

Power Schottky Rectifier

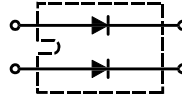
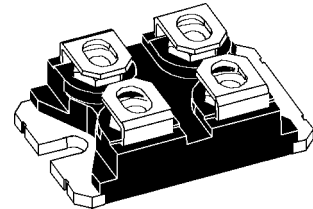
$$I_{FAV} = 2x80 \text{ A}$$

$$V_{RRM} = 35 - 45 \text{ V}$$

$$V_F = 0.64 \text{ V}$$

Preliminary Data

V_{RSM} V	V_{RRM} V	Type
35	35	DSS 2x81-0035B
45	45	DSS 2x81-0045B


miniBLOC, SOT-227 B


Symbol	Test Conditions	Maximum Ratings	
I_{FRMS}		100	A
I_{FAVM}	$T_C = 75^\circ\text{C}$; rectangular, $d = 0.5$	80	A
I_{FAVM}	$T_C = 75^\circ\text{C}$; rectangular, $d = 0.5$; per device	160	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	900	A
E_{AS}	$I_{AS} = 20 \text{ A}$; $L = 180 \mu\text{H}$; $T_{VJ} = 25^\circ\text{C}$; non repetitive	57	mJ
I_{AR}	$V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10 \text{ kHz}$; repetitive	2	A
$(dv/dt)_{cr}$		1000	V/ μs
T_{VJ}		-40...+150	$^\circ\text{C}$
T_{VJM}		150	$^\circ\text{C}$
T_{stg}		-40...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	150	W
V_{ISOL}	50/60 Hz, RMS $I_{ISOL} \leq 1 \text{ mA}$	2500	V~
M_d	mounting torque (M4) terminal connection torque (M4)	1.1-1.5/9-13 1.1-1.5/9-13	Nm/lb.in. Nm/lb.in.
Weight	typical	30	g

Features

- International standard package miniBLOC
- Isolation voltage 2500 V~
- UL registered E 72873
- 2 independent Schottky diodes in 1 package
- Very low V_F
- Extremely low switching losses
- Low I_{RM} -values

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

Dimensions see end of catalog

Symbol	Test Conditions	Characteristic Values	
		typ.	max.
I_R ①	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$ $T_{VJ} = 100^\circ\text{C}$ $V_R = V_{RRM}$	10	mA
		250	mA
V_F	$I_F = 80 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$	0.64	V
	$I_F = 80 \text{ A}$; $T_{VJ} = 25^\circ\text{C}$	0.66	V
	$I_F = 160 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$	1.07	V
R_{thJC} R_{thCH}	0.1	0.8	K/W K/W

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %
Data according to IEC 60747 and per diode unless otherwise specified

IXYS reserves the right to change limits, test conditions and dimensions.

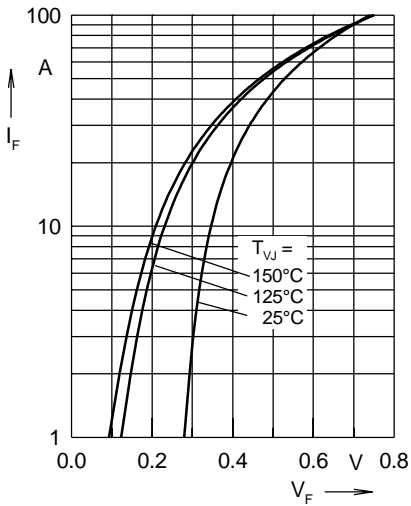


Fig. 1 Maximum forward voltage drop characteristics

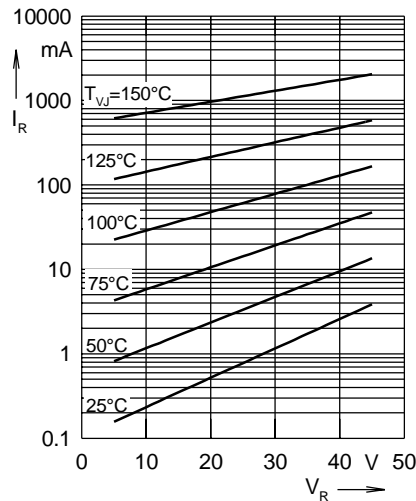


Fig. 2 Typ. value of reverse current I_R versus reverse voltage V_R

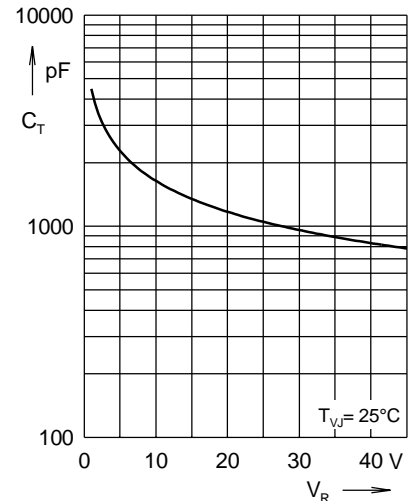


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

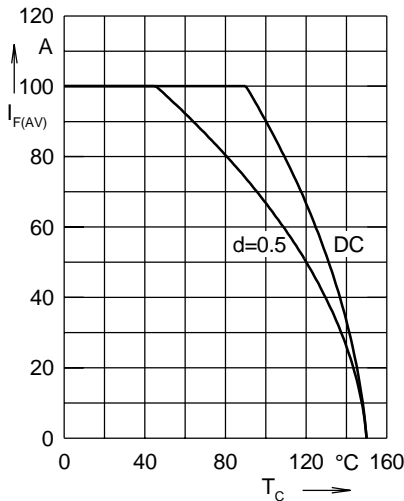


Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

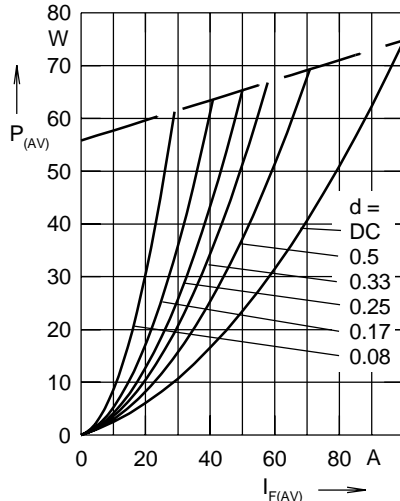


Fig. 5 Forward power loss characteristics

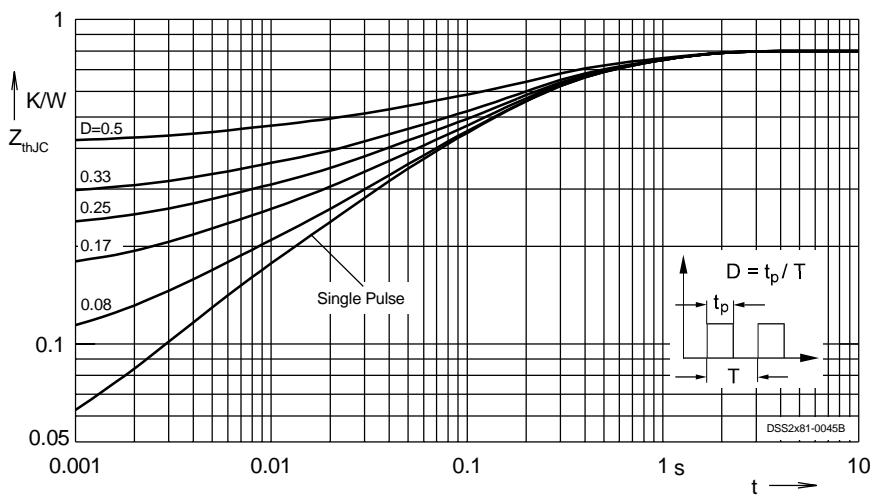


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode