

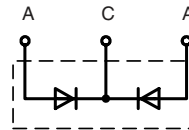
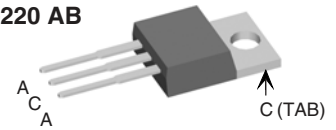
Power Schottky Rectifier with common cathode

$$I_{FAV} = 2 \times 10 \text{ A}$$

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

$$V_F = 0.56 \text{ V}$$

V_{RSM}	V_{RRM}	Type
V	V	
45	45	DSSK 20-0045A


TO-220 AB


A = Anode, C = Cathode , TAB = Cathode

Symbol	Conditions	Maximum Ratings	Features
I_{FRMS}		35 A	<ul style="list-style-type: none"> • International standard package • Very low V_F • Extremely low switching losses • Low I_{RM}-values • Epoxy meets UL 94V-0
I_{FAV}	$T_C = 160^\circ\text{C}$; rectangular, $d = 0.5$	10 A	
I_{FAV}	$T_C = 160^\circ\text{C}$; rectangular, $d = 0.5$; per device	20 A	
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	140 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/ μs	
T_{VJ}		-55...+175 $^\circ\text{C}$	
T_{VJM}		175 $^\circ\text{C}$	
T_{stg}		-55...+150 $^\circ\text{C}$	
P_{tot}	$T_C = 25^\circ\text{C}$	90 W	
M_d	mounting torque	0.4...0.6 Nm	
Weight	typical	2 g	

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	$V_R = V_{RRM}$; $T_{VJ} = 25^\circ\text{C}$		0.3 mA
	$V_R = V_{RRM}$; $T_{VJ} = 125^\circ\text{C}$		2.5 mA
V_F	$I_F = 10 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$		0.56 V
	$I_F = 10 \text{ A}$; $T_{VJ} = 25^\circ\text{C}$		0.68 V
	$I_F = 20 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$		0.69 V
R_{thJC}			1.7 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.

**Recommended replacement:
DSA20C45PB/DSA30C45PB**

Dimensions see Outlines.pdf

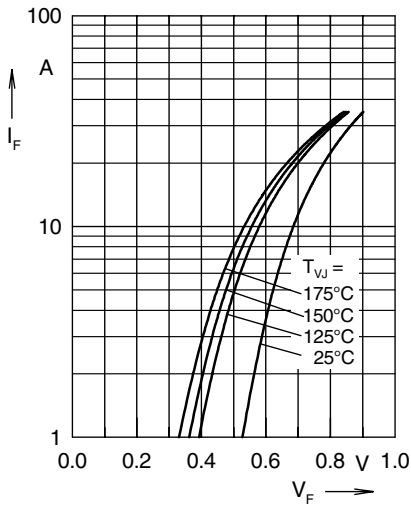


Fig. 1 Maximum forward voltage drop characteristics

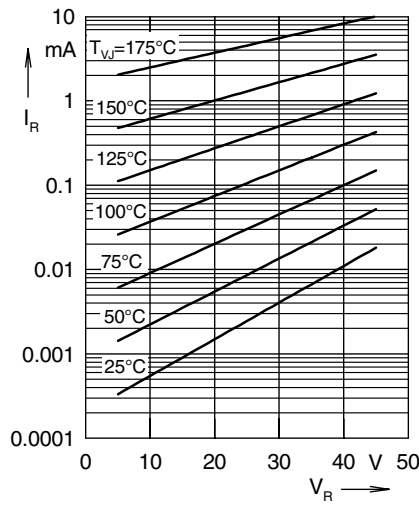


Fig. 2 Typ. value of reverse current I_R versus reverse voltage V_R

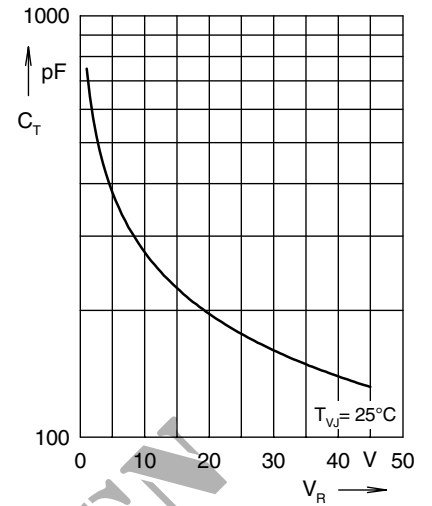


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

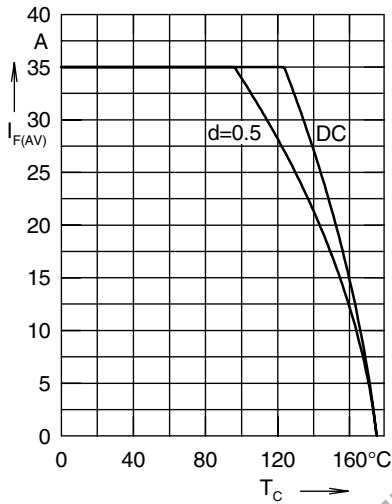


Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

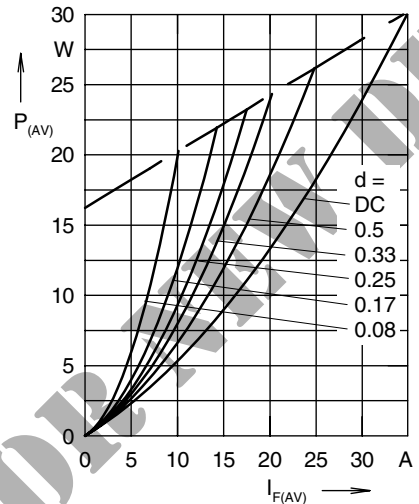


Fig. 5 Forward power loss characteristics

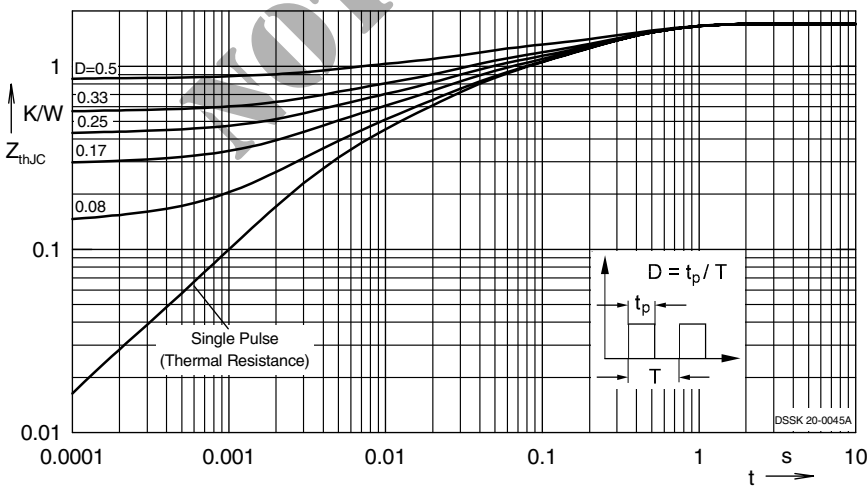


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode

IXYS reserves the right to change limits, Conditions and dimensions.

© 2006 IXYS All rights reserved