V_{RM} = 40 V, $I_{F(AV)}$ = 5.0 A
Schottky Diode

RW54

Data Sheet

Description

The RW54 is a 40 V, 5.0 A Schottky diode with allowing improvements in V_F and I_R characteristics.

These characteristic features contribute to improving power supply efficiency and to enabling high-frequency systems.

Features

- V_{RM} ---------- 40 V
- $I_{F(AV)}$ ---------- 5.0 A
- V_F (I_F = 5.0 A) ---------- 0.49 V typ.
- Bare Leads: Pb-free (RoHS Compliant)

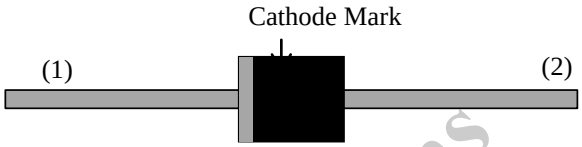
Applications

The high speed switching applications as follows:

- DC-DC Converter
- Adapter

Package

Axial (φ6.5 × 8.0L / φ1.4)



(1) Cathode
(2) Anode

Not to scale

Absolute Maximum Ratings

Unless otherwise specified, T_A = 25 °C.

Parameter	Symbol	Rating	Unit	Conditions
Peak Repetitive Reverse Voltage	V_{RSM}	40	V	
Repetitive Reverse Voltage	V_{RM}	40	V	
Average Forward Current	$I_{F(AV)}$	5.0	A	See Figure 2 and Figure 3
Surge Forward Current	I_{FSM}	120	A	Half cycle sine wave, positive side, 10 ms, 1 shot
I^2t Limiting Value	I^2t	72	A^2s	1 ms ≤ t ≤ 10ms
Junction Temperature	T_J	−40 to 150	°C	
Storage Temperature	T_{STG}	−40 to 150	°C	

Electrical Characteristics

Unless otherwise specified, T_A = 25 °C.

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward Voltage Drop	V_F	I_F = 5.0 A	—	0.49	0.55	V
Reverse Leakage Current	I_R	$V_R = V_{RM}$	—	—	1.0	mA
Reverse Leakage Current Under High Temperature	$H{\cdot}I_R$	$V_R = V_{RM}$, T_J = 150 °C	—	—	150	mA
Thermal Resistance[(1)]	$R_{th(J-L)}$	See Figure 1	—	—	8.0	°C/W

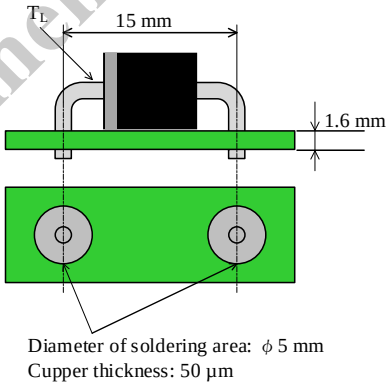


Figure 1 Lead Temperature Measurement Point

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

Rating and Characteristic Curves

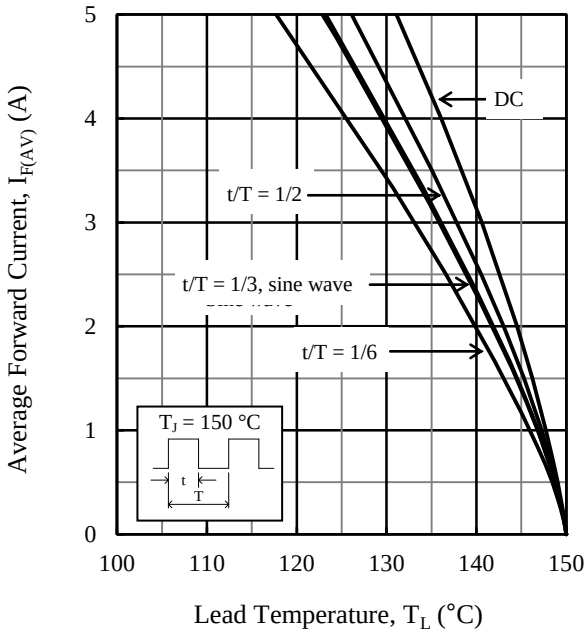


Figure 2. $I_{F(AV)}$ vs. T_L Typical Characteristics[(2)] (V_R = 0 V)

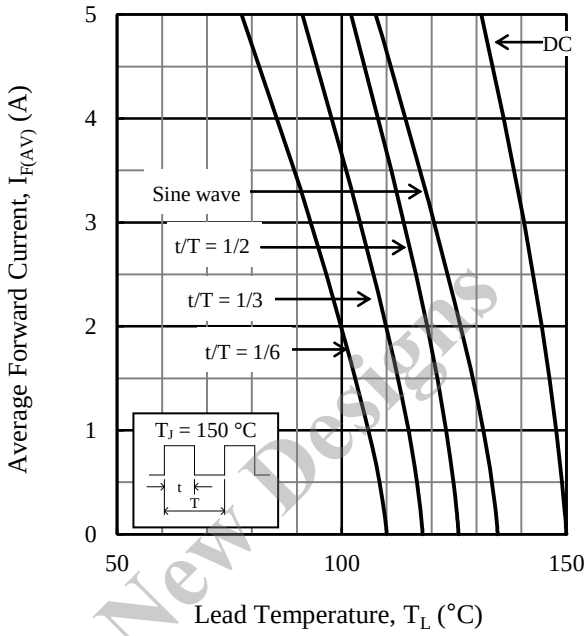


Figure 3. $I_{F(AV)}$ vs. T_L Typical Characteristics[(2)] (V_R = 40 V)

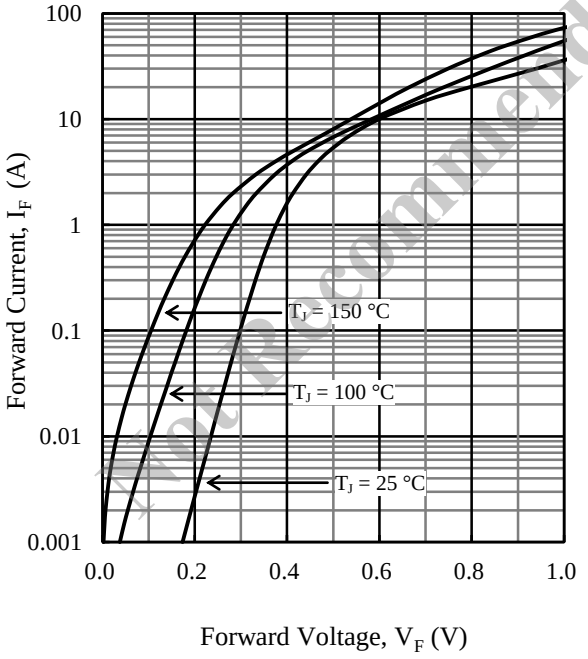


Figure 4. V_F vs. I_F Typical Characteristics

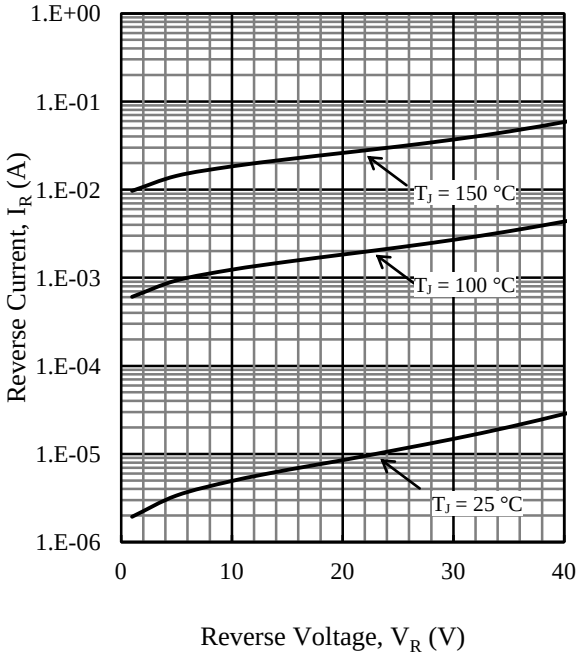
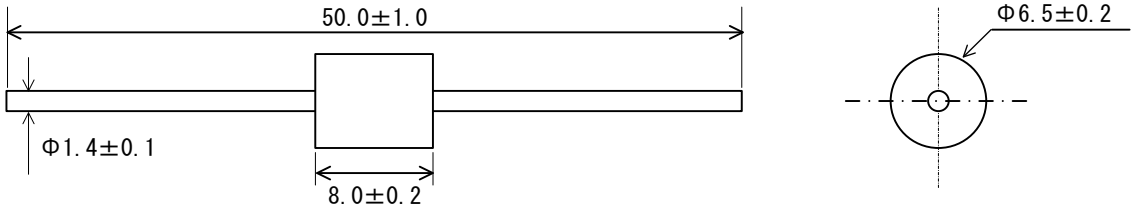


Figure 5. V_R vs. I_R Typical Characteristics

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

Physical Dimensions

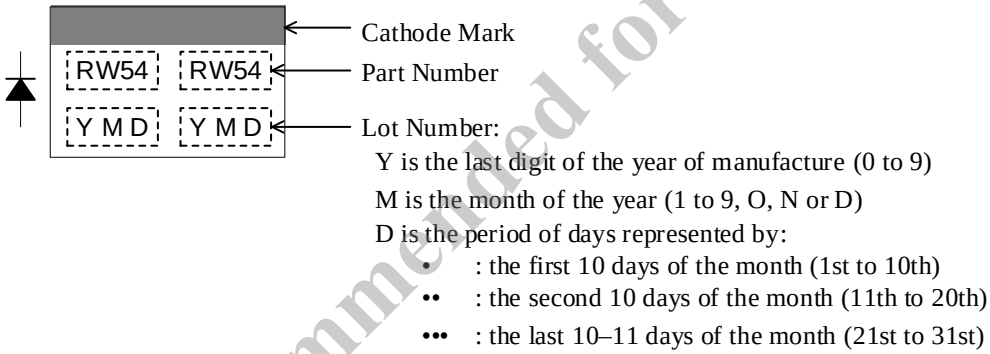
● **Axial (φ6.5 × 8.0L / φ1.4)**



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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