

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

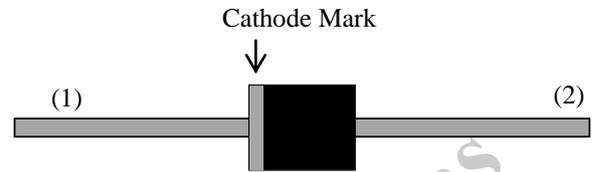
- V_{RM} ----- 800 V
- $I_{F(AV)}$ ----- 1.5 A
- V_F ----- 1.60 V
- t_{rr1} ----- 400 ns
- Bare Leads: Pb-free (RoHS Compliant)

Applications

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

Package

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



(1) Cathode
(2) Anode

Not to scale

Not Recommended for New Designs

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	A^2s	$1\text{ ms} \leq t \leq 10\text{ ms}$
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	μA
Reverse Leakage Current Under High Temperature	$H \cdot I_R$	$V_R = V_{RM}$, $T_J = 100\text{ }^\circ\text{C}$	—	—	500	μA
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 ⁽¹⁾	$R_{th(J-L)}$	See Figure 1.	—	—	8.0	$^\circ\text{C/W}$

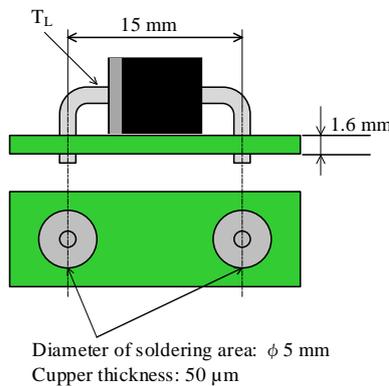


Figure 1 Lead Temperature Measurement Conditions

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

Rating and Characteristic Curves

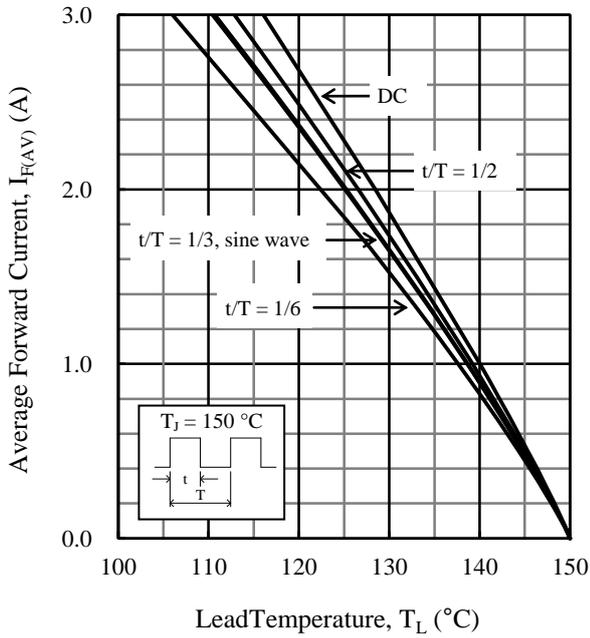


Figure 2. $I_{F(AV)}$ vs. T_L Typical Characteristics⁽²⁾
($V_R = 0$ V)

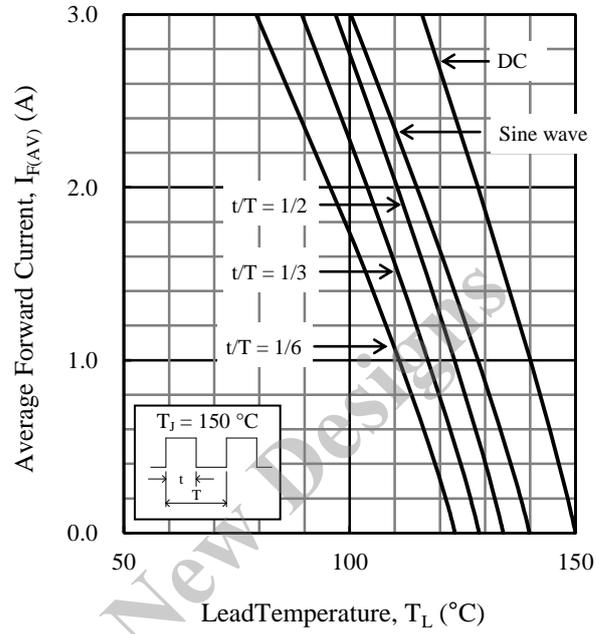


Figure 3. $I_{F(AV)}$ vs. T_L Typical Characteristics⁽²⁾
($V_R = 800$ V)

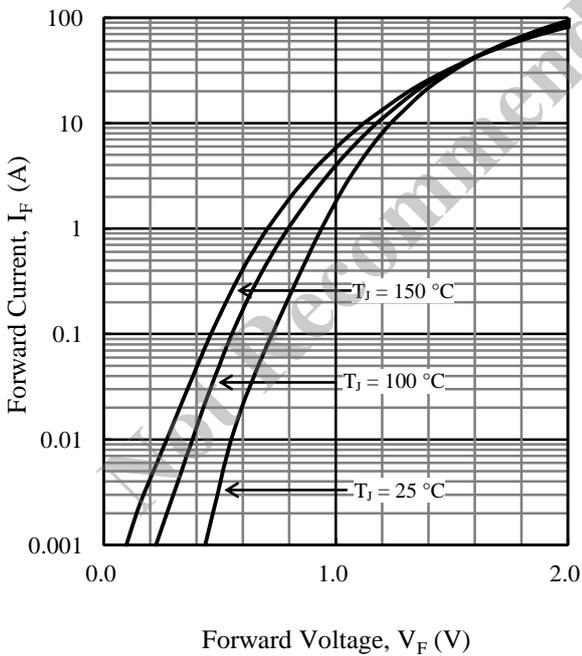


Figure 4. V_F vs. I_F Typical Characteristics

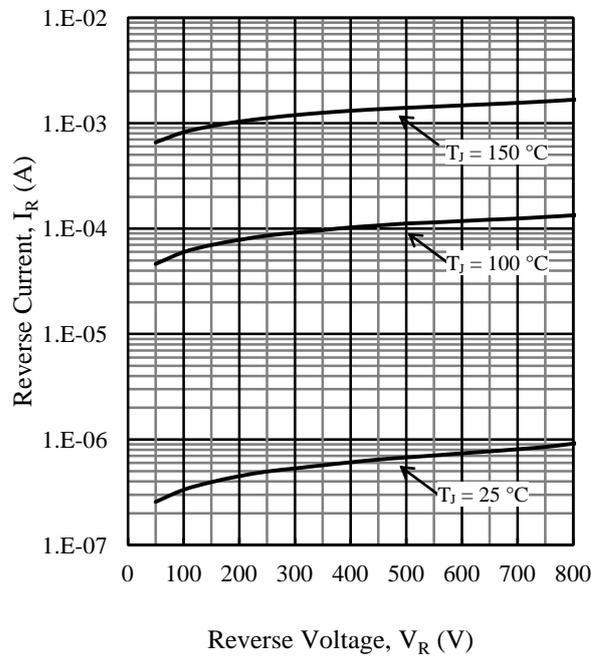


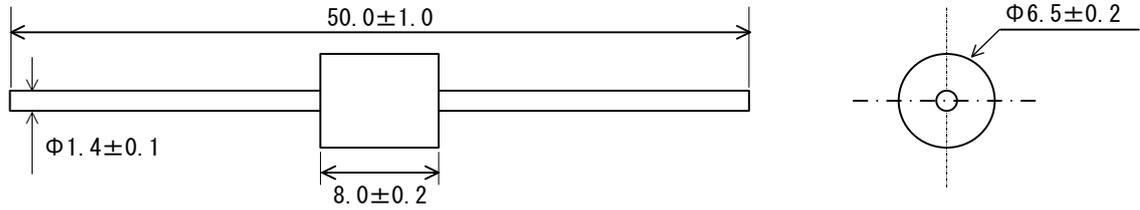
Figure 5. V_R vs. I_R Typical Characteristics

⁽²⁾ See Figure 1 for the lead temperature measurement conditions.

RU4B

Physical Dimensions

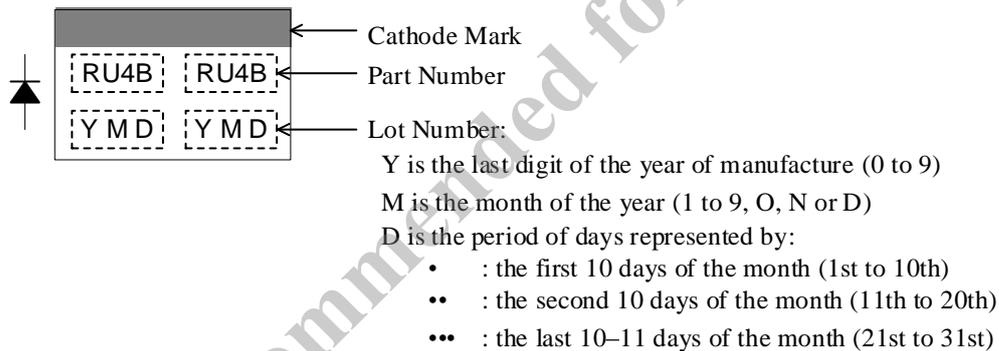
- Axial ($\phi 6.5 \times 8.0L / \phi 1.4$)



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 ± 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 product.

Marking Diagram



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