

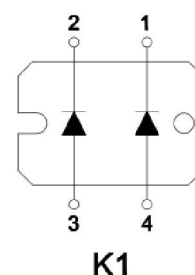
Features

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

$$I_{FAV} = 2 \times 100A$$

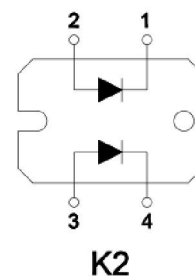
$$V_{RRM} = 200 V$$

$$V_F = 0.85V$$



Applications

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



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}	$T_C = 105^\circ C$; Rectangular, $d=0.5$; per diode	100	
	$T_C = 105^\circ C$; Rectangular, $d=0.5$; per module	200	
I_{FSM}	$T_{VJ} = 45^\circ C$; $t_p = 10$ ms (50 Hz), sine	1400	
$(dv/dt)_{cr}$		5000	V/us
T_{VJ}		-40~+150	°C
T_{stg}		-40~+150	
P_{tot}	$T_C = 25^\circ C$	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}	50/60Hz, RMS, $I_{isol} < 1mA$	1second	3000
		1minute	2500

JK1S/JK2S200-200

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

Performance Curves

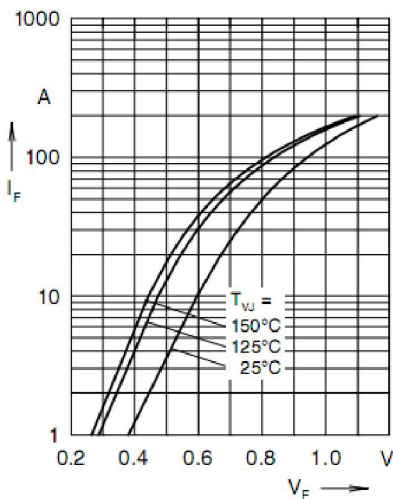


Fig. 1 Max. forward voltage drop characteristics

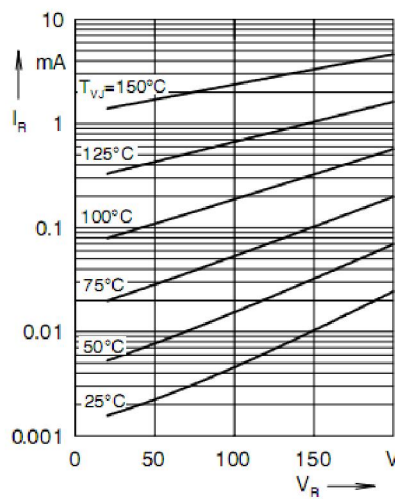


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

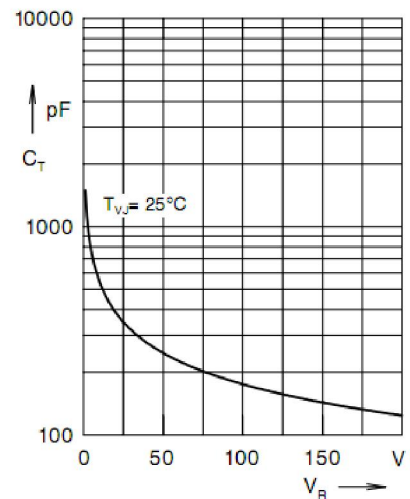


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

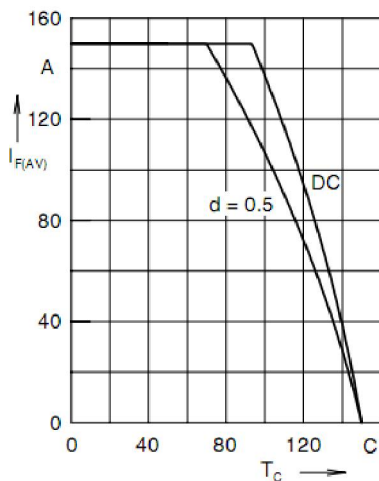


Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

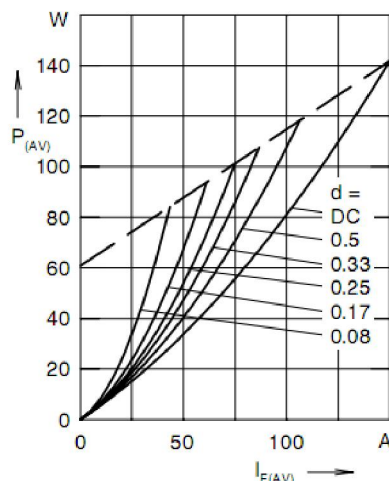


Fig. 5 Forward power loss characteristics

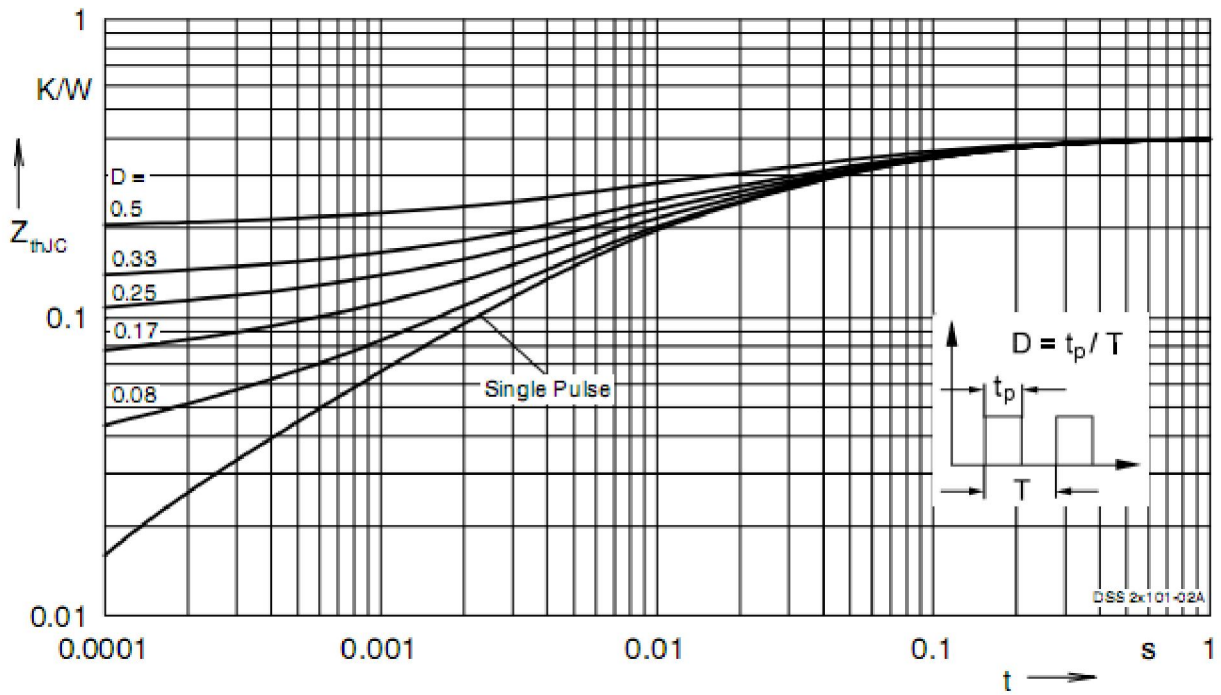
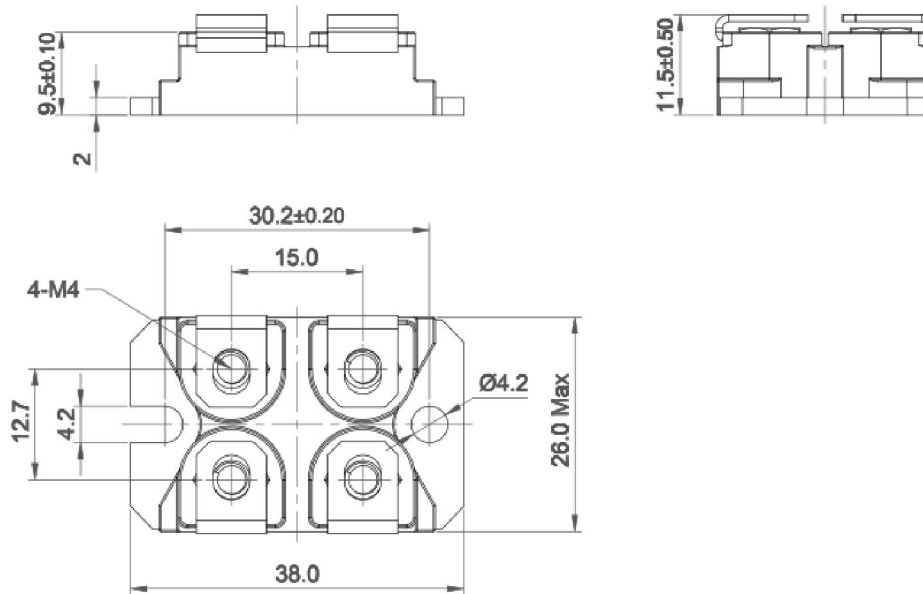


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Package Outline Information

SOT-227 Package



Dimensions in mm