V_{RM} = 7.5 kV, $I_{F(AV)}$ = 350 mA
High-Frequency and High-Voltage Rectifier Diode

UX-G5B

Data Sheet

Description

The UX-G5B is a low-loss and high-voltage rectifier diode.

The product achieves a typical forward voltage drop, V_F, of 10.5 V and a typical reverse recovery, t_{rr} of 0.06 µs by optimizing trade-offs between V_F and t_{rr}.

Features

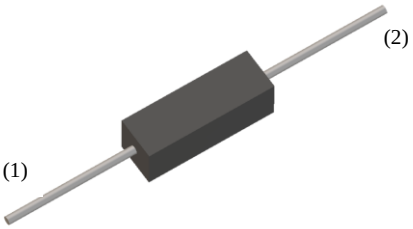
- V_{RM} ---------- 7.5 kV
- I_{RSM} ---------- 150 mA
- $I_{F(AV)}$ ---------- 350 mA
- V_F ---------- 13.5 V max.
- t_{rr} ---------- 0.15 µs max.
  (I_F = I_{RP} = 100 mA, 90% Recovery Point)
- Bare Leads: Pb-free (RoHS Compliant)
- Flammability: Equivalent to UL94V-0

Applications

- High Voltage Control Circuits
- Inverter for Microwave Oven

Package

Axial (□7/φ1.2)



(1) Cathode
(2) Anode

Not to scale

Absolute Maximum Ratings

Unless otherwise specified, T_A = 25 °C.

Parameter	Symbol	Conditions	Rating	Unit
Repetitive Peak Reverse Voltage	V_{RM}		7.5	kV
Average Forward Current	$I_{F(AV)}$	$T_L \leq 110$ °C (1)	350	mA
Surge Forward Current	I_{FSM}	Half cycle sine wave, positive side, 10 ms, 1 shot	15	A
Peak Pulse Reverse Current	I_{RSM}	Single pulse, pulse width 50 µs	150	mA
Junction Temperature	T_J		120	°C
Storage Temperature	T_{STG}		−40 to 130	°C

Electrical Characteristics

Unless otherwise specified, T_A = 25 °C.

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward Voltage Drop	V_F	I_F = 350 mA	—	10.5	13.5	V
Reverse Leakage Current	I_R	$V_R = V_{RM}$	—	—	10	µA
Reverse Recovery Time	t_{rr}	$I_F = I_{RP}$ = 100 mA, T_J = 25 °C, 90% recovery point	—	0.06	0.15	µs

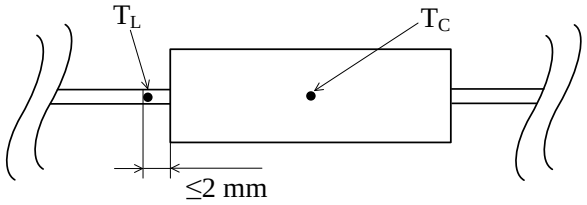


Figure 1. Temperature Measurement Conditions

(1) See Figure 1.

Rating and Characteristic Curves

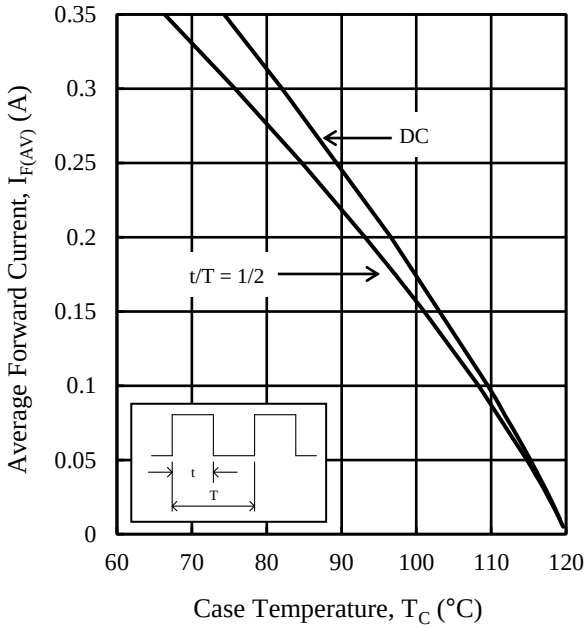


Figure 2. Typical Characteristics: $I_{F(AV)}$ vs. T_C[(2)]
(T_J = 120 °C, V_R = 0 V, $R_{th\ (J-C)}$ = 13.0 °C/W)

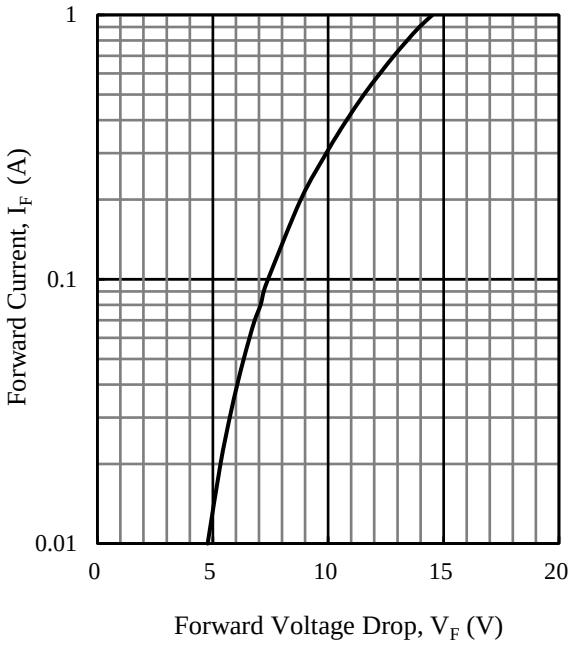


Figure 3. Typical Characteristics: I_F vs. V_F
(T_J = 25 °C)

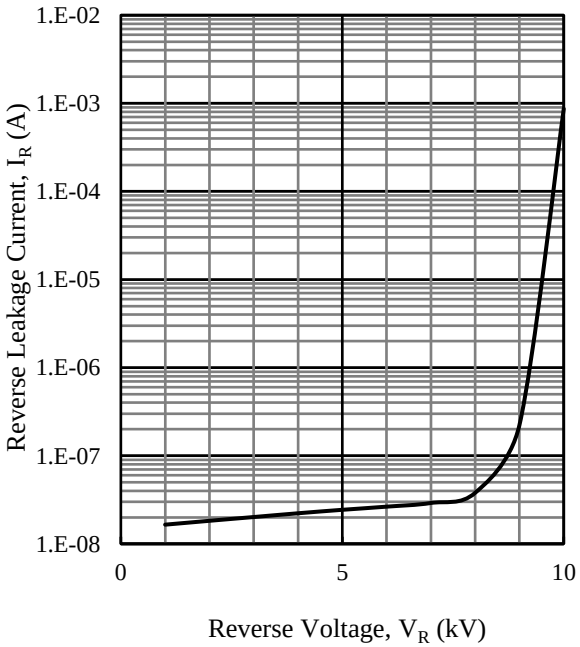
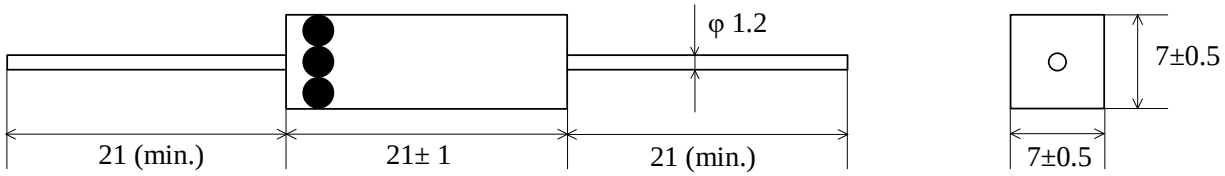


Figure 4. Typical Characteristics: I_R vs. V_R
(T_J = 25 °C)

(2) See Figure 1.

Physical Dimensions

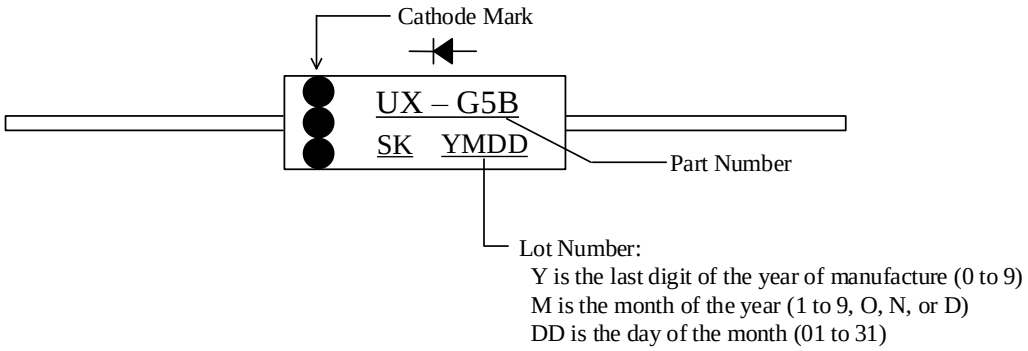
● **Axial (□7/φ1.2)**



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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