

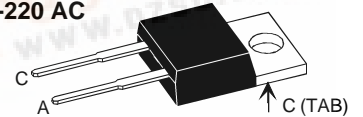
# Power Schottky Rectifier

$I_{FAV} = 25\text{ A}$   
 $V_{RRM} = 45\text{ V}$   
 $V_F = 0.59\text{ V}$

$V_{RSM}$ V	$V_{RRM}$ V	Type
45	45	DSS 25-0045A



TO-220 AC



A = Anode, C = Cathode, TAB = Cathode

Symbol	Conditions	Maximum Ratings	
$I_{FRMS}$	$T_C = 155^\circ\text{C}$ ; rectangular, $d = 0.5$	35	A
$I_{FAV}$		25	A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $t_p = 10\text{ ms}$ (50 Hz), sine	400	A
$E_{AS}$	$I_{AS} = 18\text{ A}$ ; $L = 180\text{ }\mu\text{H}$ ; $T_{VJ} = 25^\circ\text{C}$ ; non repetitive	46	mJ
$I_{AR}$	$V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10\text{ kHz}$ ; repetitive	1.8	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	$^\circ\text{C}$
$P_{tot}$	$T_C = 25^\circ\text{C}$	135	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

Symbol	Conditions	Characteristic Values	
		typ.	max.
$I_R$ ①	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$		1 mA
	$T_{VJ} = 125^\circ\text{C}$ $V_R = V_{RRM}$		10 mA
$V_F$	$I_F = 25\text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$		0.59 V
	$I_F = 25\text{ A}$ ; $T_{VJ} = 25^\circ\text{C}$		0.69 V
	$I_F = 50\text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$		0.73 V
$R_{thJC}$			1.1 K/W
$R_{thCH}$		0.5	K/W

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.

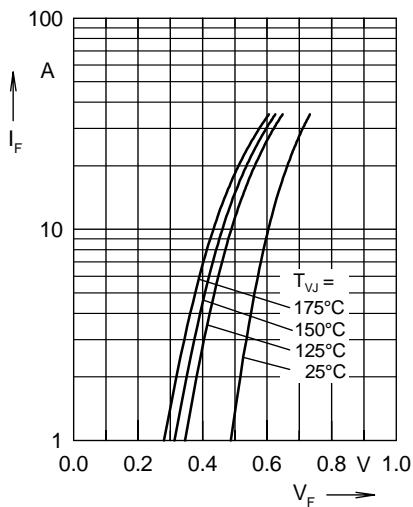


Fig. 1 Maximum forward voltage drop characteristics

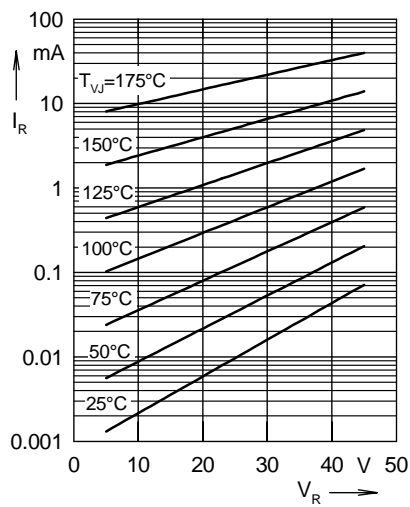


Fig. 2 Typ. value of reverse current  $I_R$  versus reverse voltage  $V_R$

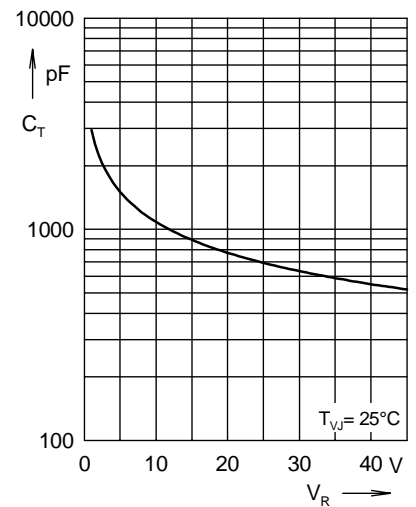


Fig. 3 Typ. junction capacitance  $C_T$  versus reverse voltage  $V_R$

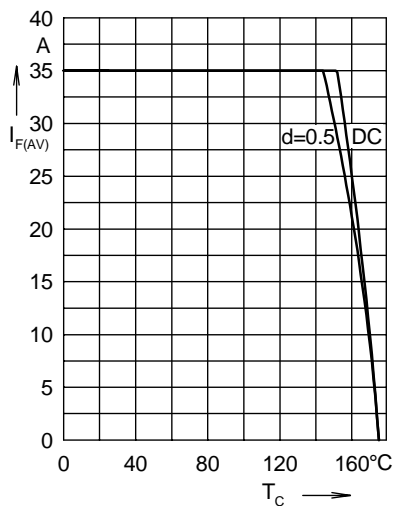


Fig. 4 Average forward current  $I_{F(AV)}$  versus case temperature  $T_C$

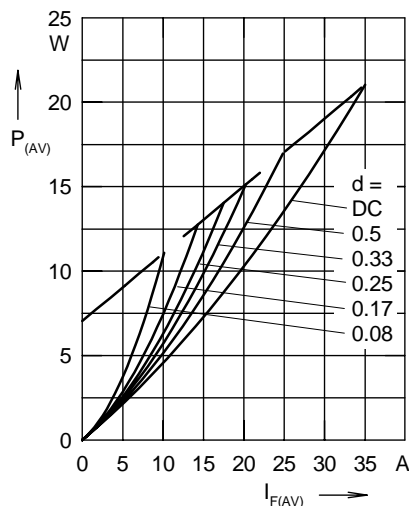


Fig. 5 Forward power loss characteristics

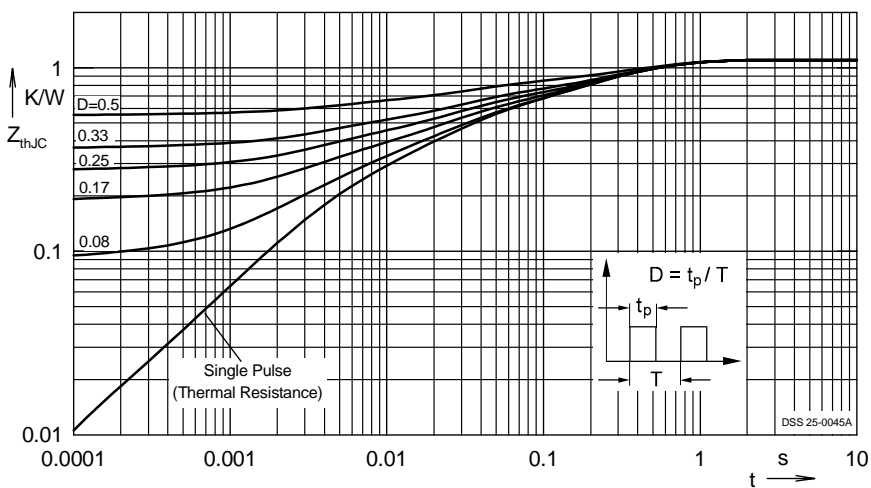


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode