

Features

- International standard package SOT-227
- Very low V_F
- Extremely low switching losses
- Low I_{RM} -values

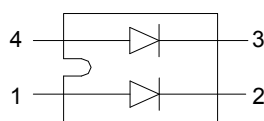
$$I_{FAVM}=2 \times 100 \text{ A}$$

$$V_{RRM}=100 \text{ V}$$

$$V_F=0.70 \text{ V}$$

Applications

- Rectifiers in switch mode power Supplies(SMPS)
- Insulated package($V_{ISO}=2500V_{RMS}$)
- Free wheeling diode in low voltage Converters



K2



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}		180	A
I_{FAVM}	$T_C=105^\circ\text{C}$; Rectangular,d=0.5	100	
I_{FAVM}	$T_C=105^\circ\text{C}$; Rectangular,d=0.5; Per device	200	
I_{FSM}	$T_{VJ}=45^\circ\text{C}$; $t_p=10\text{ms}(50\text{Hz})$,sine	1800	
E_{AS}	$I_{AS}=12\text{A}$; $L=180\mu\text{H}$ $T_{VJ}=25^\circ\text{C}$; non repetitive	16	mJ
I_{AR}	$V_A=1.5 \cdot V_{RRM}$ typ.;f=10kHz; repetitive	1.2	A
$(dv/dt)_{cr}$		5000	V/us
T_{VJ}		-40~+150	°C
T_{VJM}		150	
T_{stg}		-40~+150	
P_{tot}	$T_C=25^\circ\text{C}$	150	w
M_d	Mounting torque(M4)	1.1-1.5/9-13	Nm/lb. in.
	Terminal connection torque(M4)	1.1-1.5/9-13	
Weight	typical	30	g

J K2S200-100 Series

Electrical and Thermal Characteristic					
SYMBOL	TEST CONDITIONS		Values		UNITS
			typ.	max.	
I_R	$V_R = V_{RRM}; T_{VJ} = 25^\circ\text{C}$ (Pulse Width=5ms,Duty Cycle<2.0%)			2	mA
	$V_R = V_{RRM}; T_{VJ} = 125^\circ\text{C}$ (Pulse Width=5ms,Duty Cycle<2.0%)			20	
V_F	$I_F = 100\text{A}; T_{VJ} = 125^\circ\text{C}$			0.70	V
	$I_F = 100\text{A}; T_{VJ} = 25^\circ\text{C}$			0.80	
	$I_F = 200\text{A}; T_{VJ} = 125^\circ\text{C}$			0.95	
R_{thJC}	Junction to case	Par leg		0.9	$^\circ\text{C}/\text{W}$
		Total		0.5	
R_{thCH}			0.14		

Ordering Information Tabel

Device code	J	K2	S	200	-	100
	①	②	③	④		⑤

- ① J H's power module
- ② "K2" Circuit configuration (2 separate diodes ,parallel pin-out)
- ③ "S" for Schottky rectifier
- ④ Maximum average forward current (200A)
- ⑤ Voltage rating (100 = 100V)

Performance Curves

Fig. 1: Average forward power dissipation versus average forward current (per diode).

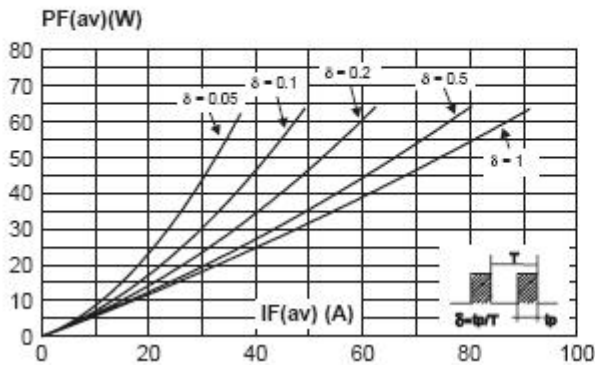


Fig. 2: Average forward current versus ambient temperature ($\delta=0.5$, per diode).

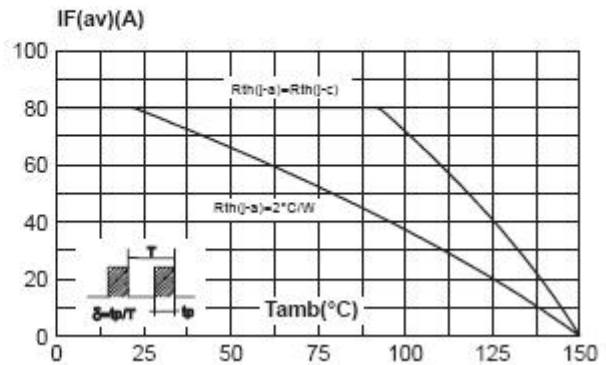


Fig. 3: Normalized avalanche power derating versus pulse duration.

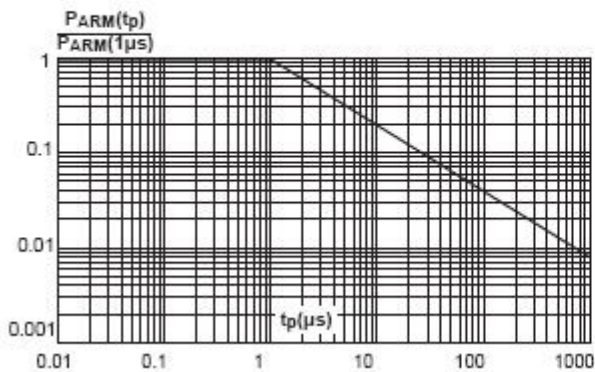


Fig. 4: Normalized avalanche power derating versus junction temperature.

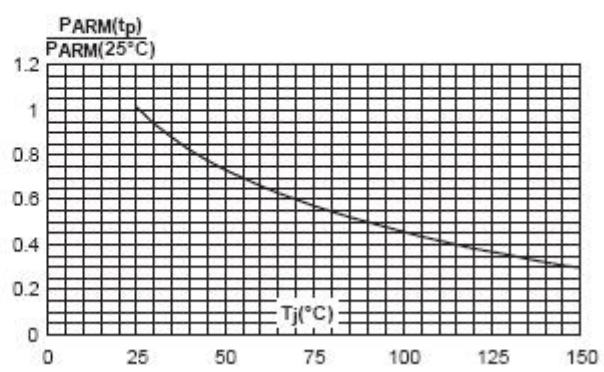


Fig. 5: Non repetitive surge peak forward current versus overload duration (maximum values, per diode).

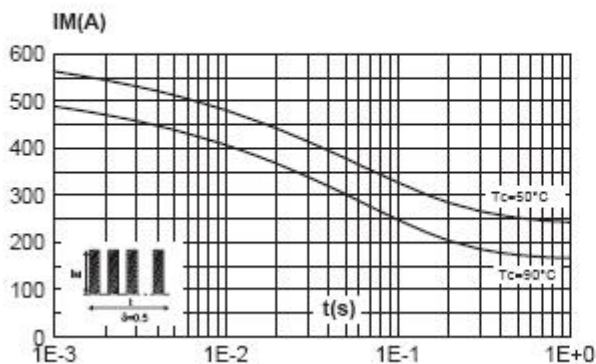
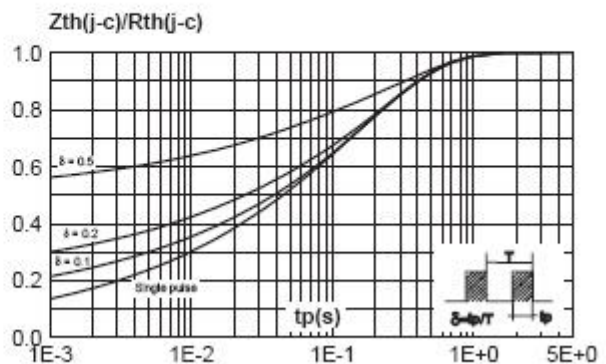


Fig. 6: Relative variation of thermal impedance junction to case versus pulse duration (per diode).



JK2S200-100 Series

Fig. 7: Reverse leakage current versus reverse voltage applied (typical values, per diode).

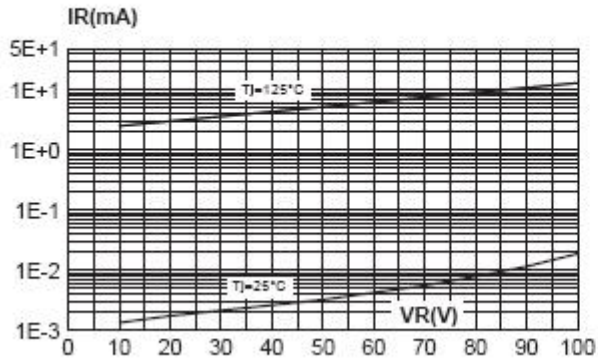


Fig. 8: Junction capacitance versus reverse voltage applied (typical values, per diode).

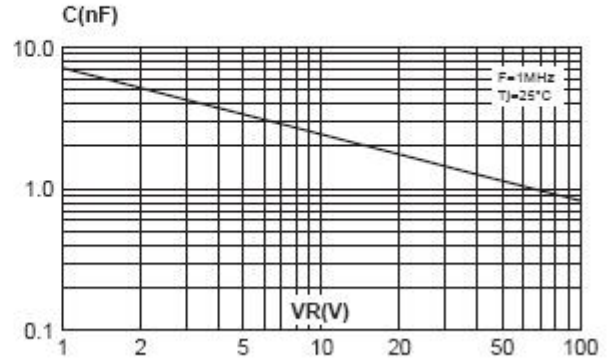
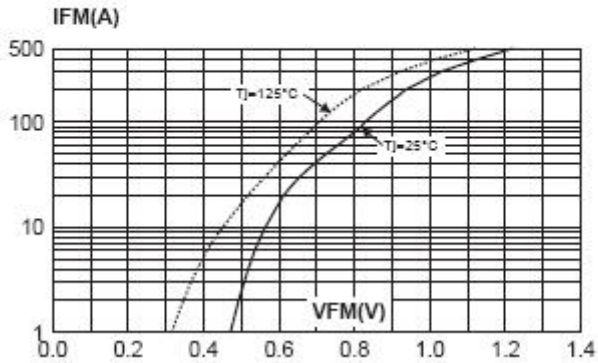
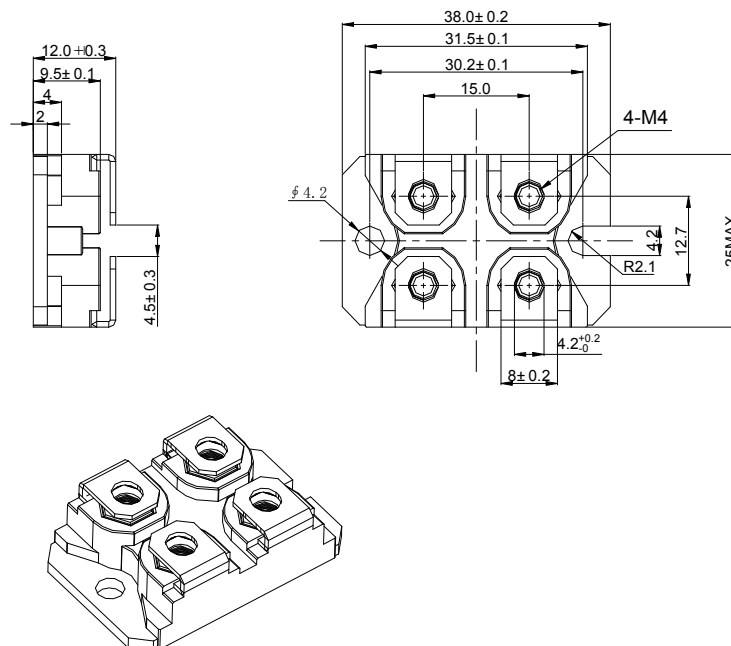


Fig. 9: Forward voltage drop versus forward current (maximum values, per diode).



DIMENSIONS in millimeters

SOT-227 package



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