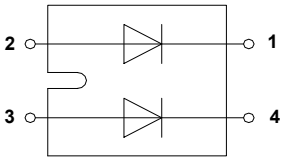
Rectifier Diode Module

Rev.1.6 Oct.22 2024

JU100K2/06

SOT-227



Symbol

Description

1) Low forward voltage drop
2) Two fully independent diodes
3) Fully insulated package
4) Easy to use and parallel
5) Industry standard outline
6) Designed and qualified for industrial level

Typical Application

Optimized for power conversion: welding and industrial SMPS applications

Absolute Maximum Ratings(Packaged into SOT-227, unless otherwise specified, T_{CASE}=25℃)

Parameter	Test Conditions	Symbol	Values	Unit
Junction temperature range		T_J	-40-150	℃
Storage temperature range		T_{STG}	-40-150	℃
Repetitive peak reverse voltage	T_J=25℃	V_{RRM}	600	V
Non-repetitive peak reverse voltage	T_J=25℃	V_{RSM}	600	V
Average forward current	T_C=50℃, per diode	$I_{F(AV)}$	100	A
Peak on-state surge current	t_P=10ms,sin 180°,T_J=25℃	I_{FSM}	1000	A
I^2t value	t_P=10ms,sin 180°,T_J=25℃	I^2t	5000	A^2s
Maximum reverse recovery current	I_F=50A,V_R=400V, -di/dt=200A/μs,T_j=25℃	I_{RM}	10	A
	I_F=50A,V_R=400V, di/dt=200A/μs,T_j=125℃		18	
Maximum reverse recovery time	I_F=1A,V_R=30V, -di/dt=100A/μs,T_j=25℃	t_{rr}	42	ns
	I_F=50A,V_R=400V, -di/dt=200A/μs,T_j=25℃		75	
	I_F=50A,V_R=400V, -di/dt=200A/μs,T_j=125℃		120	
Maximum recovered charge	I_F=50A,V_R=400V, -di/dt=200A/μs,T_j=25℃	Q_{rr}	400	nC
	I_F=50A,V_R=400V, -di/dt=200A/μs,T_j=125℃		1100	
Isolation voltage	A.C 50Hz(1s/1min)	V_{ISO}	3000/2500	V

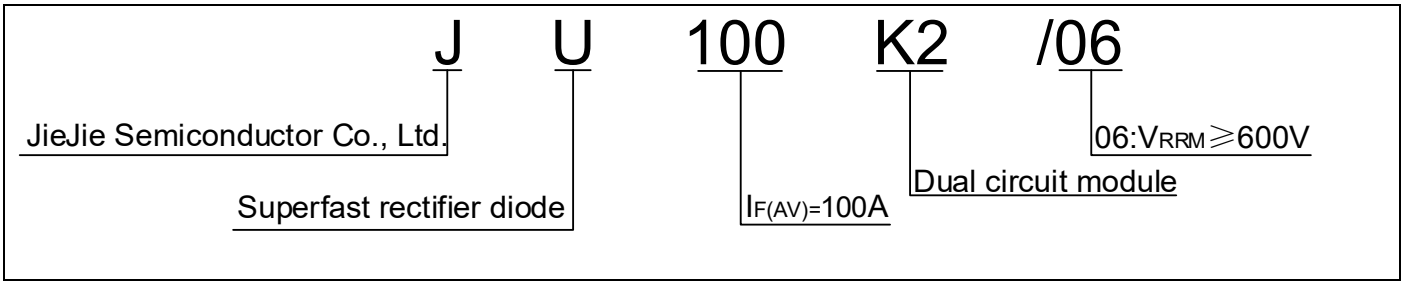
Electrical Characteristics(Packaged into SOT-227, unless otherwise specified, T_{CASE}=25℃)

Parameter	Test Conditions	Symbol	Values			Unit
			Min.	Typ.	Max.	
Forward voltage	I_F=100A ,T_J=25℃	V_F	-	-	1.8	V
Reverse leakage current	V_R=V_{RRM}, T_J=25℃	I_R	-	-	0.01	mA
	V_R=V_{RRM}, T_J=150℃		-	-	1	mA

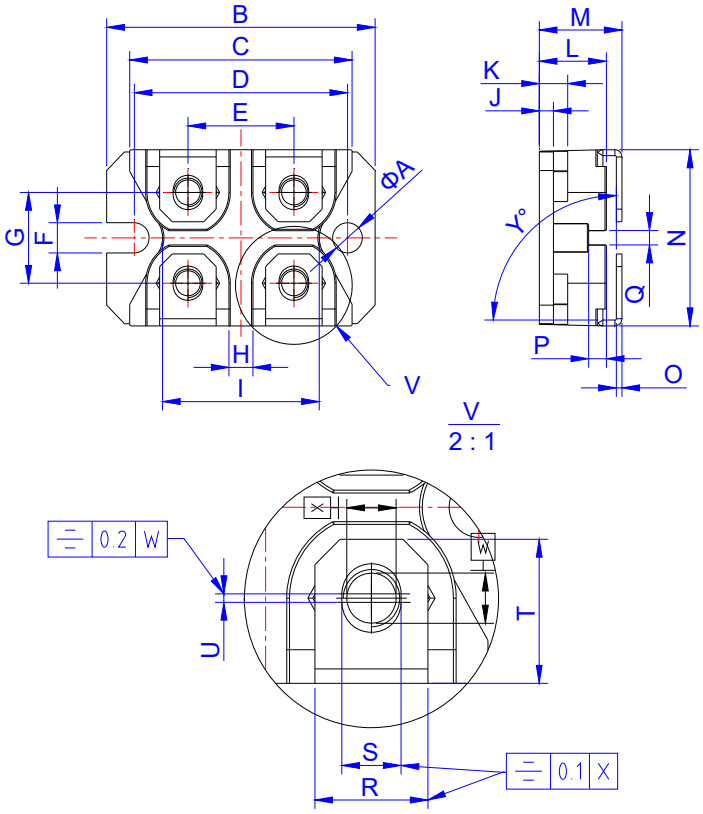
Thermal Characteristics(Packaged into SOT-227, unless otherwise specified, T_{CASE}=25℃)

Parameter	Test Conditions	Symbol	Values			Unit
			Min.	Typ.	Max.	
Junction to case(per diode)		$R_{th(j-c)}$	-	-	0.5	℃/W
Case to heatsink		$R_{th(c-s)}$	-	0.125	-	
Weight			-	35	-	g
Mounting torque	Base plate to heatsink screw M4	M	1.0	-	1.5	N·m
	Electrode to terminal screw M4		1.0	-	1.5	N·m
Case style			SOT-227			

Ordering Information



Mechanical Characteristics



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

Package Information-SOT-227

OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON (PCS)
TUBE	8	80	160