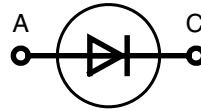


# Avalanche Diode

## Preliminary data

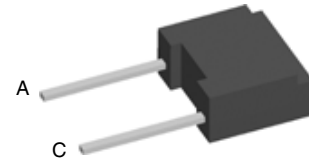
$V_{RSM}$	$V_{(BR)min}$	$V_{RRM}$	Type
V	V	V	
1300	1300	1200	DSA 1-12D
1700	1750	1600	DSA 1-16D
1900	1950	1800	DSA 1-18D



$$V_{RRM} = 1200-1800 \text{ V}$$

$$I_{F(RMS)} = 7 \text{ A}$$

$$I_{FAVM} = 2.3 \text{ A}$$



A = Anode, C = Cathode

Symbol	Conditions	Maximum Ratings	
$I_{FRMS}$	$T_{VJ} = T_{VJM}$	7	A
$I_{FAVM}$	$T_{amb} = 45^{\circ}\text{C}; R_{thJA} = 38 \text{ K/W}; 180^{\circ} \text{ sine}$	2.3	A
	$T_{amb} = 45^{\circ}\text{C}; R_{thJA} = 80 \text{ K/W}; 180^{\circ} \text{ sine}$	1.3	A
$P_{RSM}$	$T_{VJM}; t_p = 10 \text{ ms}$	1.6	kW
$I_{FSM}$	$T_{VJ} = 45^{\circ}\text{C}; t = 10 \text{ ms (50 Hz), sine}$	110	A
	$t = 8.3 \text{ ms (60 Hz), sine}$	118	A
	$T_{VJ} = 150^{\circ}\text{C}; t = 10 \text{ ms (50 Hz), sine}$	100	A
	$t = 8.3 \text{ ms (60 Hz), sine}$	104	A
$I^2t$	$T_{VJ} = 45^{\circ}\text{C}; t = 10 \text{ ms (50 Hz), sine}$	60	A <sup>2</sup> s
	$t = 8.3 \text{ ms (60 Hz), sine}$	58	A <sup>2</sup> s
	$T_{VJ} = 150^{\circ}\text{C}; t = 10 \text{ ms (50 Hz), sine}$	50	A <sup>2</sup> s
	$t = 8.3 \text{ ms (60 Hz), sine}$	45	A <sup>2</sup> s
$T_{VJ}$		-40...+150	$^{\circ}\text{C}$
$T_{VJM}$		150	$^{\circ}\text{C}$
$T_{stg}$		-40...+150	$^{\circ}\text{C}$
Weight	typical	0.8	g

## Features

- Plastic standard package
- Planar passivated chips

## Applications

- Low power rectifiers
- Field supply for DC motors
- Power supplies
- High voltage rectifiers

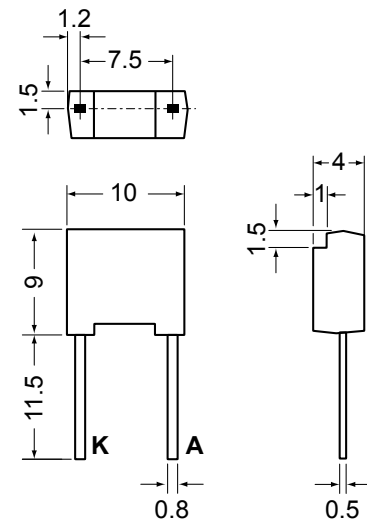
## Advantages

- Space and weight savings
- Simple PCB mounting
- Improved temperature & power cycling
- Reduced protection circuits

Symbol	Conditions	Characteristic Values		
		typ.	max.	
$I_R$	$V_R = V_{RRM} \quad T_{VJ} = T_{VJM}$		0.7	mA
$V_F$	$I_F = 7 \text{ A} \quad T_{VJ} = 25^{\circ}\text{C}$		1.34	V
$V_{T0}$	For power-loss calculations only		0.8	V
$r_T$	$T_{VJ} = T_{VJM}$		67	m $\Omega$
$R_{thJA}$	Forced air cooling with 1.5 m/s, $T_{amb} = 45^{\circ}\text{C}$		38	K/W
	Soldered on to PC board, $T_{amb} = 45^{\circ}\text{C}$		80	K/W
$d_s$	Creepage distance on surface		8.5	mm
$d_A$	Strike distance through air		6.7	mm
$a$	Max. allowable acceleration		100	m/s <sup>2</sup>

Data according to IEC 60747

Dimensions in mm (1 mm = 0.0394")



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

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