

Power Schottky Rectifier

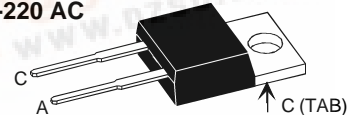
$I_{FAV} = 25\text{ A}$
 $V_{RRM} = 25\text{ V}$
 $V_F = 0.44\text{ V}$

Preliminary Data

V_{RSM} V	V_{RRM} V	Type
25	25	DSS 25-0025B



TO-220 AC



A = Anode, C = Cathode, TAB = Cathode

Symbol	Conditions	Maximum Ratings	
I_{FRMS}	$T_C = 125^\circ\text{C}$; rectangular, $d = 0.5$	35	A
I_{FAVM}		25	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10\text{ ms}$ (50 Hz), sine	300	A
E_{AS}	$I_{AS} = \text{tbd A}$; $L = 180\text{ }\mu\text{H}$; $T_{VJ} = 25^\circ\text{C}$; non repetitive	tbd	mJ
I_{AR}	$V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10\text{ kHz}$; repetitive	tbd	A
$(dv/dt)_{cr}$		tbd	V/ μs
T_{VJ}		-55...+150	$^\circ\text{C}$
T_{VJM}		150	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	90	W
M_d	mounting torque	0.4...0.6	Nm
Weight	typical	2	g

Features

- International standard package
- Very low V_F
- Extremely low switching losses
- Low I_{RM} -values
- Epoxy meets UL 94V-0

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 outlines.pdf

Symbol	Conditions	Characteristic Values	
		typ.	max.
I_R ①	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$		20 mA
	$T_{VJ} = 100^\circ\text{C}$ $V_R = V_{RRM}$		80 mA
V_F	$I_F = 25\text{ A}$; $T_{VJ} = 125^\circ\text{C}$		0.44 V
	$I_F = 25\text{ A}$; $T_{VJ} = 25^\circ\text{C}$		0.52 V
	$I_F = 50\text{ A}$; $T_{VJ} = 125^\circ\text{C}$		0.66 V
R_{thJC}			1.4 K/W
R_{thCH}	0.5		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, Conditions and dimensions.

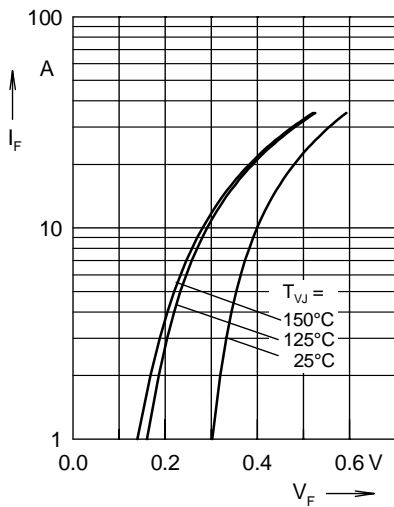


Fig. 1 Maximum forward voltage drop characteristics

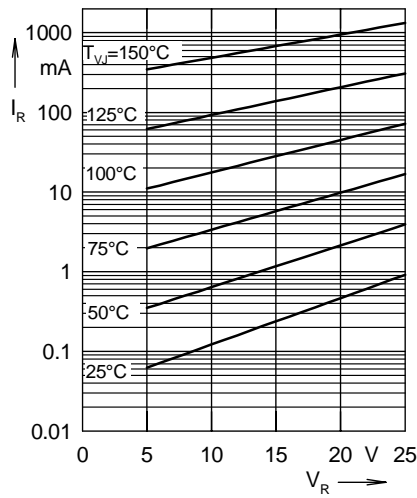


Fig. 2 Typ. value of reverse current I_R versus reverse voltage V_R

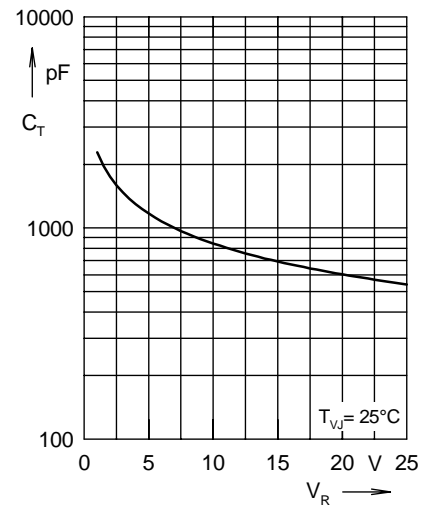


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

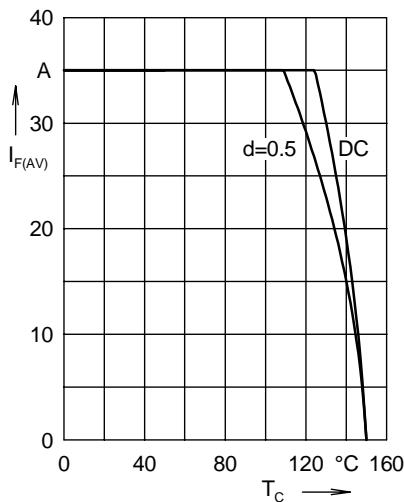


Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

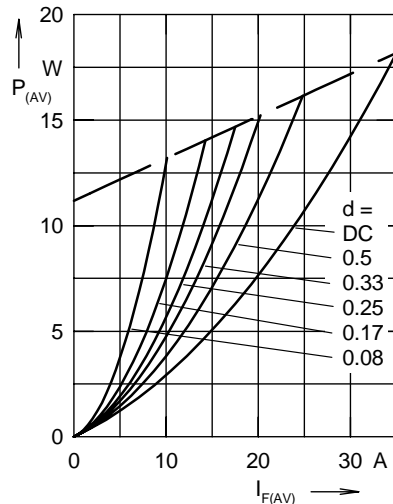


Fig. 5 Forward power loss characteristics

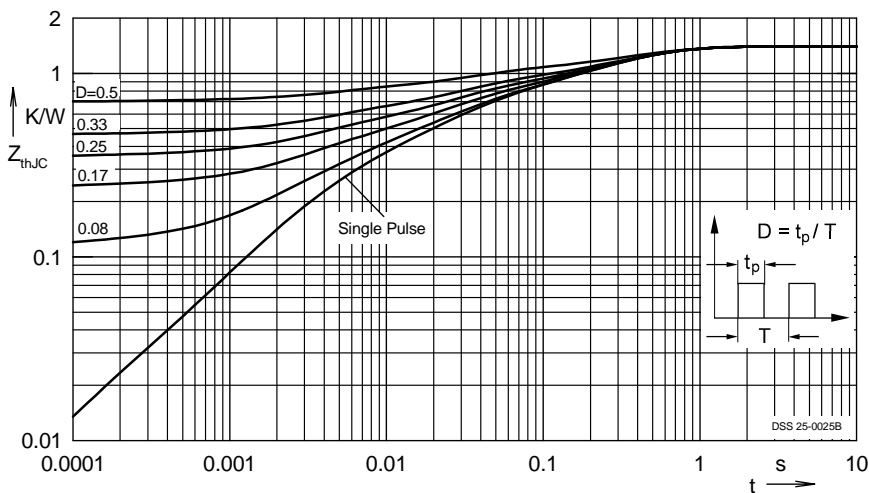


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode