

Features

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

Applications

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

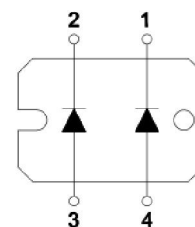
Advantages

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

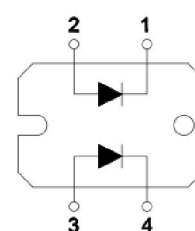
$$I_{FAV} = 2 \times 120A$$

$$V_{RRM} = 45 V$$

$$V_F = 0.56V$$



K1



K2



Maximum Ratings			
Symbol	Test Conditions	Ratings	Units
I_{FRMS}		150	A
I_{FAVM}	$T_C = 105^\circ C$; Rectangular, $d=0.5$; per diode	120	
	$T_C = 105^\circ C$; Rectangular, $d=0.5$; per module	240	
I_{FSM}	$T_{VJ} = 45^\circ C$; $t_p = 10$ ms (50 Hz), sine	1600	
$(dv/dt)_{cr}$		1000	V/us
T_{VJ}		-40~+150	$^\circ C$
T_{stg}		-40~+150	
P_{tot}	$T_C = 25^\circ C$	125	W Nm
M_d	Mounting torque(M4)	1.1~1.5	
	Terminal connection torque(M4)	1.1~1.5	
Weight	Typical	30	g
V_{ISOL}	50/60Hz, RMS, $I_{isol} < 1mA$	1second	3000
		1minute	2500

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%)			1	mA
	$V_R=V_{RRM}; T_{VJ}=125^{\circ}\text{C}$ (Pulse Width=5ms, Duty Cycle<2.0%)			120	
V_F	$I_F=120\text{A}; T_{VJ}=125^{\circ}\text{C}$			0.56	V
	$I_F=120\text{A}; T_{VJ}=25^{\circ}\text{C}$			0.6	
R_{thJC}	Junction to case	Par leg		0.8	$^{\circ}\text{C}/\text{W}$
		Total		0.4	
R_{thCH}			0.1		

Performance Curves

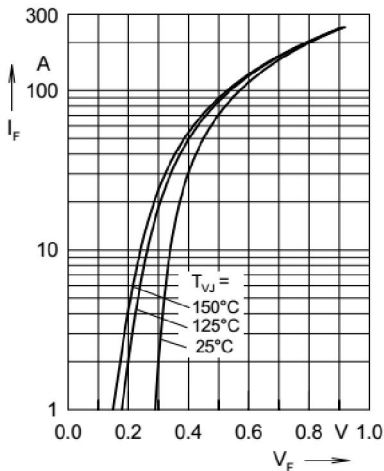


Fig. 1 Maximum forward voltage drop characteristics

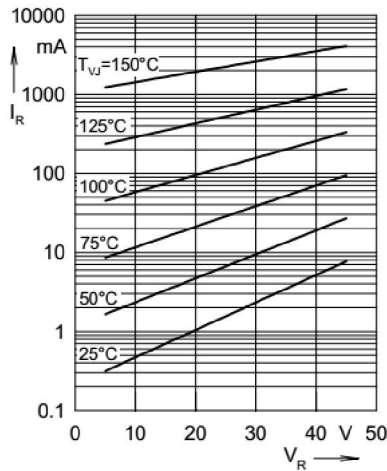


Fig. 2 Typ. value of reverse current I_R versus reverse voltage V_R

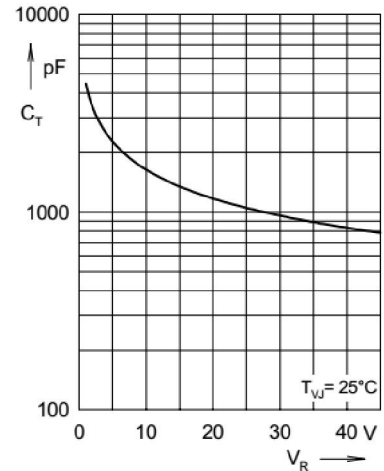


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

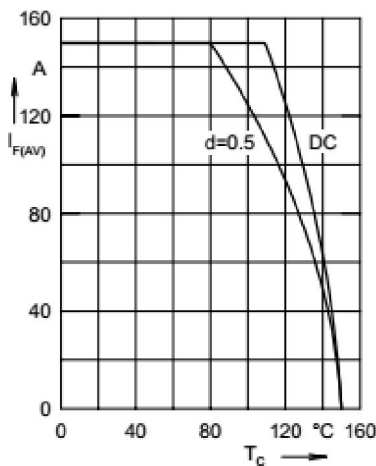


Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

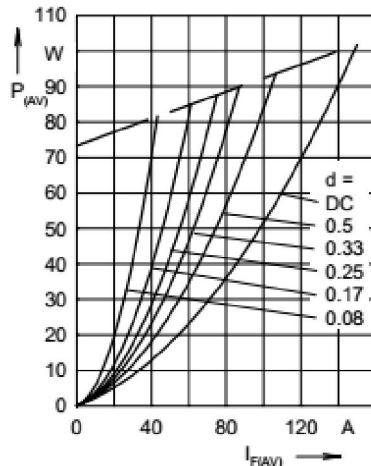


Fig. 5 Forward power loss characteristics

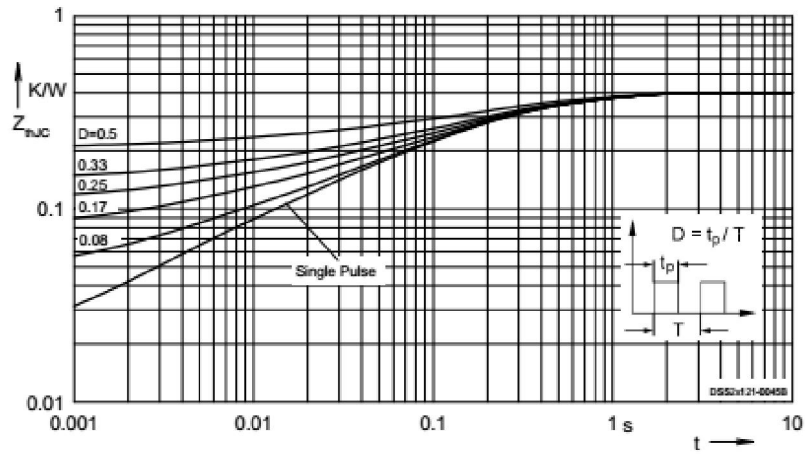


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Ordering Information Tabel

Device code

J K2 S 240 - 45

JF'S power module

Circuit configuration

K1=2 separate diodes, syntropy pin-out

K2=2 separate diodes, parallel pin-out

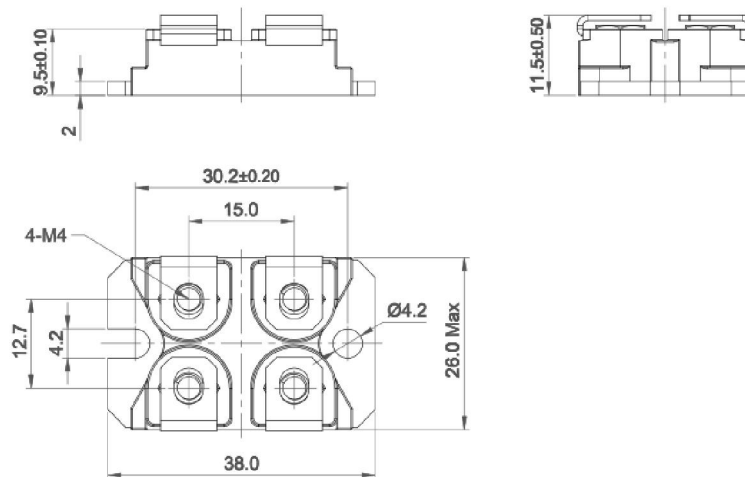
"S" for Schottky rectifier

Maximum average forward current (240A)

Voltage rating (45= 45V)

Package Outline Information

SOT-227 Package



Dimensions in mm