

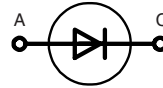
# Power Schottky Rectifier

$$I_{FAV} = 6 \text{ A}$$

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

$$V_F = 0.5 \text{ V}$$

$V_{RSM}$	$V_{RRM}$	Type	marking
V	V		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
$I_{FAV}$	$T_C = 165^\circ\text{C}$ ; rectangular, $d = 0.5$	6	A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $t_p = 10 \text{ ms}$ (50 Hz), sine	80	A
$E_{AS}$	$I_{AS} = 13 \text{ A}$ ; $L = 180 \mu\text{H}$ ; $T_{VJ} = 25^\circ\text{C}$ ; non repetitive	24	mJ
$I_{AR}$	$V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10 \text{ kHz}$ ; repetitive	1.3	A
$(dv/dt)_{cr}$		1000	V/ $\mu\text{s}$
$T_{VJ}$		-55...+175	$^\circ\text{C}$
$T_{VJM}$		175	$^\circ\text{C}$
$T_{stg}$		-55...+150	$^\circ\text{C}$
$P_{tot}$	$T_C = 25^\circ\text{C}$	50	W
Weight	typical	0.3	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	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$	0.3	mA
	$T_{VJ} = 125^\circ\text{C}$ $V_R = V_{RRM}$	2.5	mA
$V_F$	$I_F = 6 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$	0.50	V
	$I_F = 6 \text{ A}$ ; $T_{VJ} = 25^\circ\text{C}$	0.63	V
	$I_F = 12 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$	0.59	V
$R_{thJC}$		3.0	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.

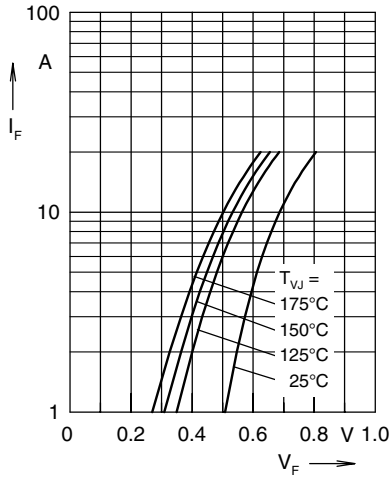


Fig. 1 Maximum forward voltage drop characteristics

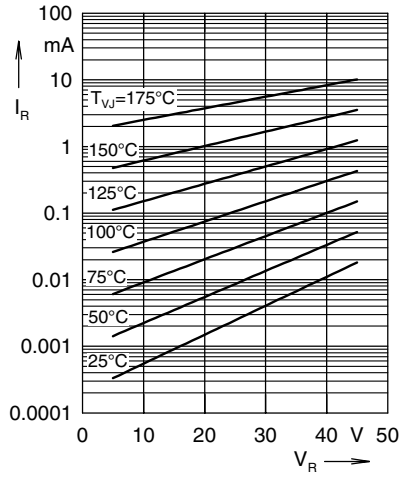


Fig. 2 Typ. value of reverse current  $I_R$  versus reverse voltage  $V_R$

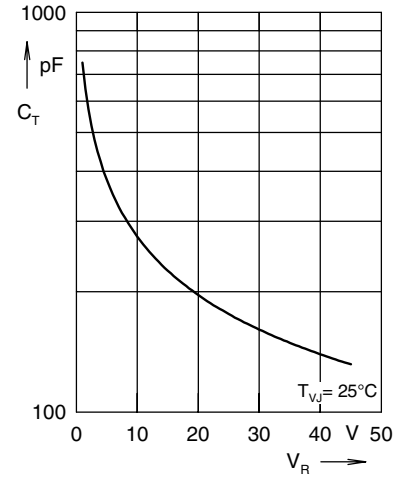


Fig. 3 Typ. junction capacitance  $C_T$  versus reverse voltage  $V_R$

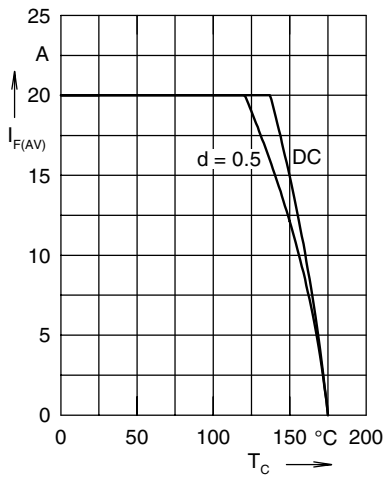


Fig. 4 Average forward current  $I_{F(AV)}$  versus case temperature  $T_C$

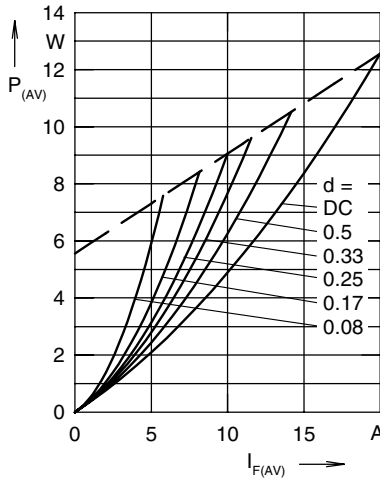


Fig. 5 Forward power loss characteristics

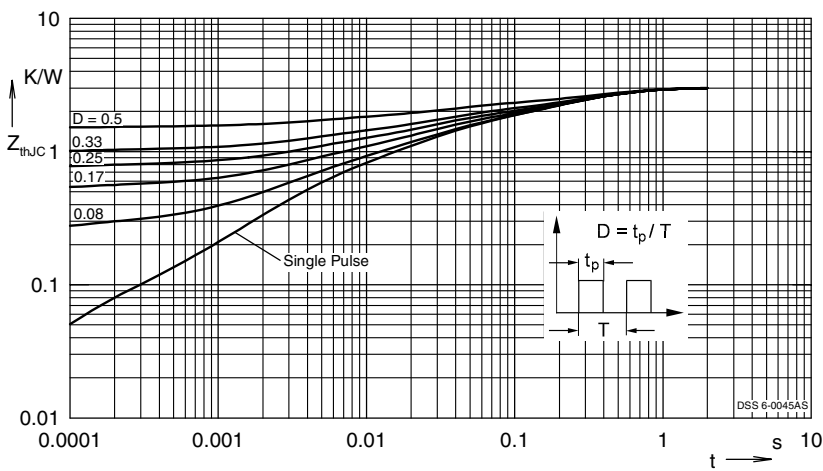


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode