SEMICONDUCTOR

JK1S/JK2S200-200

2×100A Power Schottky Rectifier

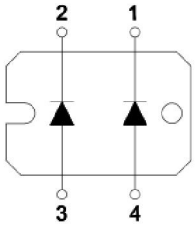
Features

- International standard package SOT-227
- Very low V_F
- Extremely low switching losses
- Low I_{RM}-values
- Copper internally DBC isolated
- Insulated package(V_{ISO} =2500V_{RMS})

I_{FAV}=2×100A

V_{RRM}=200 V

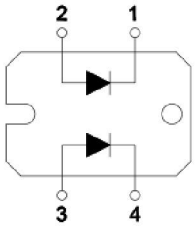
V_F=0.85V



K1

Applications

- Rectifiers in switch mode power Supplies(SMPS)
- Free wheeling diode in low voltage converters



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Advantages

- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Low losses

Maximum Ratings

Symbol	Test Conditions		Ratings	Units
I_{FRMS}			150	A
I_{FAVM}	T_C =105℃; Rectangular, d=0.5; per diode		100	
	T_C =105℃; Rectangular, d=0.5; per module		200	
I_{FSM}	T_{VJ} = 45℃; t_p = 10 ms (50 Hz), sine		1400	
$(dV/dt)_{cr}$			5000	V/us
T_{VJ}			-40~+150	℃
T_{stg}			-40~+150	
P_{tot}	T_C=25℃		310	W
M_d	Mounting torque(M4)		1.1~1.5	Nm
	Terminal connection torque(M4)		1.1~1.5	
Weight	Typical		30	g
V_{ISOL}	50/60H_Z, RMS, I_{isol}<1mA	1second	3000	V
		1minute	2500	

Electrical and Thermal Characteristic

Symbol	Test Conditions		Values		Units
			Typ.	Max.	
I_R	$V_R=V_{RRM}$; $T_{VJ}=25^{\circ}C$(Pulse Width=5ms,Duty Cycle<2.0%)			0.5	mA
	$V_R=V_{RRM}$; $T_{VJ}=125^{\circ}C$(Pulse Width=5ms,Duty Cycle<2.0%)			15	
V_F	I_F=100A； $T_{VJ}=125^{\circ}C$			0.85	V
	I_F=100A； $T_{VJ}=25^{\circ}C$			0.95	
	I_F=200A， $T_{VJ}=125^{\circ}C$			1.10	
R_{thJC}	Junction to case	Par leg		0.8	$^{\circ}C/W$
		Total		0.4	
R_{thCH}			0.1		

Performance Curves

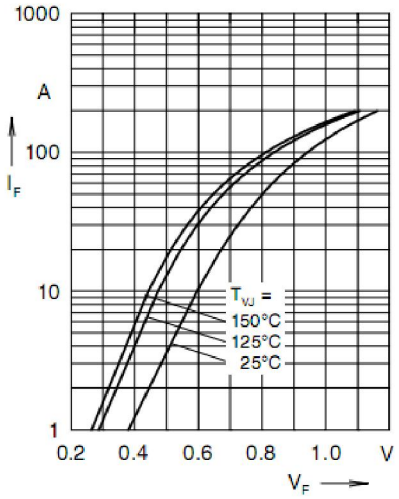


Fig. 1 Max. forward voltage drop characteristics

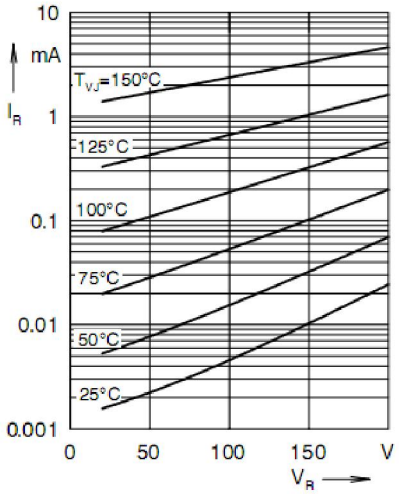


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

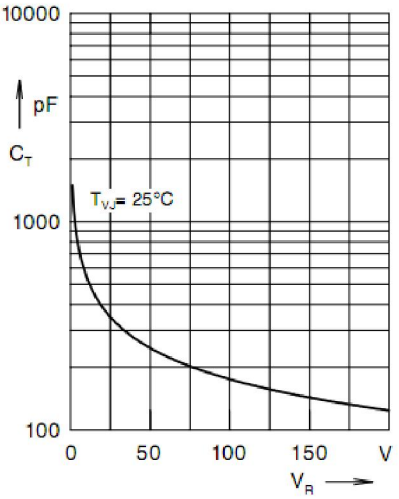


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

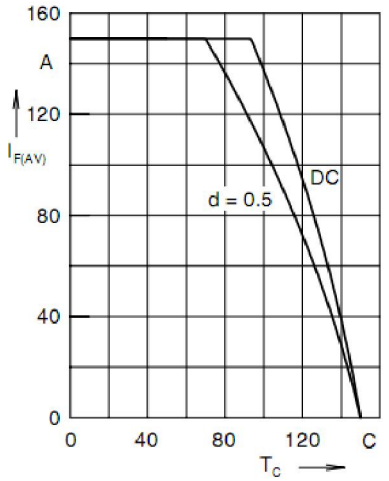


Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

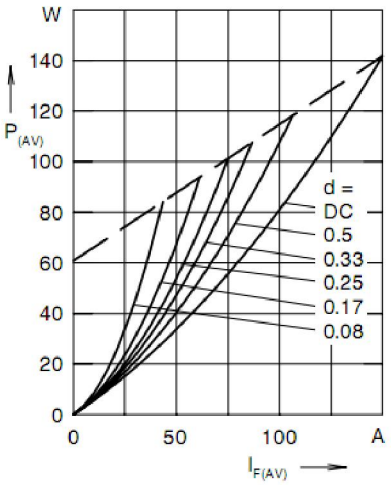


Fig. 5 Forward power loss characteristics

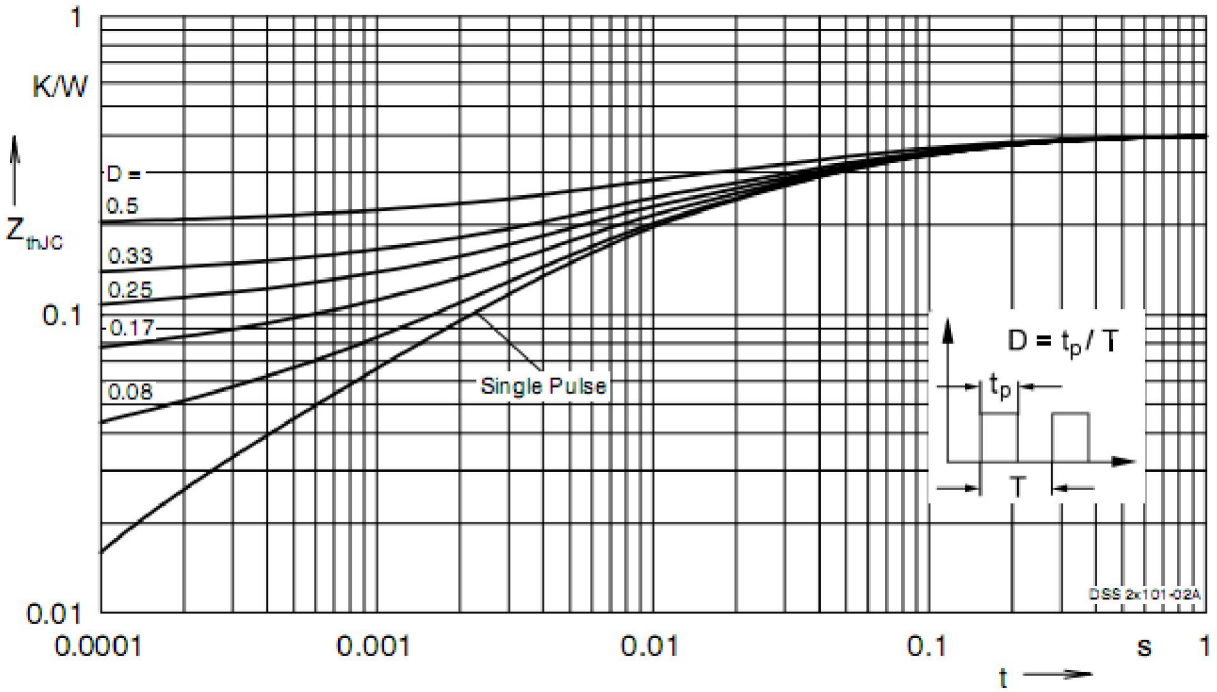
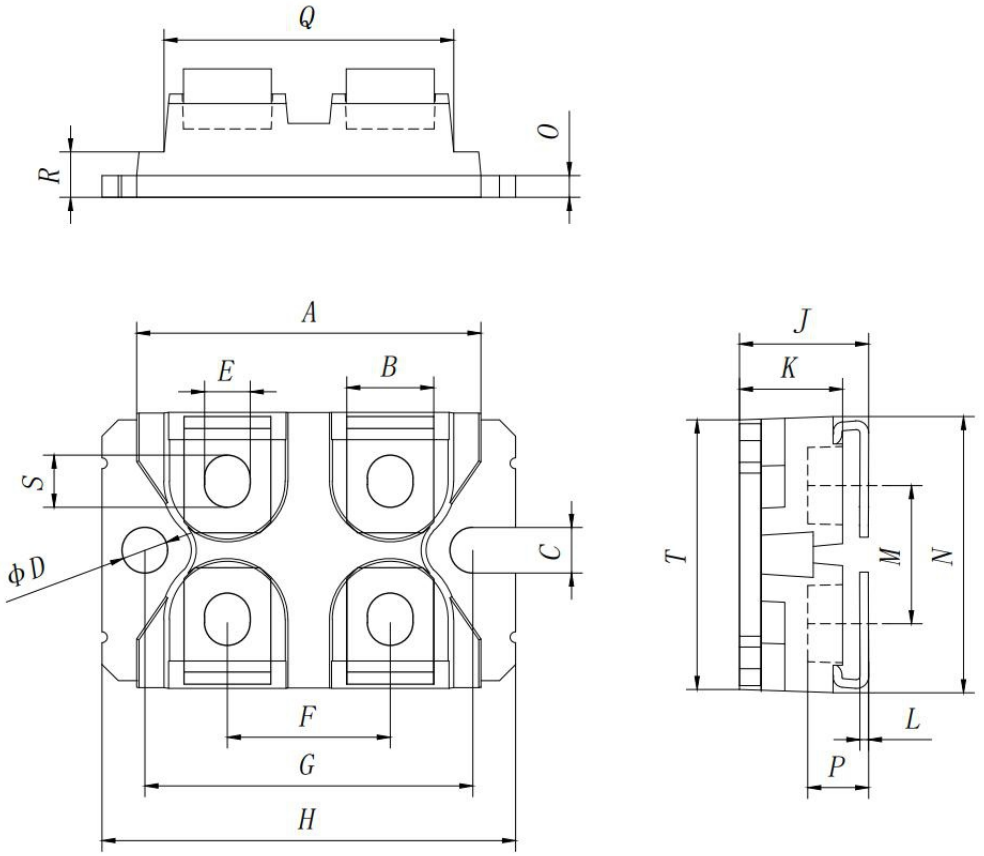


Fig. 6 Transient thermal impedance junction to case at various duty cycles

SOT-227package



SYMBOLS	DIMENSION IN MM		
	MIN	NOM	MAX
A	31.20	31.70	32.20
B	7.50	8.00	8.50
C	3.80	4.20	4.60
D	3.80	4.20	4.60
E	3.80	4.20	4.60
F	14.50	15.00	15.50
G	29.80	30.20	30.60
H	37.70	38.10	38.50
J	11.50	11.90	12.30
K	8.90	9.50	10.00
L	0.75	0.80	0.85
M	12.40	12.70	13.00
N	25.00	25.40	25.80
O	1.70	2.00	2.30
P	4.95	5.60	6.10
Q	26.40	26.70	27.00
R	3.90	4.18	4.45
S	4.20	4.80	5.40
T	23.80	24.80	25.80

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