

Description

The EU2 is a fast recovery diode of 400 V / 1.0 A. The maximum $t_{\rm rr}$ of 400 ns is realized by optimizing a life-time control.

Features

•	V_{RM}
•	$I_{F(AV)}$
	V _F 1.4 V
•	t _{rr1} 400 ns

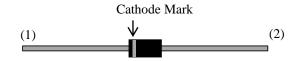
- Bare Leads: Pb-free (RoHS Compliant)
- Flammability: Equivalent to UL94V-0

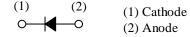
Applications

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

Package

Axial (φ 2.7 × 5.0L / φ 0.78)





Not to scale

Absolute Maximum Ratings

Unless otherwise specified, $T_A = 25$ °C.

Parameter	Symbol	Conditions	Rating	Unit
Nonrepetitive Peak Reverse Voltage	V_{RSM}		450	V
Repetitive Peak Reverse Voltage	V_{RM}		400	V
Average Forward Current	I _{F(AV)}	See Figure 2 and Figure 3	1.0	A
Surge Forward Current	I_{FSM}	Half cycle sine wave, positive side, 10 ms, 1 shot	15	A
I ² t Limiting Value	I ² t	$1 \text{ ms} \le t \le 10 \text{ ms}$	1.1	A^2s
Junction Temperature	$T_{\rm J}$		-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.	Тур.	Max.	Unit
Forward Voltage Dren	V_{F}	$T_J = 25 ^{\circ}\text{C}, I_F = 1.0 \text{A}$	_	_	1.4	V
Forward Voltage Drop		$T_J = 100 ^{\circ}\text{C}, I_F = 1.0 \text{A}$	_	0.9	_	V
Reverse Leakage Current	I_R	$V_R = V_{RM}$	_	_	10	μΑ
Reverse Leakage Current under High Temperature	$H \cdot I_R$	$V_R = V_{RM}, T_J = 100 ^{\circ}C$	_		300	μΑ
Decrees Decrees Time	$t_{\mathrm{rr}1}$	$I_F = I_{RP} = 10 \text{ mA},$ 90% recovery point, $T_J = 25 ^{\circ}\text{C}$	_	_	400	ns
Reverse Recovery Time	t _{rr2}	$I_F = 10$ mA, $I_{RP} = 20$ mA, 75% recovery point, $T_J = 25$ °C	—	_	180	ns
Thermal Resistance (1)	R _{th(J-L)}	See Figure 1	_	_	17	°C/W

Mechanical Characteristics

Parameter	Conditions	Min.	Тур.	Max.	Unit
Package Weight			0.3		g

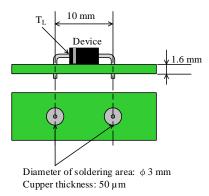
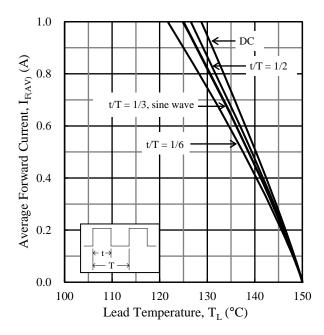
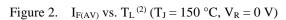


Figure 1. Lead Temperature Measurement Conditions

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

Derating Curves





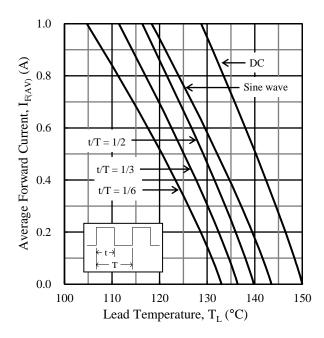


Figure 3. $I_{F(AV)}$ vs. $T_L^{(2)}$ ($T_J = 150$ °C, $V_R = 400$ V)

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

Characteristic Curves

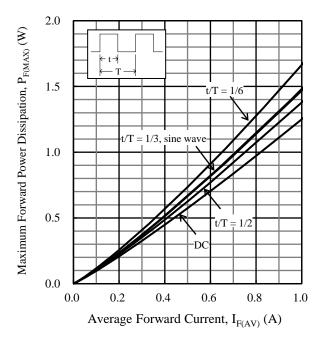


Figure 4. $P_{F(MAX)}$ vs. $I_{F(AV)}$ ($T_J = 150$ °C)

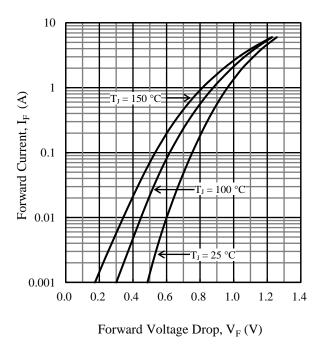


Figure 6. Typical Characteristics: I_F vs. V_F

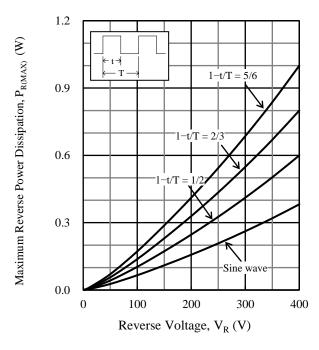


Figure 5. $P_{R(MAX)}$ vs. V_R ($T_J = 150$ °C)

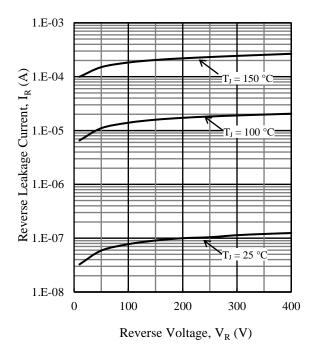


Figure 7. Typical Characteristics: I_R vs. V_R

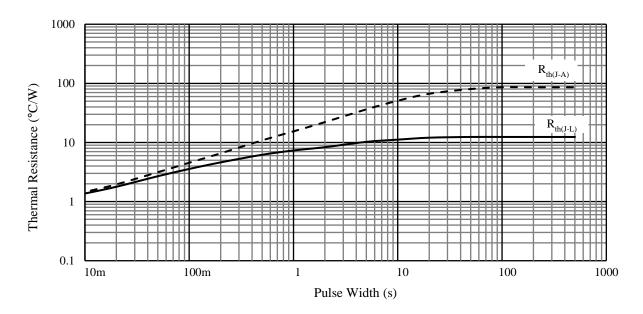
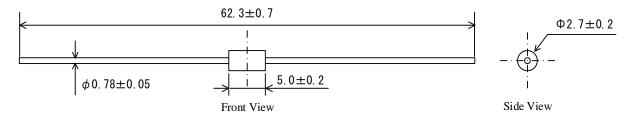


Figure 8. Typical Transient Thermal Resistance Characteristics

Physical Dimensions

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



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

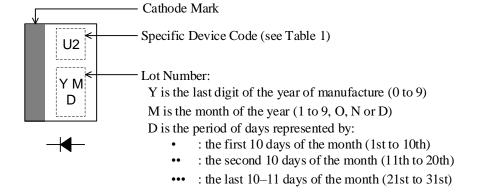


Table 1. Specific Device Code

Specific Device Code	Part Number
U2	EU2

NOTE:

- Marked in silver-based color

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