V_{RM} = 8 kV, $I_{F(AV)}$ = 350 mA
High-Frequency and High-Voltage Rectifier Diode

UX-F5B

Data Sheet

Description

The UX-F5B is a low-loss and high-voltage rectifier diode.

The product achieves a typical forward voltage drop, V_F, of 11.0 V and a typical reverse recovery, t_{rr} of 0.07 µs by optimizing trade-offs between V_F and t_{rr}.

Features

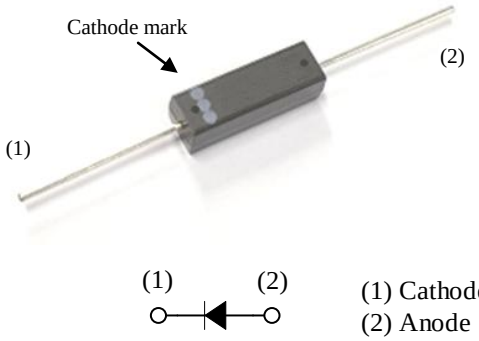
- Bare Leads: Pb-free (RoHS Compliant)
- V_{RM} ---------- 8 kV
- I_{RSM} ---------- 150 mA
- $I_{F(AV)}$ ---------- 350 mA
- V_F ---------- 14.0 V max.
- t_{rr} ---------- 0.15 µs max.
  (I_F = I_{RP} = 100 mA, 90% Recovery Point)

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	Remarks
Peak Repetitive Reverse Voltage	V_{RM}		8	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	
Surge 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	—	11.0	14.0	V
Reverse Leakage Current	I_R	$V_R = V_{RM}$	—	—	10	µA
Reverse Breakdown Voltage	V_Z	I_R = 100 µA	8.5	9.8	—	kV
Reverse Recovery Time	t_{rr}	$I_F = I_{RP}$ = 100 mA, T_J = 25 °C, 90% recovery point	—	0.07	0.15	µs

(1) 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

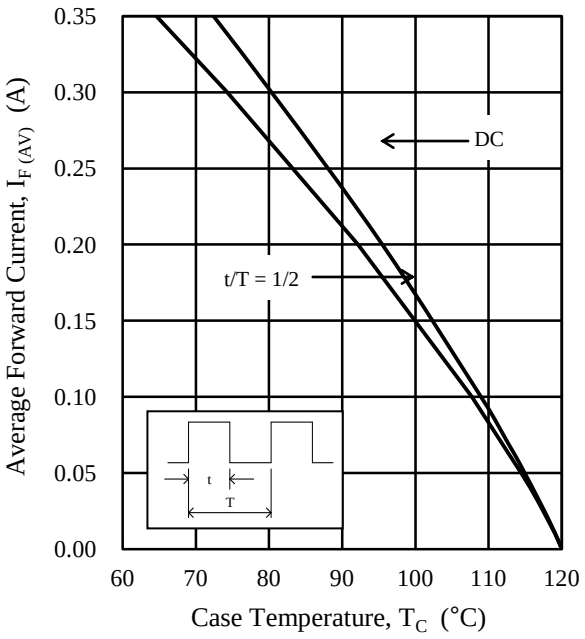


Figure 1. T_C vs. $I_{F(AV)}$ Typical Characteristics[(2)]
(T_J = 120 °C, V_R = 0 V, $R_{th\ (J-c)}$ = 13.0 °C/W)

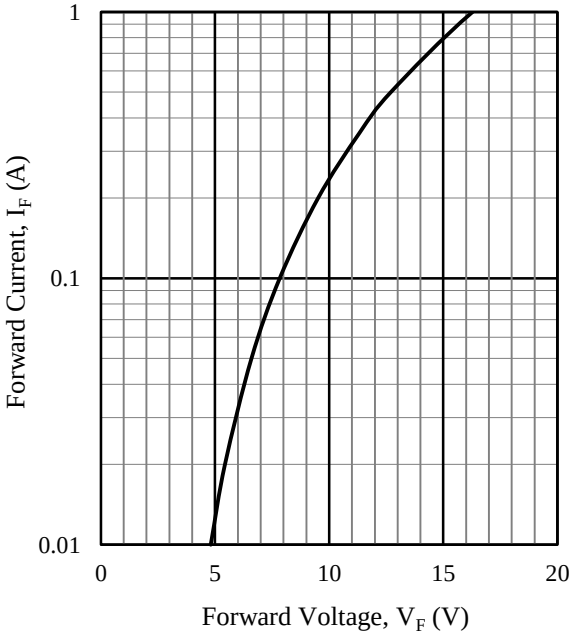


Figure 2. V_F vs. I_F Typical Characteristics (T_J = 25 °C)

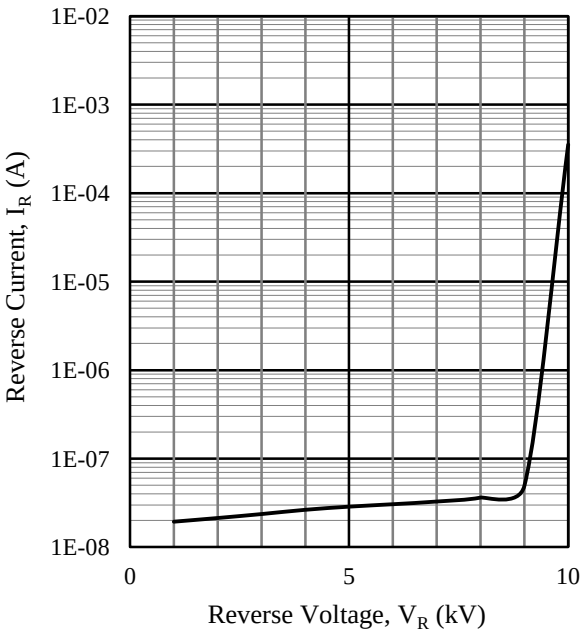
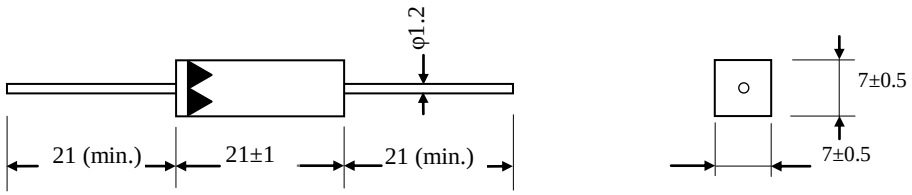


Figure 3. V_R vs. I_R Typical Characteristics (T_J = 25 °C)

[(2)] Case temperature measured surface temperature of the seal center.

Physical Dimensions

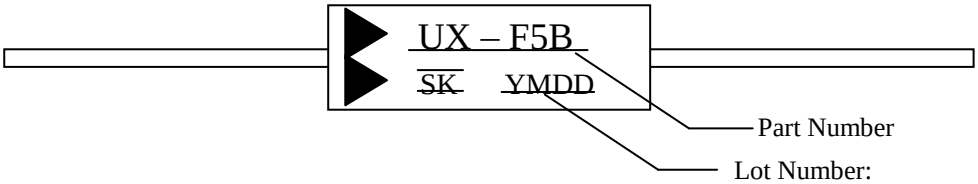
● **Axial (□7/φ1.2)**



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 ± 5 °C / 10 ± 1 s, 2 times
  Soldering iron: 380 ± 10 °C / 3.5 ± 0.5 s, 1 time (Soldering should be at a distance of at least 1.5 mm from the body of the products.)

Marking Diagram



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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