

**$V_{RM} = 200\text{ V}$ ,  $I_{F(AV)} = 0.6\text{ A}$ ,  $t_{rr} = 4\text{ }\mu\text{s}$**   
**Fast Recovery Diode**  
**EH1**

**Description**

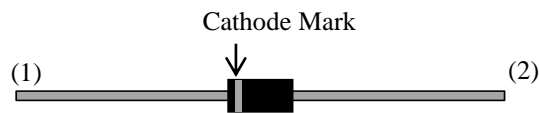
The EH1 is a fast recovery diode of 200 V / 0.6 A.

**Package**

Axial ( $\phi 2.7 \times 5.0\text{L} / \phi 0.78$ )

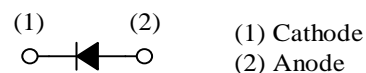
**Features**

- $V_{RM}$ ----- 200 V
- $I_{F(AV)}$ ----- 0.6 A
- $V_F$ ----- 1.35 V
- $t_{rr}$ ----- 4  $\mu\text{s}$
- Bare Leads: Pb-free (RoHS Compliant)
- Flammability: Equivalent to UL94V-0



**Applications**

- Secondary-side Rectifier Diode  
(Flyback Converter, LLC Converter, etc.)
- Freewheel Diode  
(Offline Buck Converter, Offline Buck-boost Converter, etc.)



(1) Cathode  
(2) Anode

Not to scale

## Absolute Maximum Ratings

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

Parameter	Symbol	Conditions	Rating	Unit
Nonrepetitive Peak Reverse Voltage	$V_{RSM}$		250	V
Repetitive Peak Reverse Voltage	$V_{RM}$		200	V
Average Forward Current	$I_{F(AV)}$	See Figure 2 and Figure 3.	0.6	A
Surge Forward Current	$I_{FSM}$	Half cycle sine wave, positive side, 10 ms, 1 shot	30	A
$I^2t$ Limiting Value	$I^2t$	$1\text{ ms} \leq t \leq 10\text{ ms}$	4.5	$\text{A}^2\text{s}$
Junction Temperature	$T_J$		-40 to 140	$^\circ\text{C}$
Storage Temperature	$T_{STG}$		-40 to 140	$^\circ\text{C}$

## Electrical Characteristics

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward Voltage Drop	$V_F$	$T_J = 25\text{ }^\circ\text{C}$ , $I_F = 0.6\text{ A}$	—	—	1.35	V
		$T_J = 100\text{ }^\circ\text{C}$ , $I_F = 0.6\text{ A}$	—	0.75	—	V
Reverse Leakage Current	$I_R$	$V_R = V_{RM}$	—	—	10	$\mu\text{A}$
Reverse Leakage Current under High Temperature	$H \cdot I_R$	$V_R = V_{RM}$ , $T_J = 100\text{ }^\circ\text{C}$	—	—	70	$\mu\text{A}$
Reverse Recovery Time	$t_{rr}$	$I_F = I_{RP} = 10\text{ mA}$ , 90% recovery point, $T_J = 25\text{ }^\circ\text{C}$	—	—	4	$\mu\text{s}$
Thermal Resistance <sup>(1)</sup>	$R_{th(J-L)}$	See Figure 1.	—	—	17	$^\circ\text{C/W}$

## Mechanical Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Unit
Package Weight		—	0.3	—	g

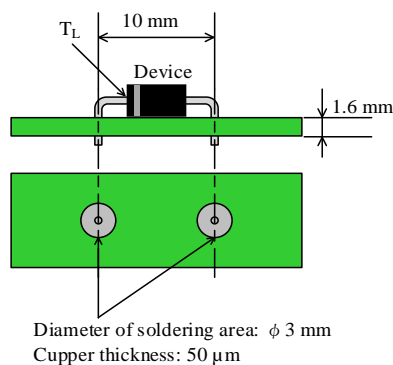


Figure 1. Lead Temperature Measurement Conditions

<sup>(1)</sup>  $R_{th(J-L)}$  is thermal resistance between junction and lead. Lead temperature ( $T_L$ ) is measured near the root of pin (see Figure 1).

**Derating Curves**

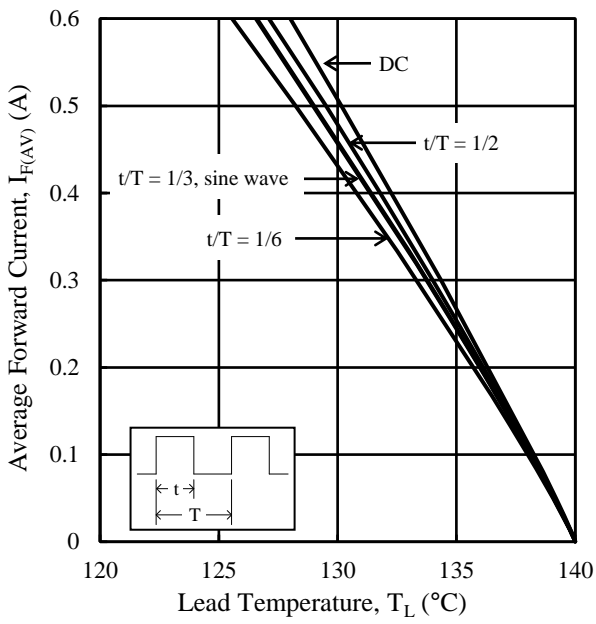


Figure 2.  $I_{F(AV)}$  vs.  $T_L$ <sup>(2)</sup> ( $T_J = 140$  °C,  $V_R = 0$  V)

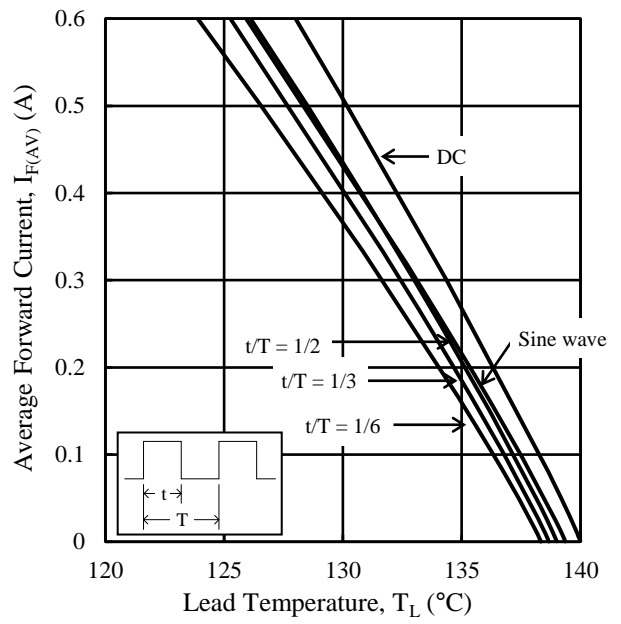


Figure 3.  $I_{F(AV)}$  vs.  $T_L$ <sup>(2)</sup> ( $T_J = 140$  °C,  $V_R = 200$  V)

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

Characteristic Curves

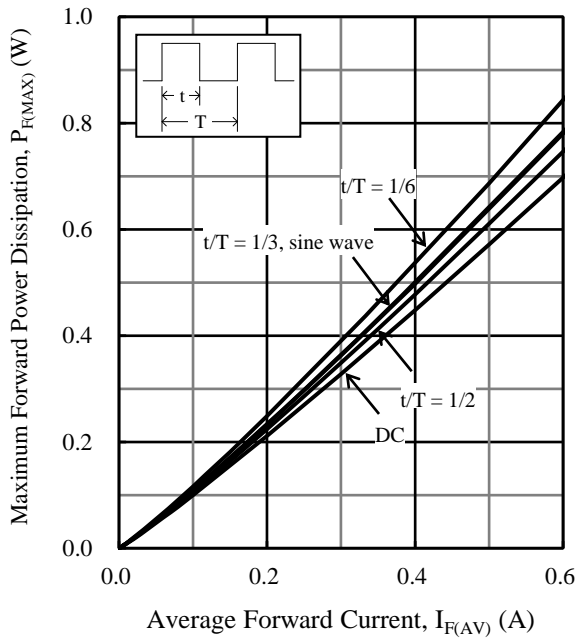


Figure 4.  $P_{F(MAX)}$  vs.  $I_{F(AV)}$  ( $T_J = 150\text{ }^\circ\text{C}$ )

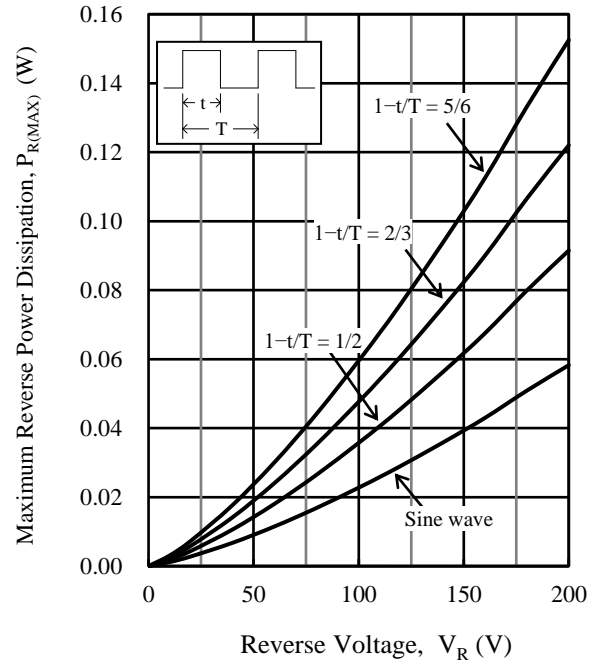


Figure 5.  $P_{R(MAX)}$  vs.  $V_R$  ( $T_J = 150\text{ }^\circ\text{C}$ )

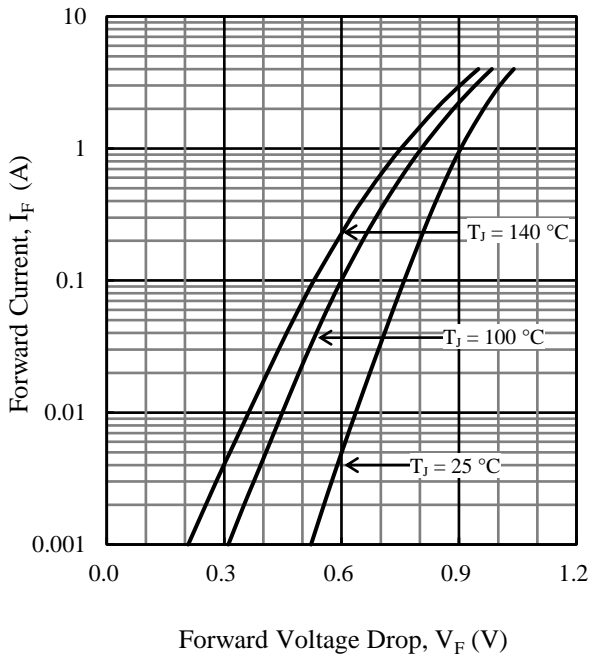


Figure 6. Typical Characteristics:  $I_F$  vs.  $V_F$

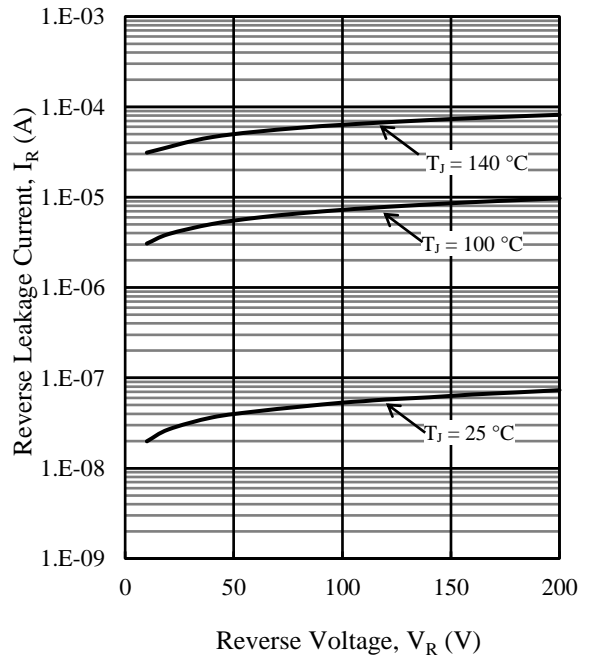


Figure 7. Typical Characteristics:  $I_R$  vs.  $V_R$

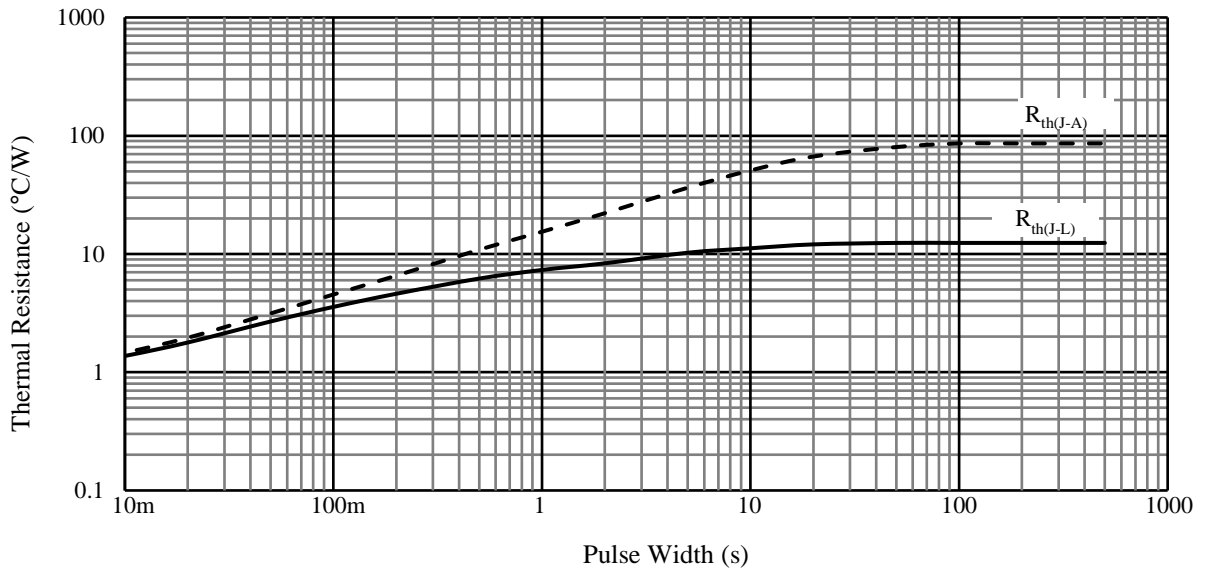
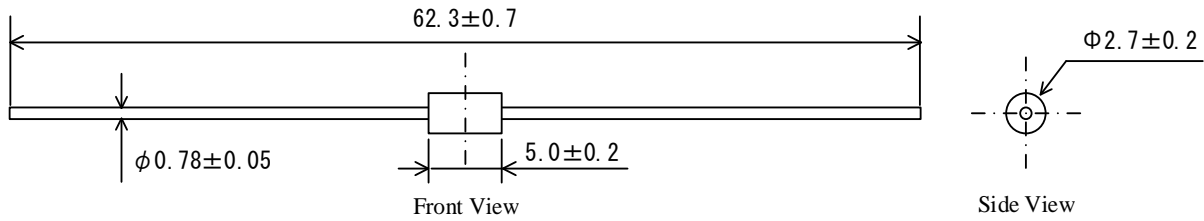


Figure 8. Typical Transient Thermal Resistance Characteristics

# EH1

## Physical Dimensions

- Axial ( $\phi 2.7 \times 5.0L / \phi 0.78$ )



### NOTES:

- Dimensions in millimeters
- Bare leads: Pb-free (RoHS compliant)
- The total length of the product is the dimension when delivered separately and depends on the taping and lead forming specifications.
- The allowance position of body against the center of the total length of the product is 0.5 mm (max.); see Front View.
- The allowance position of lead against the center of body is 0.2 mm (max.); see Side View.
- The burr may exist up to 2 mm from the body of lead root.
- When soldering the products, it is required to minimize the working time within the following limits:  
 Flow: 260 °C / 10 s, 1 time  
 Soldering Iron: 350 °C / 3.5 s, 1 time (Soldering should be at a distance of at least 1.5 mm from the body of the product.)

## Marking Diagram

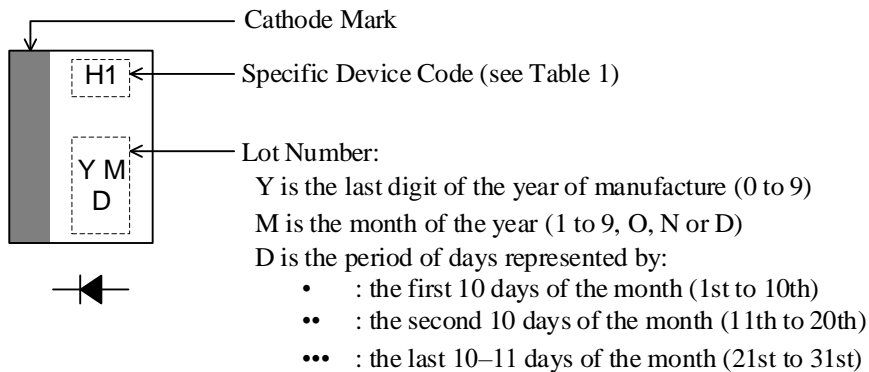


Table 1. Specific Device Code

Specific Device Code	Part Number
H1	EH1

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DSGN-CEZ-16003