

Rectifier Diode Avalanche Diode

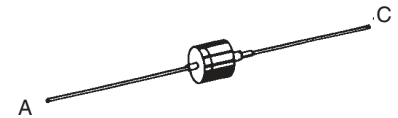
$$V_{RRM} = 1200-1800 \text{ V}$$

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

$$I_{F(AV)M} = 3.6 \text{ A}$$

| V_{RSM} V | $V_{(BR)min}$ ① V | V_{RRM} V | Standard Types | Avalanche Types |
|----------------|----------------------|----------------|-------------------|--------------------|
| 1300 | 1300 | 1200 | DS 2-12A | DSA 2-12A |
| 1700 | 1750 | 1600 | | DSA 2-16A |
| 1900 | 1950 | 1800 | | DSA 2-18A |

① Only for Avalanche Diodes



A = Anode C = Cathode

| Symbol | Test Conditions | Maximum Ratings | |
|--------------|--|--------------------------|---------------------|
| $I_{F(RMS)}$ | $T_{VJ} = T_{VJM}$ | 7 | A |
| $I_{F(AV)M}$ | $T_{amb} = 45^{\circ}\text{C}; R_{thJA} = 30 \text{ K/W}; 180^{\circ} \text{ sine}$ | 3.6 | A |
| | $T_{amb} = 45^{\circ}\text{C}; R_{thJA} = 115 \text{ K/W}; 180^{\circ} \text{ sine}$ | 1.2 | A |
| P_{RSM} | DSA types, $T_{VJ} = 25^{\circ}\text{C}, t_p = 10 \mu\text{s}$ | 2.5 | kW |
| I_{FSM} | $T_{VJ} = 45^{\circ}\text{C}; V_R = 0$ | t = 10 ms (50 Hz), sine | 120 A |
| | | t = 8.3 ms (60 Hz), sine | 127 A |
| I^2t | $T_{VJ} = 45^{\circ}\text{C}; V_R = 0$ | t = 10 ms (50 Hz), sine | 72 A ² s |
| | | t = 8.3 ms (60 Hz), sine | 68 A ² s |
| T_{VJM} | $T_{VJ} = T_{VJM}; V_R = 0$ | t = 10 ms (50 Hz), sine | 50 A ² s |
| | | t = 8.3 ms (60 Hz), sine | 47 A ² s |
| T_{VJ} | | 180 | °C |
| T_{stg} | | -40...+180 | °C |
| T_{stg} | | -40...+180 | °C |
| Weight | | 2.4 | g |

Features

- International standard package
- Axial wire connexions
- Planar glassivated chips

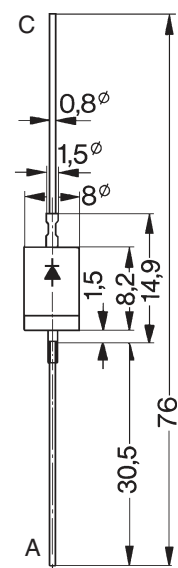
Applications

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

Advantages

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

Dimensions in mm (1 mm = 0.0394")

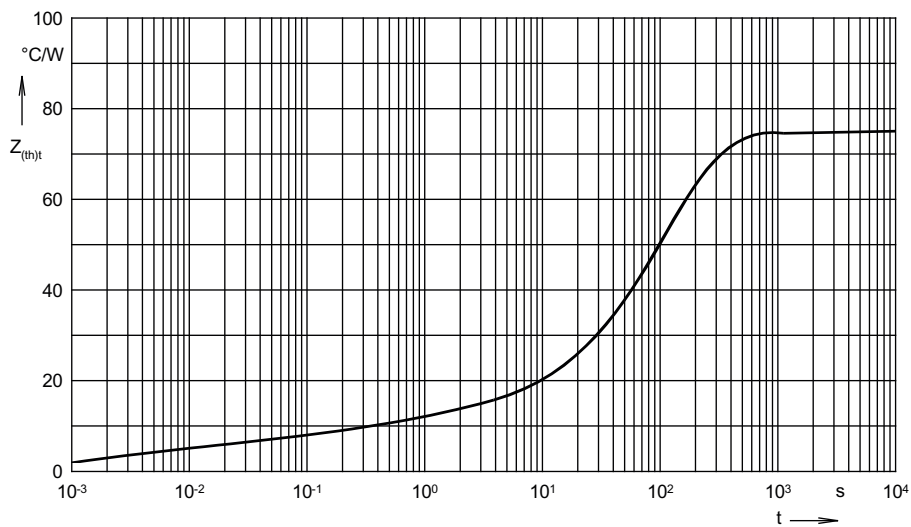
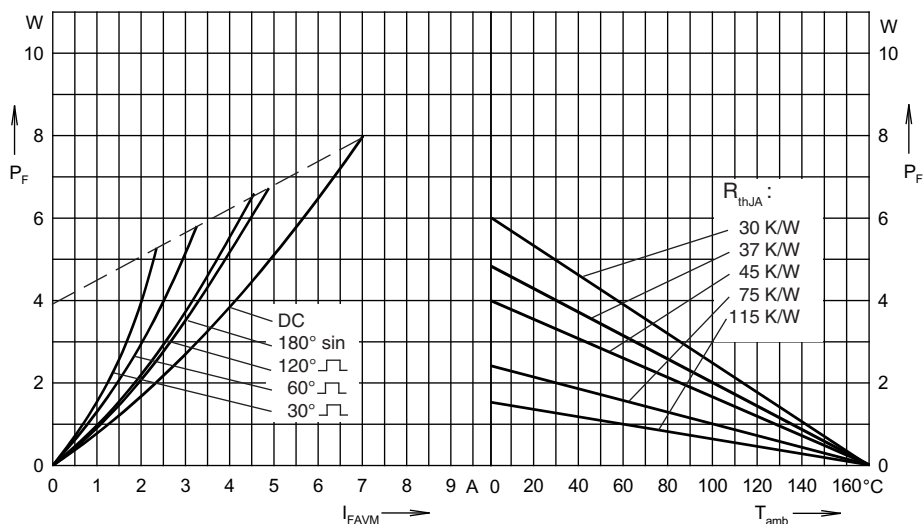
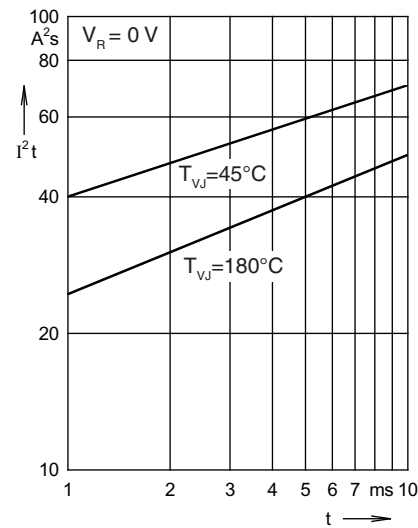
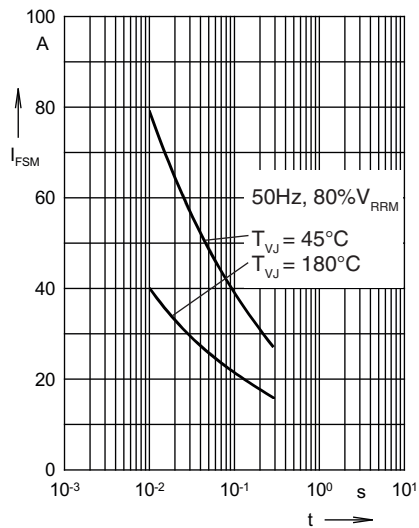
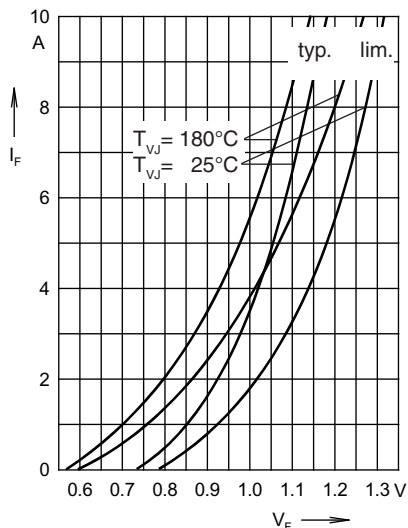


| Symbol | Test Conditions | Characteristic Values | |
|------------|---|-----------------------|----------------------|
| I_R | $T_{VJ} = 180^{\circ}\text{C}; V_R = V_{RRM}$ | ≤ | 2 mA |
| V_F | $I_F = 7 \text{ A}; T_{VJ} = 25^{\circ}\text{C}$ | ≤ | 1.25 V |
| V_{T0} | For power-loss calculations only | | 0.85 V |
| r_T | $T_{VJ} = T_{VJM}$ | | 43 mΩ |
| R_{thJA} | Forced air cooling with 1.5 m/s, $T_{amb} = 45^{\circ}\text{C}$ | | 30 K/W |
| | Soldered between 2 cooling fins, $T_{amb} = 45^{\circ}\text{C}$ | | 37 K/W |
| | Soldered onto PC board (25 mm), $T_{amb} = 45^{\circ}\text{C}$ | | 75 K/W |
| | Free air cooling, $T_{amb} = 45^{\circ}\text{C}$ | | 115 K/W |
| d_s | Creepage distance on surface | | 2.25 mm |
| d_A | Strike distance through air | | 2.25 mm |
| a | Max. allowable acceleration | | 100 m/s ² |

Data according to IEC 60747

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

20170323a



R_{thJA} for various conduction angles d :

| d | R_{thJA} (K/W) |
|------|------------------|
| DC | 75 |
| 180° | 75.7 |
| 120° | 76.1 |
| 60° | 76.7 |
| 30° | 77.4 |

Constants for Z_{thJA} calculation:

| i | R_{thi} (K/W) | t_i (s) |
|-----|-----------------|-----------|
| 1 | 0.15 | 0.001 |
| 2 | 10.85 | 0.1 |
| 3 | 64 | 35 |