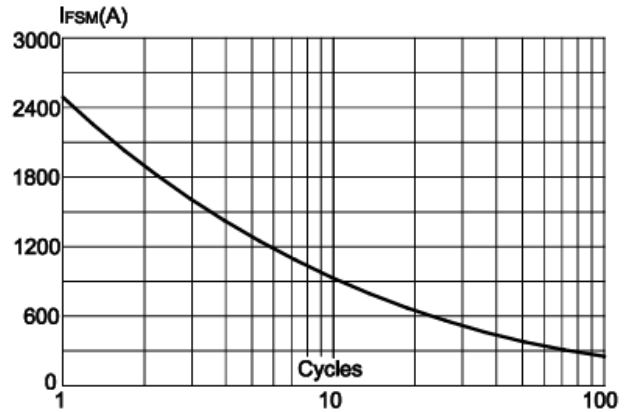
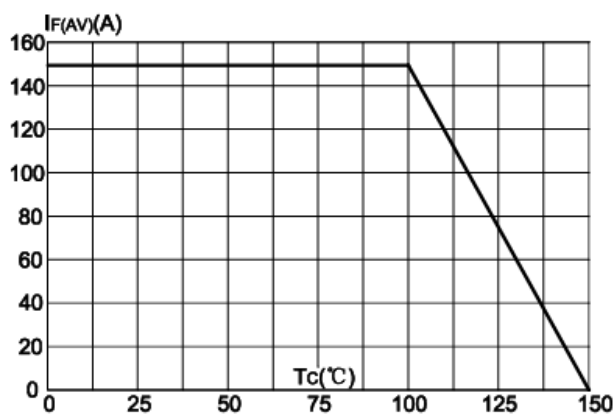
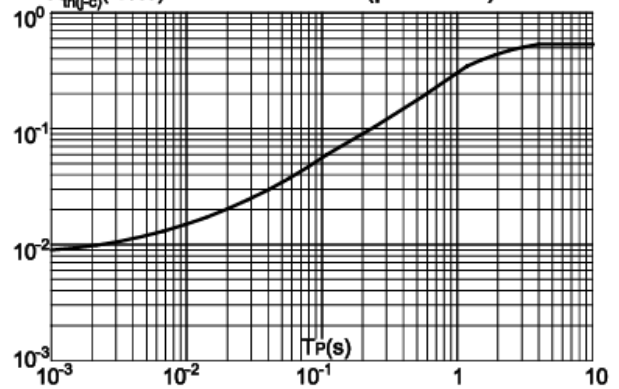
Thermal Characteristics (@ $T_C = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Conditions	Symbol	Values			Unit
			Min.	Typ.	Max.	
Thermal resistance, junction to case	per diode	$R_{th(j-c)}$			0.55	K/W
Thermal resistance, case to heatsink	per module	$R_{th(c-s)}$		0.12		K/W
Mounting torque	Base plate to heatsink screw M4	M	1.0		1.5	N·m
	Electrode to terminal screw M4		1.0		1.3	N·m

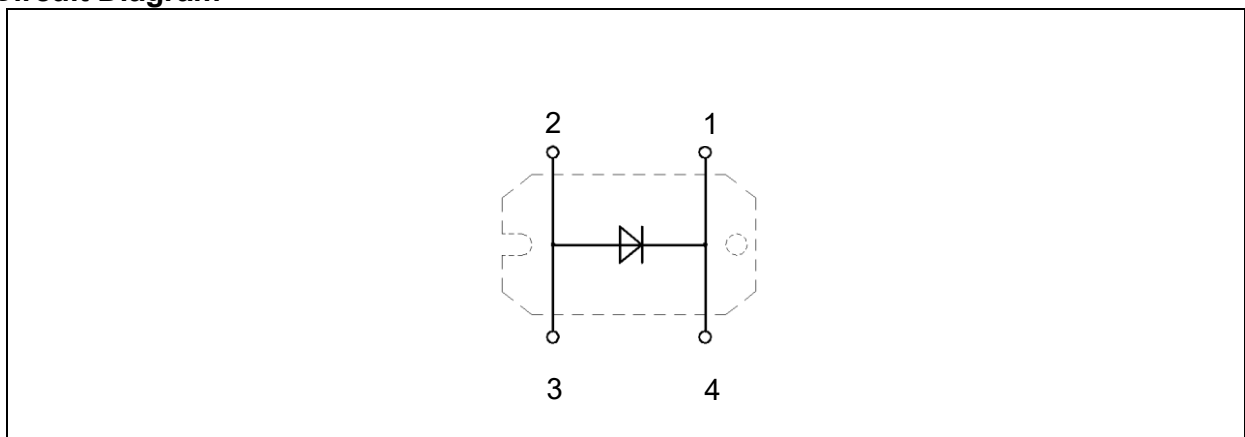
Ordering Information

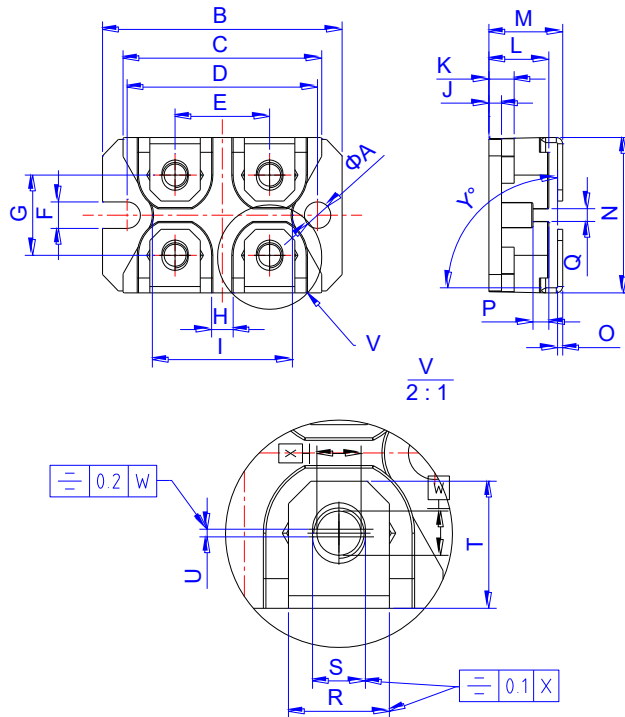
Device	Marking	Package	Weight	Inner Box	Per Carton
JMD150KE18ST	JMD150KE18ST	ST	29g/PCS	80 PCS	160 PCS

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
 $R_{th(j-c)}$ (°C/W) Junction-to-case(per diode)


Circuit Diagram



Package Outlines (mm)


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.1	4.2	4.4	0.161	0.165	0.173
B	38.0	38.2	38.4	1.496	1.504	1.512
C	31.1	31.5	31.9	1.224	1.240	1.256
D	30.1	30.2	30.3	1.185	1.189	1.193
E	14.8	15.0	15.2	0.583	0.591	0.598
F	4.1	4.2	4.4	0.161	0.165	0.173
G	12.3	12.5	12.7	0.484	0.492	0.500
H		4.2			0.165	
I		21.6			0.850	
J		2			0.079	
K		4.05			0.159	
L		9.5			0.374	
M	11.6	11.9	12.2	0.457	0.469	0.480
N	24.7	25.1	25.5	0.972	0.988	1.004
O		0.8			0.031	
P		2.6			0.102	
Q		1.7			0.067	
R		8			0.315	
S	4.1	4.2	4.4	0.161	0.165	0.173
T		10.7			0.421	
U		1			0.039	
Y	89°	90°	91°	89°	90°	91°

Technical requirements:

- 1.Unmarked tolerances of dimension are performed in accordance with GB/T 1804-2000 Level C
- 2.Unmarked tolerances of form and position are performed in accordance with GB/T 1184-1996 Level L

Unit of measurement: mm



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