

Power Schottky Rectifier with common cathode

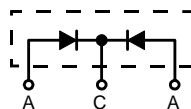
Preliminary Data

$$I_{FAV} = 2 \times 30 \text{ A}$$

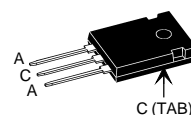
$$V_{RRM} = 130 / 150 \text{ V}$$

$$V_F = 0.69 \text{ V}$$

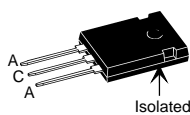
V_{RSM} V	V_{RRM} V	Type
130	130	DSSK 60-013A
150	150	DSSK 60-015A
150	150	DSSK 60-015AR



TO-247 AD
Version A



ISOPLUS 247™
Version AR



* Patent pending

C = Cathode, A = Anode, TAB = Cathode

Symbol	Conditions	Maximum Ratings	
I_{FRMS}		70	A
I_{FAV}	$T_C = 155^\circ\text{C}$; rectangular, $d = 0.5$	30	A
I_{FAV}	$T_C = 155^\circ\text{C}$; rectangular, $d = 0.5$; per device	60	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	600	A
E_{AS}	$I_{AS} = \text{tbd A}$; $L = 180 \mu\text{H}$; $T_{VJ} = 25^\circ\text{C}$; non repetitive	tbd	mJ
I_{AR}	$V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10 \text{ kHz}$; repetitive	tbd	A
$(dv/dt)_{cr}$		18000	V/ms
T_{VJ}		-55...+175	$^\circ\text{C}$
T_{VJM}		175	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	190	W
M_d	Version A: mounting torque M3	0.8...1.2	Nm
F_C	Version AR: mounting force with clip	20...120	N
V_{ISOL}^*	50/60 Hz, RMS, $t = 1 \text{ minute}$, leads-to-tab	2500	V~
Weight	typical	6	g

* Version AR only

Symbol	Conditions	Characteristic Values	
		typ.	max.
I_R ①	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$ $T_{VJ} = 125^\circ\text{C}$ $V_R = V_{RRM}$		2 mA 20 mA
V_F	$I_F = 30 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$ $I_F = 30 \text{ A}$; $T_{VJ} = 25^\circ\text{C}$ $I_F = 60 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$		0.69 V 0.83 V 0.80 V
R_{thJC} R_{thCH}		0.25	0.8 K/W 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.

Features

- International standard package
- Very low V_F
- Extremely low switching losses
- Low I_{RM} -values
- Epoxy meets UL 94V-0
- Version ..R isolated and UL registered E153432

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

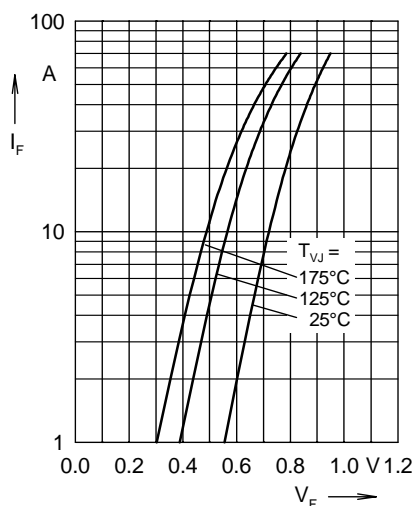


Fig. 1 Maximum forward voltage drop characteristics

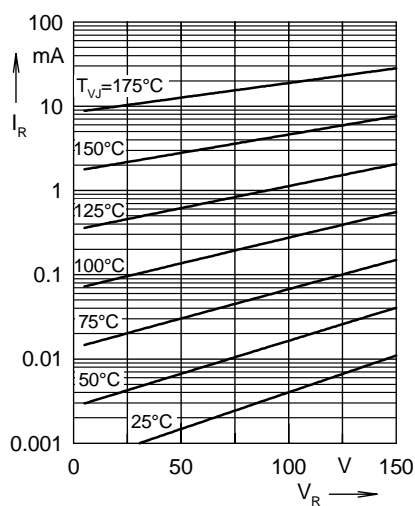


Fig. 2 Typ. value of reverse current I_R versus reverse voltage V_R

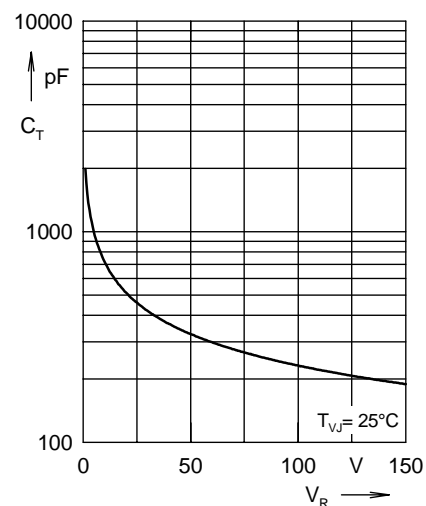


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

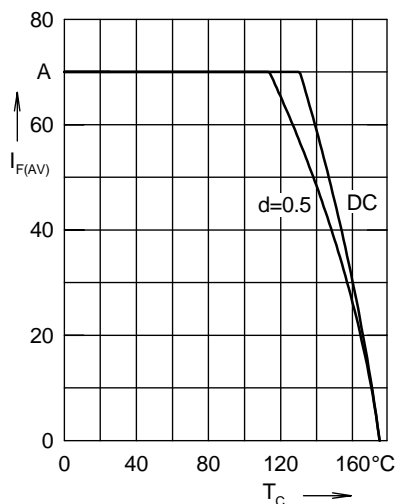


Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

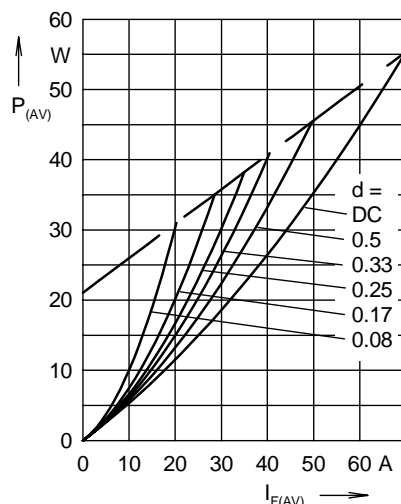


Fig. 5 Forward power loss characteristics

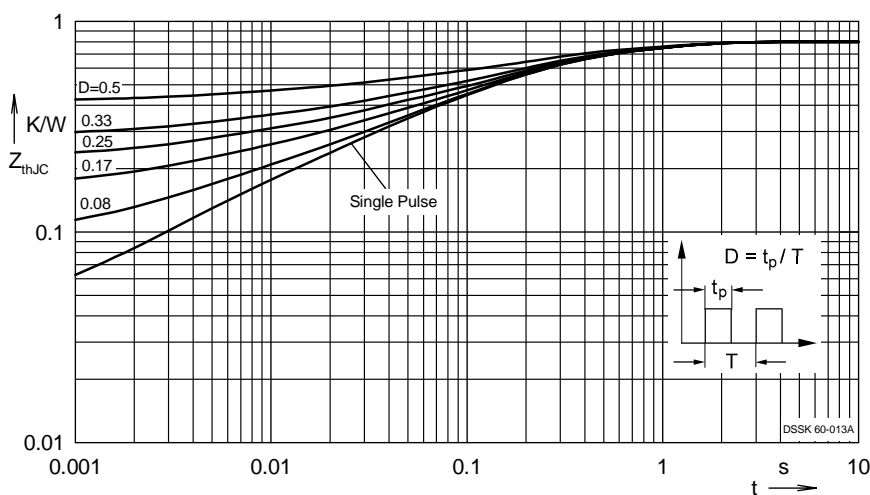


Fig. 6 Transient thermal impedance junction to case at various duty cycles