

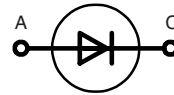
# Power Schottky Rectifier

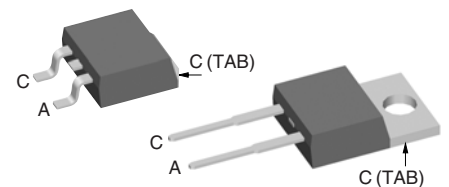
$$I_{FAV} = 16 \text{ A}$$

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

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

$V_{RSM}$	$V_{RRM}$	Type
V	V	
45	45	DSS 16-0045A DSS 16-0045AS


**TO-263 AB**  
 (...S-Type)

**TO-220 AC**


A = Anode, C = Cathode , TAB = Cathode

Symbol	Conditions	Maximum Ratings	
$I_{FRMS}$		35	A
$I_{FAV}$	$T_C = 160^\circ\text{C}$ ; rectangular, $d = 0.5$	16	A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $t_p = 10 \text{ ms}$ (50 Hz), sine	280	A
$E_{AS}$	$I_{AS} = 15 \text{ A}$ ; $L = 180 \mu\text{H}$ ; $T_{VJ} = 25^\circ\text{C}$ ; non repetitive	32	mJ
$I_{AR}$	$V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10 \text{ kHz}$ ; repetitive	1.5	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	$^\circ\text{C}$
$P_{tot}$	$T_C = 25^\circ\text{C}$	105	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	$V_R = V_{RRM}$ ; $T_{VJ} = 25^\circ\text{C}$		0.5 mA
	$V_R = V_{RRM}$ ; $T_{VJ} = 125^\circ\text{C}$		5 mA
$V_F$	$I_F = 15 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$		0.56 V
	$I_F = 15 \text{ A}$ ; $T_{VJ} = 25^\circ\text{C}$		0.67 V
	$I_F = 30 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$		0.69 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.

Dimensions see Outlines.pdf

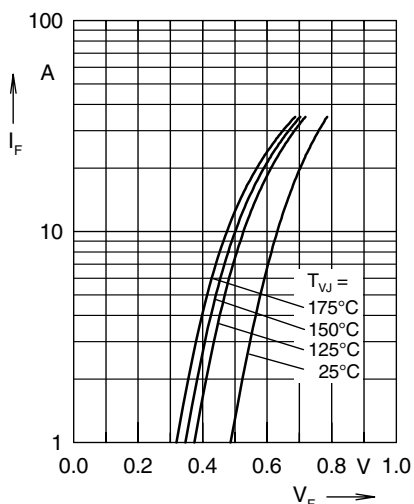


Fig. 1 Maximum forward voltage drop characteristics

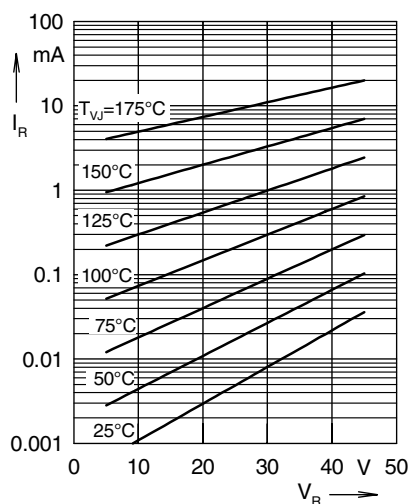


Fig. 2 Typ. value of reverse current  $I_R$  versus reverse voltage  $V_R$

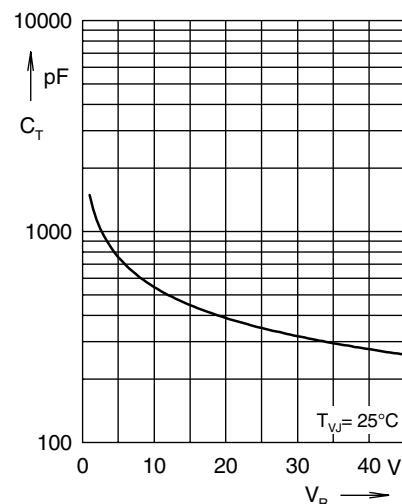


Fig. 3 Typ. junction capacitance  $C_T$  versus reverse voltage  $V_R$

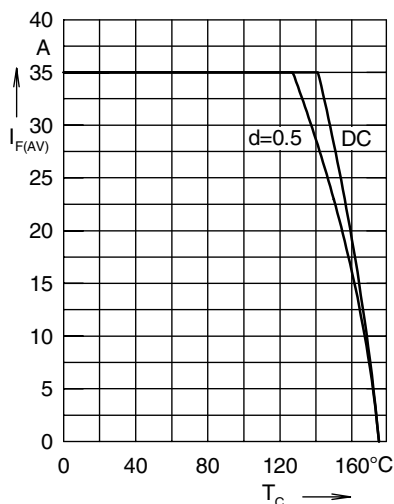


Fig. 4 Average forward current  $I_{F(AV)}$  versus case temperature  $T_C$

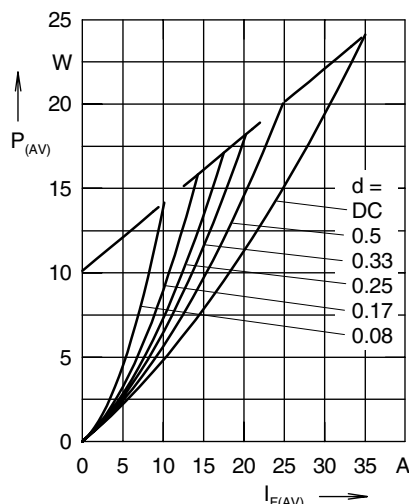


Fig. 5 Forward power loss characteristics

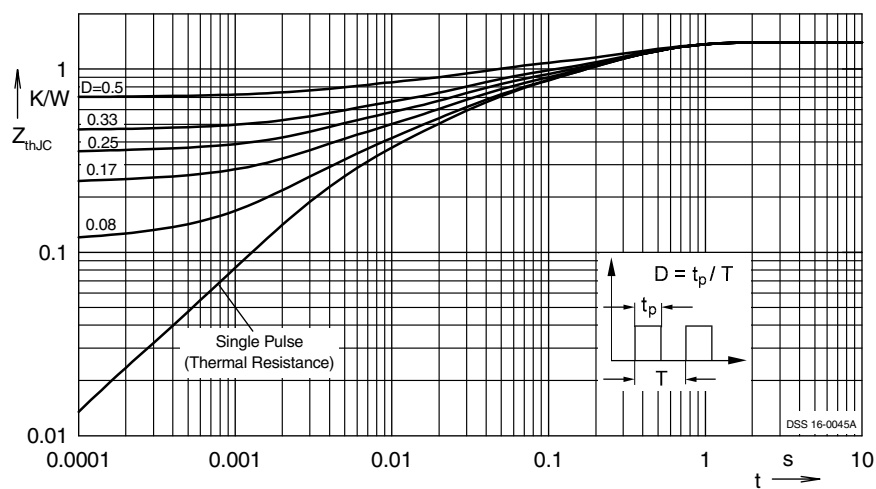


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode

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