



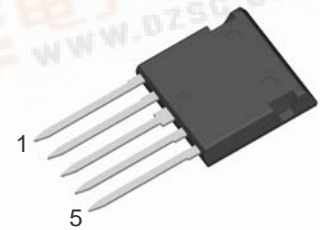
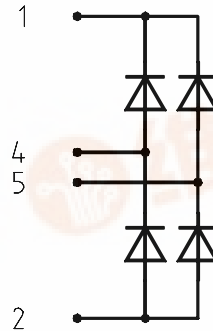
Advanced Technical Information

Silicon Carbide Schottky Rectifier Bridge

in ISOPLUS i4-PAC™

FBS 10-06SC

$V_{RRM} = 600\text{ V}$
 $I_{D(AV)M} = 6.6\text{ A}$
 $C_{junction} = 9\text{ pF}$



Rectifier Bridge

Symbol	Conditions	Maximum Ratings	
V_{RRM}		600	V
I_{FAV}	$T_C = 90^\circ\text{C}$; sine 180° (per diode)	3	A
$I_{D(AV)M}$	$T_C = 90^\circ\text{C}$	6.6	A
I_{FSM}	$T_{VJ} = 25^\circ\text{C}$; $t = 10\text{ ms}$; sine 50 Hz	12	A
P_{tot}	$T_C = 25^\circ\text{C}$ (per diode)	19	W

Features

- Silicon Carbide Schottky Diodes
 - no reverse recovery at turn off - only charge of junction capacity - soft turn off waveform
 - no forward recovery at turn on
 - switching behaviour independent of temperature
 - low leakage current
- ISOPLUS i4-PAC(TM) package
 - isolated back surface
 - low coupling capacity between pins and heatsink
 - enlarged creepage towards heatsink
 - application friendly pinout
 - high reliability
 - industry standard outline

Symbol	Conditions	Characteristic Values ($T_{VJ} = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
V_F	$I_F = 4\text{ A}$; $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 125^\circ\text{C}$		1.7 1.9	V V
I_R	$V_R = V_{RRM}$; $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 125^\circ\text{C}$		0.04	0.2 mA mA
C_J	$V_R = 400\text{ V}$; $T_{VJ} = 125^\circ\text{C}$		9	pF
R_{thJC} R_{thJS}	(per diode)		11.5	8 K/W K/W

Applications

- output rectifiers of high end switched mode power supplies
- other high frequency rectifiers

Data according to IEC 60747 and refer to a single diode unless otherwise stated.



Component

Symbol	Conditions	Maximum Ratings	
T_{VJ}		-55...+175	°C
T_{stg}		-55...+125	°C
V_{ISOL}	$I_{ISOL} \leq 1 \text{ mA}; 50/60 \text{ Hz}$	2500	V~
F_C	mounting force with clip	20...120	N

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
C_p	coupling capacity between shorted pins and mounting tab in the case		40	pF
d_{S1}, d_{A1}	pin - pin	1.7		mm
d_{S1}, d_{A1}	pin - backside metal	5.5		mm
Weight			9	g

Dimensions in mm (1 mm = 0.0394")

