

**$V_{RM} = 7.5 \text{ kV}$ ,  $I_{F(AV)} = 350 \text{ mA}$**   
**High-Frequency and High-Voltage Rectifier Diode**  
**UX-G5B**

**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  $\mu\text{s}$  by optimizing trade-offs between  $V_F$  and  $t_{rr}$ .

**Features**

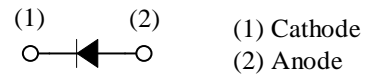
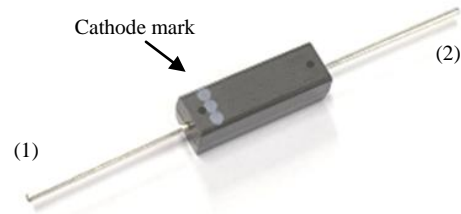
- Bare Leads: Pb-free (RoHS Compliant)
- $V_{RM}$ -----7.5 kV
- $I_{RSM}$ -----150 mA
- $I_{F(AV)}$ -----350 mA
- $V_F$ -----13.5 V max.
- $t_{rr}$ -----0.15  $\mu\text{s}$  max.  
( $I_F = I_{RP} = 100 \text{ mA}$ , 90% Recovery Point)

**Applications**

- High Voltage Control Circuits
- Inverter for Microwave Oven

**Package**

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



Not to scale

## UX-G5B

### Absolute Maximum Ratings

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

Parameter	Symbol	Conditions	Rating	Unit	Remarks
Peak Repetitive Reverse Voltage	$V_{RM}$		7.5	kV	
Average Forward Current	$I_{F(AV)}$	$T_L \leq 110\text{ }^\circ\text{C}^{(1)}$	350	mA	
Surge Forward Current	$I_{FSM}$	Half cycle sine wave, positive side, 10 ms, 1 shot	15	A	
Surge Reverse Current	$I_{RSM}$	Single pulse, pulse width 50 $\mu\text{s}$	150	mA	
Junction Temperature	$T_J$		120	$^\circ\text{C}$	
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	$V_F$	$I_F = 350\text{ mA}$	—	10.5	13.5	V
Reverse Leakage Current	$I_R$	$V_R = V_{RM}$	—	—	10	$\mu\text{A}$
Reverse Recovery Time	$t_{rr}$	$I_F = I_{RP} = 100\text{ mA}$ , $T_J = 25\text{ }^\circ\text{C}$ , 90% recovery point	—	0.06	0.15	$\mu\text{s}$

<sup>(1)</sup>  $T_L$  is the temperature of a lead measured at a distance of up to 2 mm from the body of the product.

Rating and Characteristic Curves

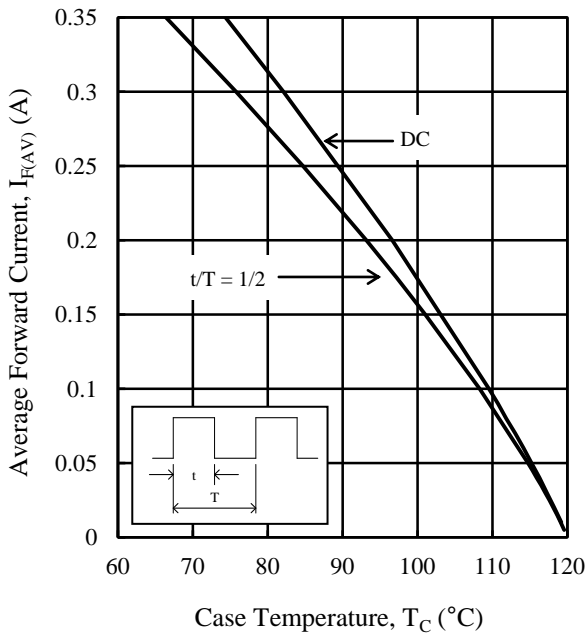


Figure 1.  $T_C$  vs.  $I_{F(AV)}$  Typical Characteristics<sup>(2)</sup>  
 ( $T_J = 120\text{ °C}$ ,  $V_R = 0\text{ V}$ ,  $R_{th(J-C)} = 13.0\text{ °C/W}$ )

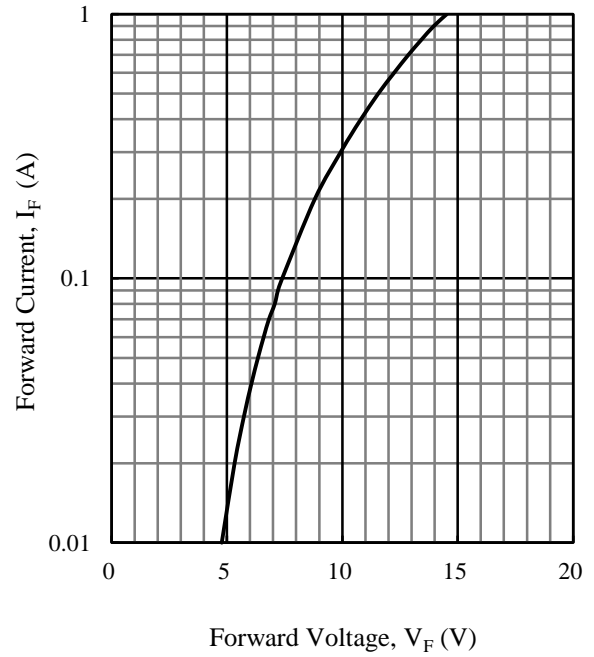


Figure 2.  $V_F$  vs.  $I_F$  Typical Characteristics ( $T_J = 25\text{ °C}$ )

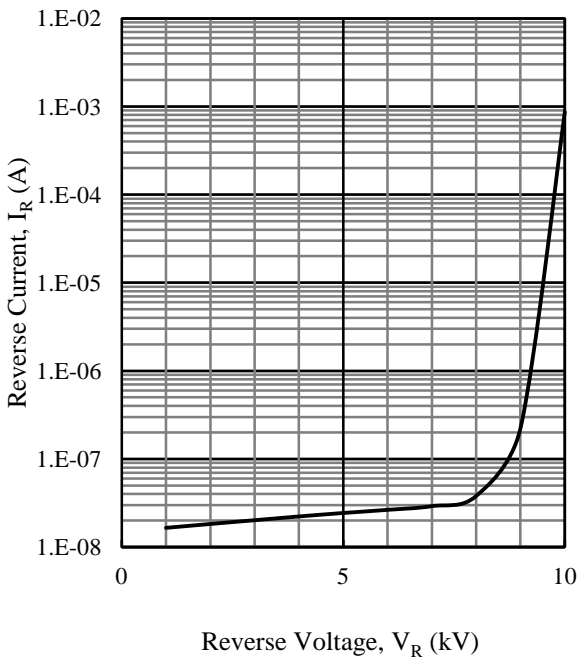


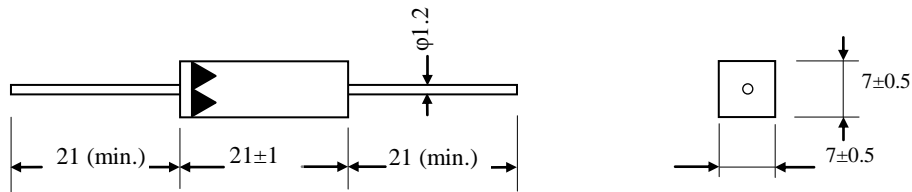
Figure 3.  $V_R$  vs.  $I_R$  Typical Characteristics ( $T_J = 25\text{ °C}$ )

<sup>(2)</sup> Case temperature measured surface temperature of the seal center.

# UX-G5B

## Physical Dimensions

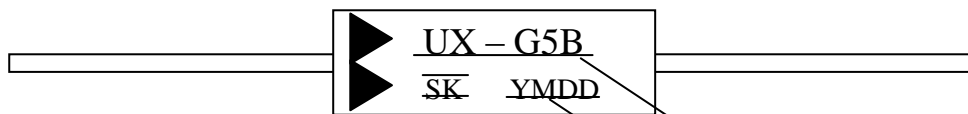
- Axial (□7/φ1.2)



### NOTES:

- Dimensions in millimeters
- Bare leads: Pb-free (RoHS compliant)
- When soldering the products, be sure to minimize the working time, within the following limits:
  - Flow:  $260 \pm 5$  °C /  $10 \pm 1$  s, 2 times
  - Soldering iron:  $380 \pm 10$  °C /  $3.5 \pm 0.5$  s, 1 time (Soldering should be at a distance of at least 1.5 mm from the body of the product.)

## Marking Diagram



Part Number

Lot Number:

Y is the last digit of the year of manufacture (0 to 9)  
M is the month of the year (1 to 9, O, N, or D)  
DD is the day of the month (01 to 31)

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