

Power Schottky Rectifier

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

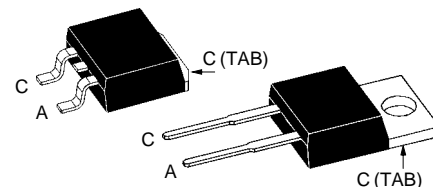
$$V_{RRM} = 100 \text{ V}$$

$$V_F = 0.64 \text{ V}$$

Preliminary Data

V_{RSM}	V_{RRM}	Type
V	V	
100	100	DSS 16-01A DSS 16-01AS


TO-263 AA
 (AS-Type)

TO-220 AC
 (A-Type)


A = Anode, C = Cathode, TAB = Cathode

Symbol	Test Conditions	Maximum Ratings	
I_{FRMS}	$T_C = 155^\circ\text{C}$; rectangular, $d = 0.5$	35	A
I_{FAV}		16	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sinev	230	A
E_{AS}	$I_{AS} = 9.5 \text{ A}$; $L = 180 \mu\text{H}$; $T_{VJ} = 25^\circ\text{C}$; non repetitive	10	mJ
I_{AR}	$V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10 \text{ kHz}$; repetitive	1	A
$(dv/dt)_{cr}$		5000	V/ μs
T_{VJ}		-55...+175	$^\circ\text{C}$
T_{VJM}		175	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	105	W
M_d	mounting torque	0.45...0.55 4...5	Nm lb.in.
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

Dimensions see page 84 and 85

Symbol	Test Conditions	Characteristic Values	
		typ.	max.
I_R ①	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$		0.5 mA
	$T_{VJ} = 125^\circ\text{C}$ $V_R = V_{RRM}$		5 mA
V_F	$I_F = 15 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$		0.64 V
	$I_F = 15 \text{ A}$; $T_{VJ} = 25^\circ\text{C}$		0.79 V
	$I_F = 30 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$		0.76 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

IXYS reserves the right to change limits, test conditions and dimensions.

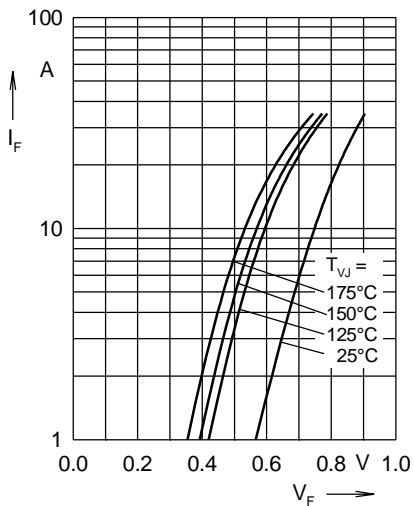


Fig. 1 Maximum forward voltage drop characteristics

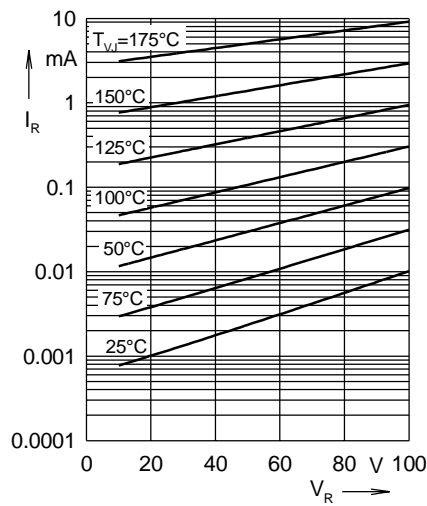


Fig. 2 Typ. value of reverse current I_R versus reverse voltage V_R

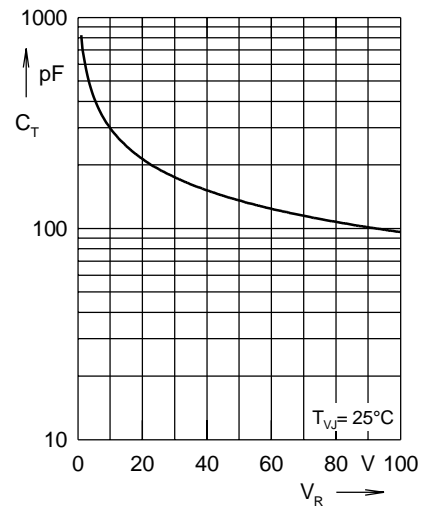


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

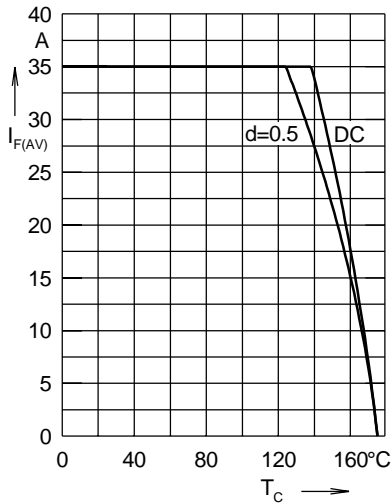


Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

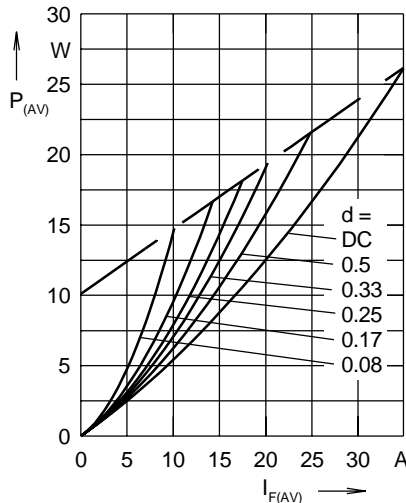


Fig. 5 Forward power loss characteristics

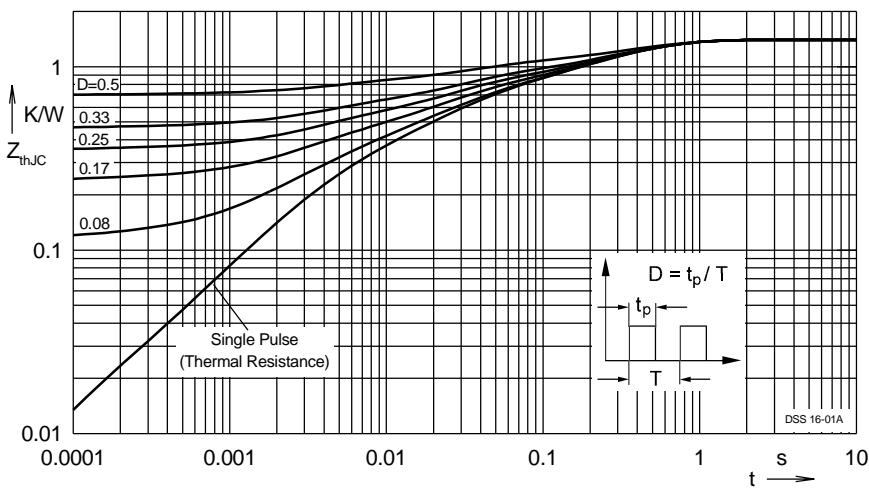


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode