

$V_{RM} = 9\text{ kV}$, $I_{F(AV)} = 400\text{ mA}$
High-Voltage Rectifier Diode
HVR-1X-96B

Description

The HVR-1X-96B is a high-voltage rectifier diode of 9 kV and 400 mA.

This diode is ideal for applications such as high-voltage control circuits and inverters for microwave ovens.

Features

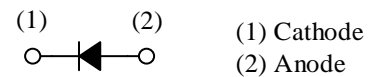
- V_{RM} ----- 9 kV
- I_{RSM} ----- 250 mA
- $I_{F(AV)}$ ----- 400 mA
- V_F ----- 10 V max.
- Bare Leads: Pb-free (RoHS Compliant)
- Flammability: Equivalent to UL94V-0

Applications

- High Voltage Control Circuits
- Inverter for Microwave Oven

Package

Axial ($\square 7/\phi 1.2$)



Not to scale

HVR-1X-96B

Absolute Maximum Ratings

Unless otherwise specified, $T_A = 25\text{ }^\circ\text{C}$.

Parameter	Symbol	Conditions	Rating	Unit
Repetitive Peak Reverse Voltage	V_{RM}		9	kV
Average Forward Current	$I_{F(AV)}$	$T_L \leq 110\text{ }^\circ\text{C}^{(1)}$	400	mA
Surge Forward Current	I_{FSM}	Half cycle sine wave, positive side, 10 ms, 1 shot	30	A
Peak Pulse Reverse Current	I_{RSM}	Single pulse, pulse width 300 μs	250	mA
Junction Temperature	T_J		130	$^\circ\text{C}$
Storage Temperature	T_{STG}		-40 to 130	$^\circ\text{C}$

Electrical Characteristics

Unless otherwise specified, $T_A = 25\text{ }^\circ\text{C}$.

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward Voltage Drop	V_F	$I_F = 350\text{ mA}$	—	—	10	V
Reverse Leakage Current	I_R	$V_R = V_{RM}$	—	—	10	μA
Breakdown Voltage	V_Z	$I_Z = 100\text{ }\mu\text{A}$	9.5	—	15	kV

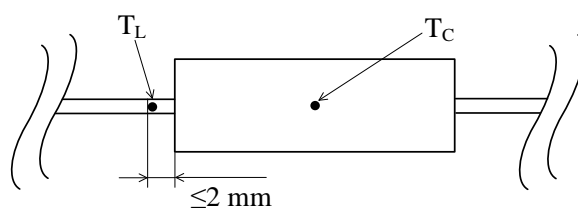


Figure 1. Temperature Measurement Conditions

Mechanical Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Unit
Package Weight		—	3.0	—	g

⁽¹⁾ See Figure 1.

Rating and Characteristic Curves

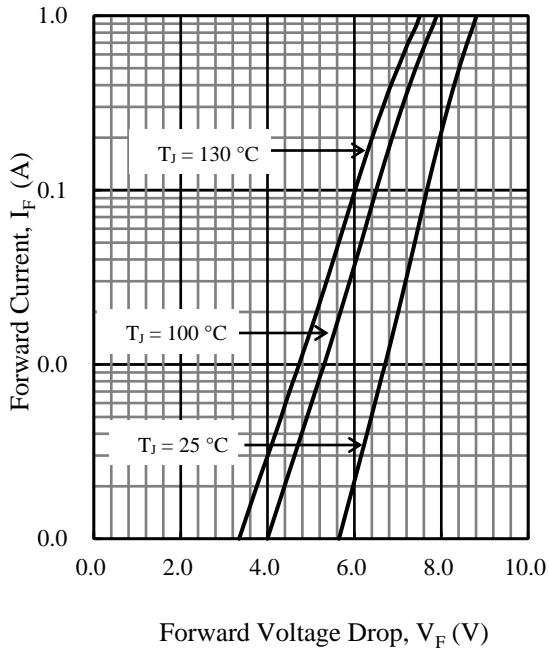


Figure 2. Typical Characteristics: I_F vs. V_F ($T_J = 25\text{ }^\circ\text{C}$)

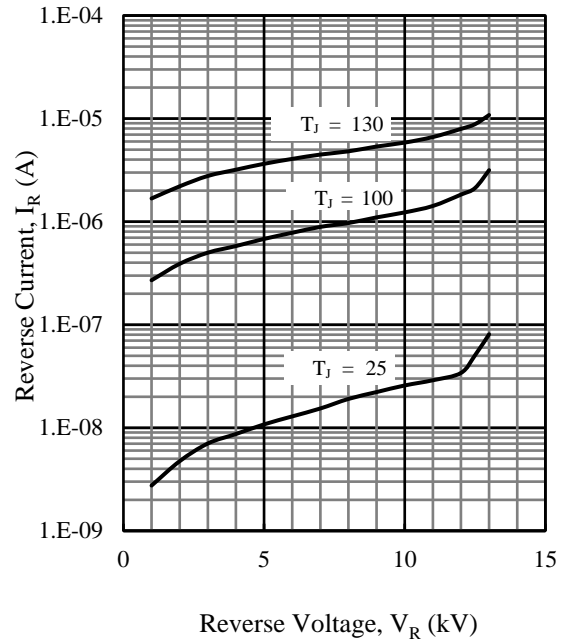


Figure 3. Typical Characteristics: I_R vs. V_R ($T_J = 25\text{ }^\circ\text{C}$)

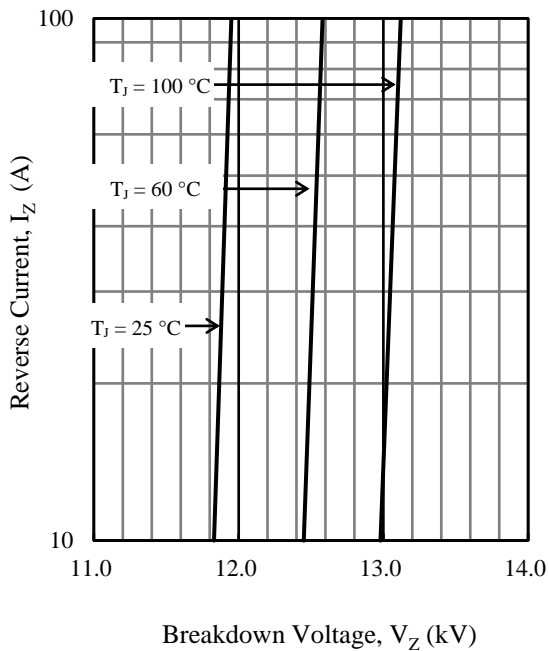


Figure 4. Typical Characteristics: I_Z vs. V_Z ($t = 5\text{ s}$)

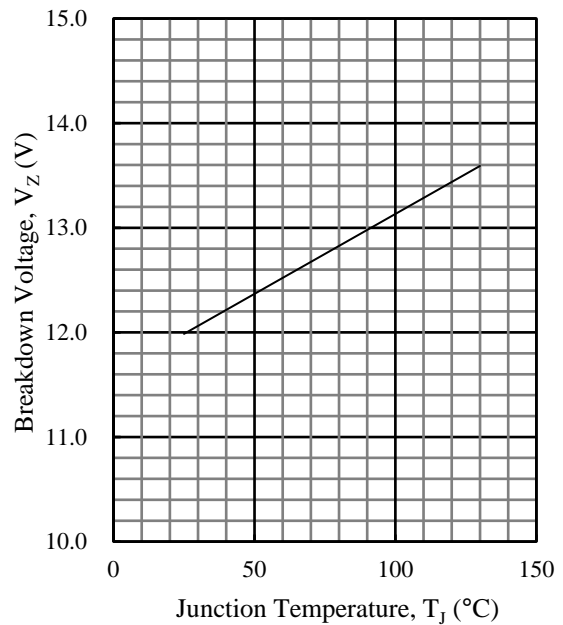


Figure 5. Typical Characteristics: I_Z vs. V_Z ($I_Z = 100\text{ }\mu\text{A}$)

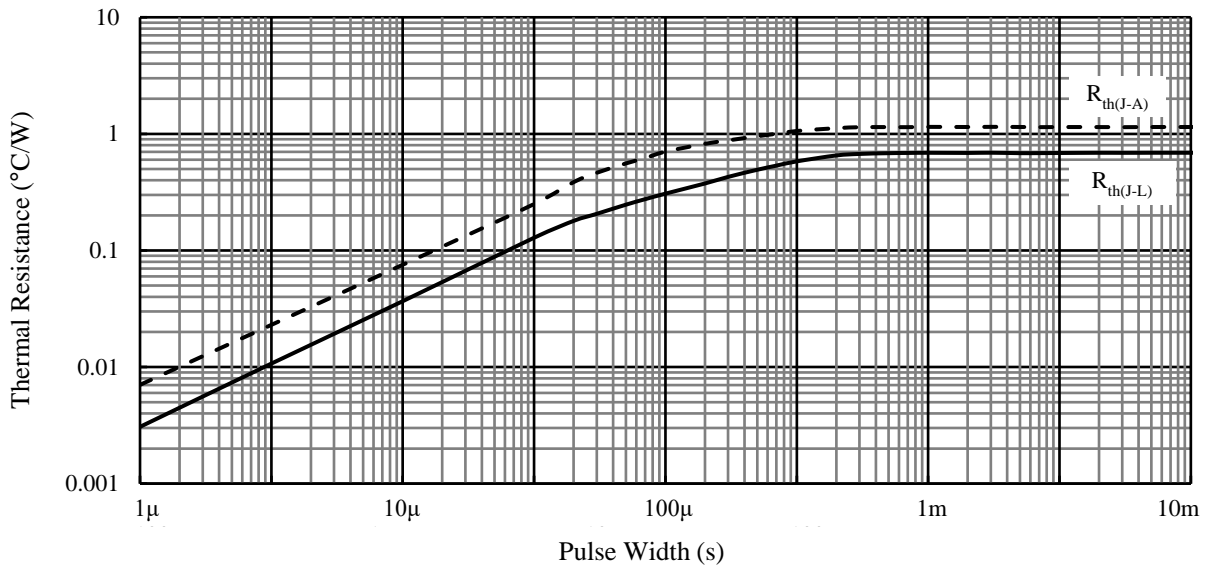
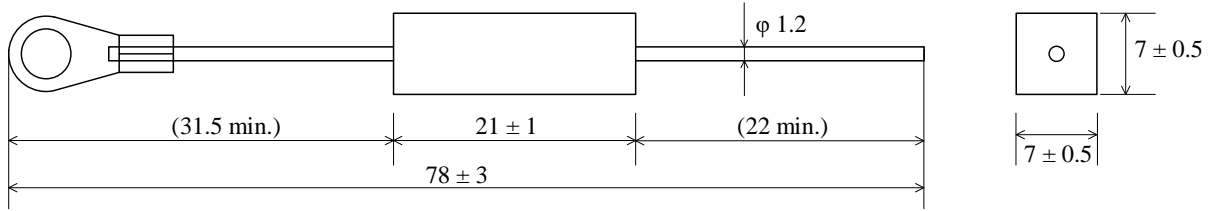


Figure 6. Typical Transient Thermal Resistance Characteristics

HVR-1X-96B

Physical Dimensions

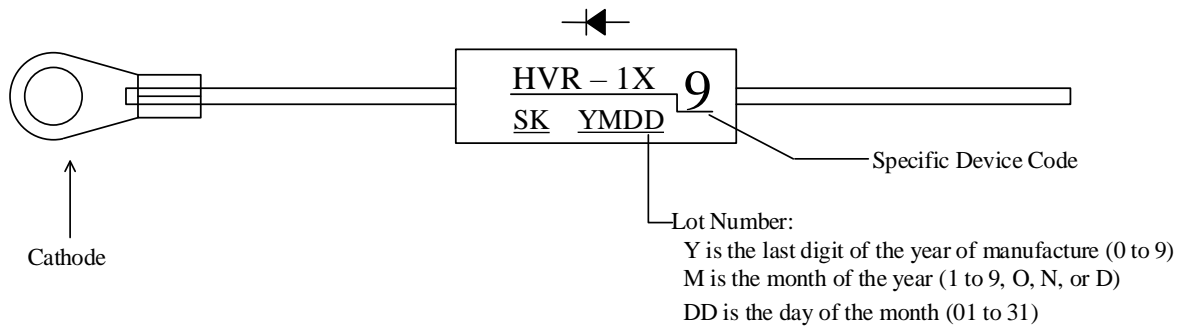
- Axial (□7/φ1.2)



NOTES:

- Dimensions in millimeters
- Bare leads: Pb-free (RoHS compliant)
- The burr may exist up to 8 mm from the body of lead root.
- When soldering the products, it is required to minimize the working time within the following limits:
 - Flow: 260 °C / 10 s, 1 time
 - Soldering iron: 350 °C / 3.5 s, 1 time (Soldering should be at a distance of at least 1.5 mm from the body of the product.)

Marking Diagram



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