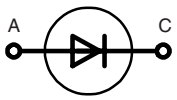
Power Schottky Rectifier

I_{FAV} = 6 A
V_{RRM} = 45 V
V_F = 0.5 V

V_{RSM} V	V_{RRM} V	Type	marking on product
45	45	DSS 6-0045AS	6Y045AS



TO-252 AA

A = Anode, C = Cathode , TAB = Cathode

Symbol	Conditions	Maximum Ratings	
I_{FRMS}		20	A
I_{FAV}	T_C = 165°C; rectangular, d = 0.5	6	A
I_{FSM}	T_{VJ} = 45°C; t_p = 10 ms (50 Hz), sine	80	A
E_{AS}	I_{AS} = 13 A; L = 180 µH; T_{VJ} = 25°C; non repetitive	24	mJ
I_{AR}	V_A =1.5 • V_{RRM} typ.; f=10 kHz; repetitive	1.3	A
$(dv/dt)_{cr}$		1000	V/µs
T_{VJ}		-55...+175	°C
T_{VJM}		175	°C
T_{stg}		-55...+150	°C
P_{tot}	T_C = 25°C	50	W
Weight	typical	0.3	g

Symbol	Conditions	Characteristic Values typ.	max.	
I_R ①	T_{VJ} = 25°C V_R = V_{RRM}		0.3	mA
	T_{VJ} = 125°C V_R = V_{RRM}		2.5	mA
V_F	I_F = 6 A; T_{VJ} = 125°C		0.50	V
	I_F = 6 A; T_{VJ} = 25°C		0.63	V
	I_F = 12 A; T_{VJ} = 125 °C		0.59	V
R_{thJC}			3.0	K/W

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

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.

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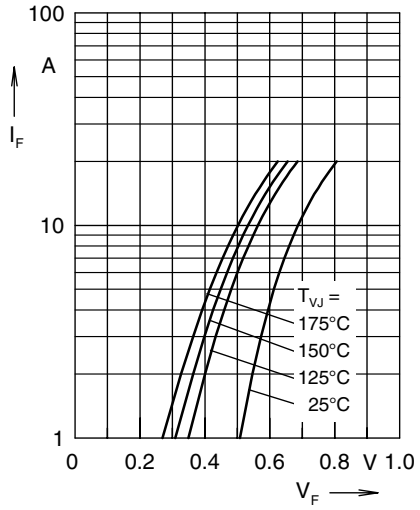

Fig. 1 Maximum forward voltage drop characteristics

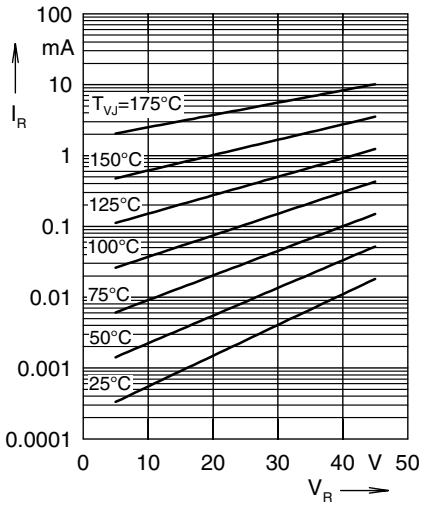

Fig. 2 Typ. value of reverse current I_R versus reverse voltage V_R

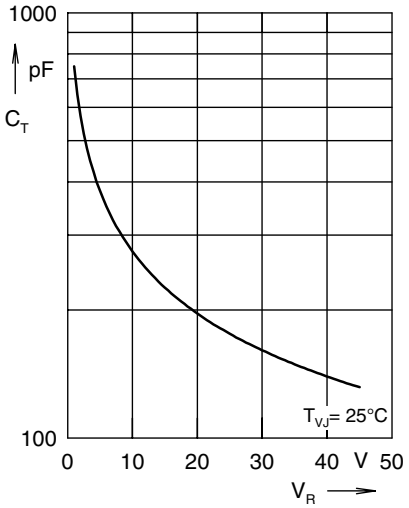

Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

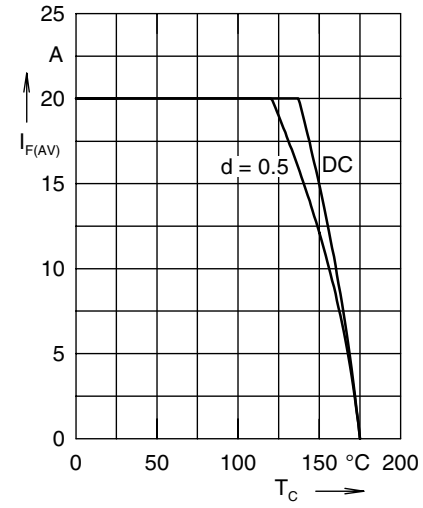

Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

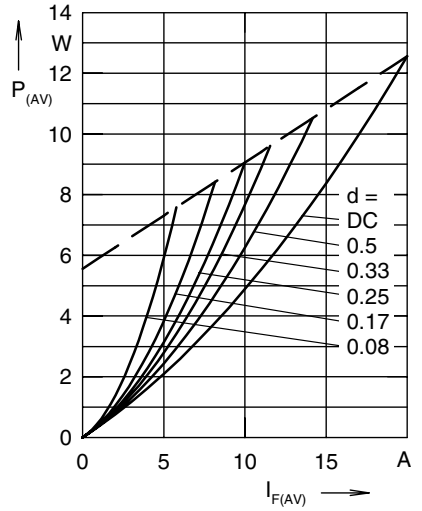

Fig. 5 Forward power loss characteristics

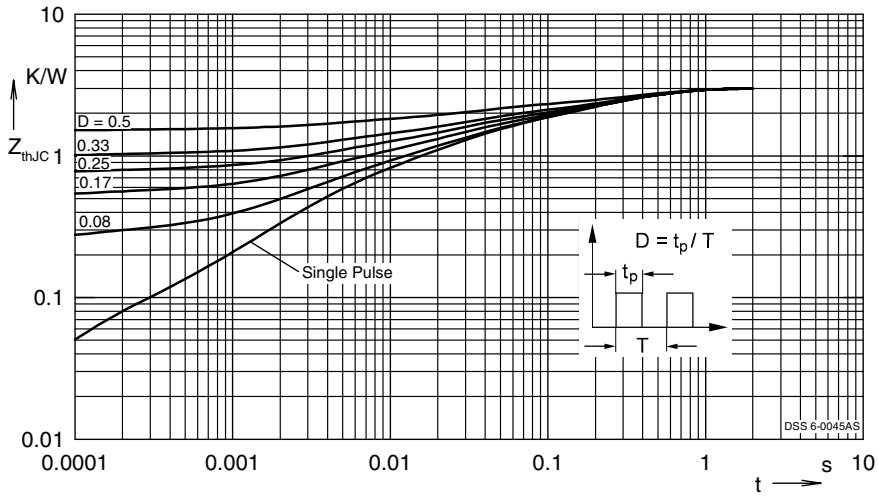

Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode

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