

**$V_{RM} = 800\text{ V}$ ,  $I_{F(AV)} = 1.5\text{ A}$ ,  $t_{rr} = 400\text{ ns}$**   
**Fast Recovery Diode**  
**RU4B**

**Description**

The RU4B is a high voltage fast recovery diode of 800 V / 1.5 A. The maximum  $t_{rr}$  of 400 ns is realized by optimizing a life-time control.

**Features**

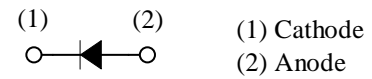
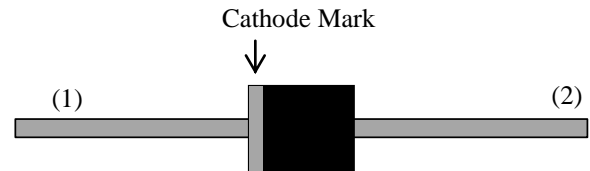
- $V_{RM}$ ----- 800 V
- $I_{F(AV)}$ ----- 1.5 A
- $V_F$ -----1.60 V
- $t_{rr1}$ -----400 ns
- Bare Leads: Pb-free (RoHS Compliant)

**Applications**

- High Voltage Rectification Circuit  
(PFC Circuit, Bridge Circuit, etc.)
- Snubber Diode  
(Flyback Converter, etc.)

**Package**

Axial ( $\phi 6.5 \times 8.0L / \phi 1.4$ )



Not to scale

**Absolute Maximum Ratings**

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

Parameter	Symbol	Rating	Unit	Conditions
Peak Repetitive Reverse Voltage	$V_{RSM}$	850	V	
Repetitive Reverse Voltage	$V_{RM}$	800	V	
Average Forward Current	$I_{F(AV)}$	1.5	A	$T_A = 60\text{ }^\circ\text{C}$ ; See Figure 2 and Figure 3.
Surge Forward Current	$I_{FSM}$	50	A	Half cycle sine wave, positive side, 10 ms, 1 shot
$I^2t$ Limiting Value	$I^2t$	12.5	$\text{A}^2\text{s}$	$1\text{ ms} \leq t \leq 10\text{ ms}$
Junction Temperature	$T_J$	-40 to 150	$^\circ\text{C}$	
Storage Temperature	$T_{STG}$	-40 to 150	$^\circ\text{C}$	

**Electrical Characteristics**

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward Voltage Drop	$V_F$	$T_J = 25\text{ }^\circ\text{C}$ , $I_F = 3.0\text{ A}$	—	—	1.60	V
		$T_J = 100\text{ }^\circ\text{C}$ , $I_F = 3.0\text{ A}$	—	0.96	—	V
Reverse Leakage Current	$I_R$	$V_R = V_{RM}$	—	—	10	$\mu\text{A}$
Reverse Leakage Current Under High Temperature	$H \cdot I_R$	$V_R = V_{RM}$ , $T_J = 100\text{ }^\circ\text{C}$	—	—	500	$\mu\text{A}$
Reverse Recovery Time	$t_{rr1}$	$I_F = I_{RP} = 10\text{ mA}$ 90% recovery point, $T_J = 25\text{ }^\circ\text{C}$	—	—	400	ns
	$t_{rr2}$	$I_F = 10\text{ mA}$ , $I_{RP} = 20\text{ mA}$ , 75% recovery point, $T_J = 25\text{ }^\circ\text{C}$	—	—	180	ns
Thermal Resistance <sup>(1)</sup>	$R_{th(J-L)}$	See Figure 1.	—	—	8.0	$^\circ\text{C/W}$

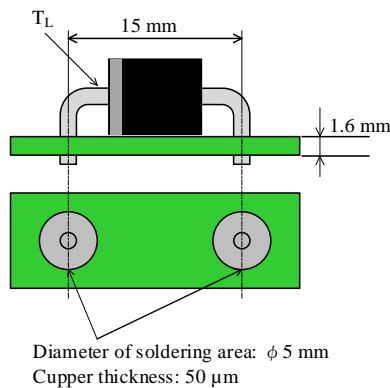


Figure 1 Lead Temperature Measurement Conditions

<sup>(1)</sup>  $R_{th(J-L)}$  is thermal resistance between junction and lead.

Rating and Characteristic Curves

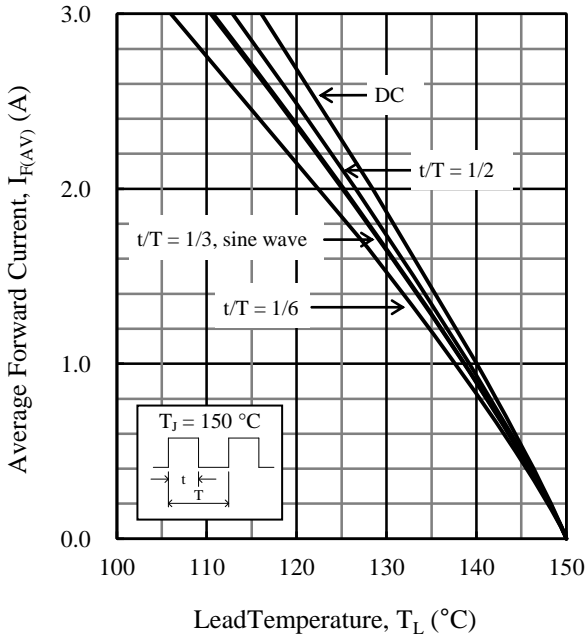


Figure 2.  $I_{F(AV)}$  vs.  $T_L$  Typical Characteristics<sup>(2)</sup>  
( $V_R = 0$  V)

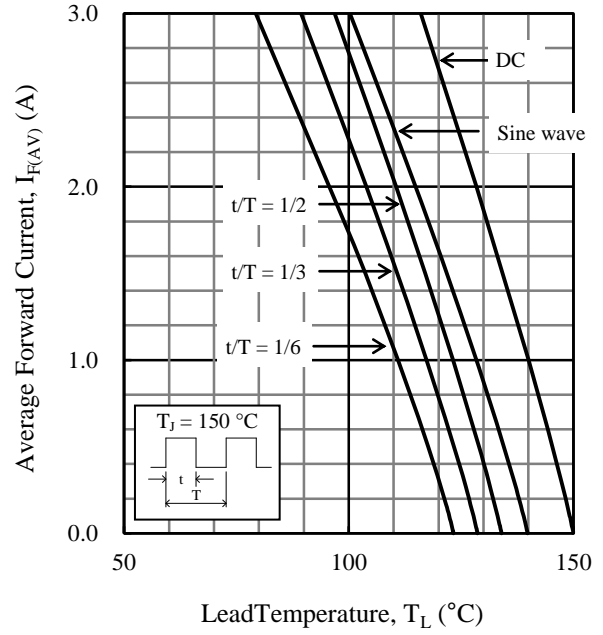


Figure 3.  $I_{F(AV)}$  vs.  $T_L$  Typical Characteristics<sup>(2)</sup>  
( $V_R = 800$  V)

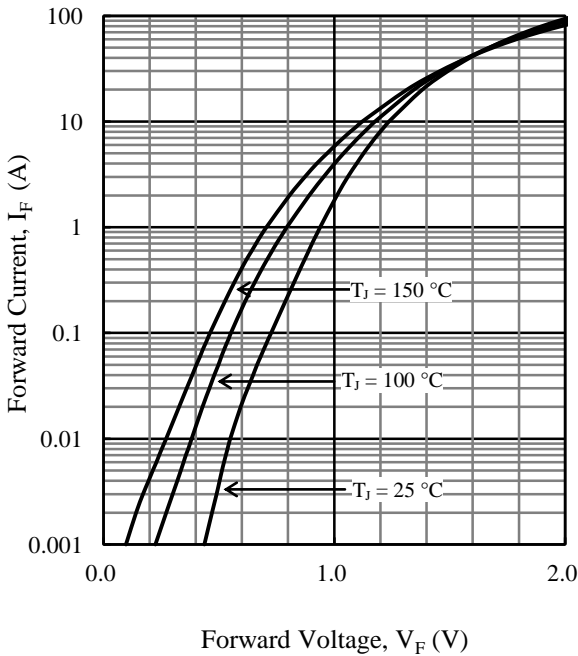


Figure 4.  $V_F$  vs.  $I_F$  Typical Characteristics

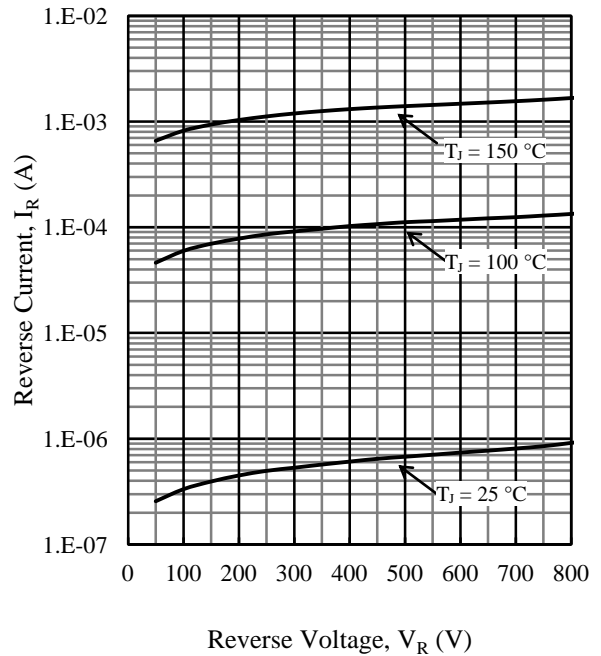


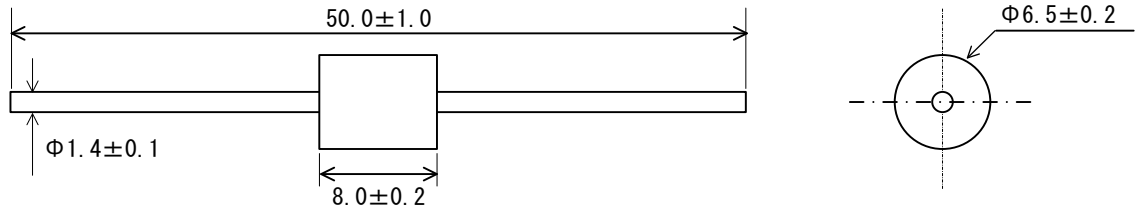
Figure 5.  $V_R$  vs.  $I_R$  Typical Characteristics

<sup>(2)</sup> See Figure 1 for the lead temperature measurement conditions.

# RU4B

## Physical Dimensions

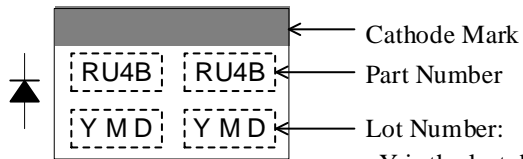
- Axial ( $\phi 6.5 \times 8.0L / \phi 1.4$ )



### NOTES:

- Dimensions in millimeters
- Bare leads: Pb-free (RoHS compliant)
- When soldering the products, it is required 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



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)

D is the period of days represented by:

- : the first 10 days of the month (1st to 10th)
- : the second 10 days of the month (11th to 20th)
- : the last 10–11 days of the month (21st to 31st)

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## RU4B

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- 変更履歴 (注：この履歴は社内確認用です。)

Revision	日付	改訂者	変更内容	変更理由
1.0	2017/11/13	奥	新規 注意書き DSGN-AEZ-16003	