Vishay General Semiconductor

# Enhanced isoCink+<sup>™</sup> Bridge Rectifiers



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### LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS					
I <sub>F(AV)</sub>	25 A				
V <sub>RRM</sub>	600 V, 800 V				
I <sub>FSM</sub>	300 A				
I <sub>R</sub>	5 µA				
V <sub>F</sub> at I <sub>F</sub> = 12.5 A	0.87 V				
T <sub>J</sub> max.	175 °C				
Package	BU				
Circuit configurations	In-line				

### FEATURES

- UL recognition file number E312394
- Thin single in-line package
- Superior thermal conductivity
- Glass passivated chip junction
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

# **TYPICAL APPLICATIONS**

General purpose use in AC/DC bridge full wave rectification for switching power supply, home appliances and white-goods applications.

### **MECHANICAL DATA**

Case: BU

Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, industrial grade

Base P/N-M3 - halogen-free, RoHS-compliant, and industrial grade

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 and M3 suffix meet JESD 201 class 1A whisker test

Polarity: as marked on body

**Mounting Torque:** 10 cm-kg (8.8 inches-lbs) max. **Recommended Torque:** 5.7 cm-kg (5 inches-lbs)

<b>MAXIMUM RATINGS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER		SYMBOL	BU25H06	BU25H08	UNIT	
Maximum repetitive peak reverse voltage			600	800	V	
Average rectified forward current (Fig. 1, 2)	$T_{C} = 60 \ ^{\circ}C \ ^{(1)}$		25		A	
	T <sub>A</sub> = 25 °C <sup>(2)</sup>	IO	3.5			
Non-repetitive peak forward surge current, 8.3 ms single sine-wave, $T_J = 25 \degree C$		I <sub>FSM</sub>	300		А	
Rating for fusing (t < 8.3 ms) $T_J$ = 25 °C		l <sup>2</sup> t	373		A <sup>2</sup> s	
Operating junction and storage temperature range		T <sub>J</sub> , T <sub>STG</sub>	-55 to +175		°C	

#### Notes

 $^{(1)}\,$  With 60 W air cooled heatsink

<sup>(2)</sup> Without heatsink, free air



HALOGEN

FREE



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<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25 \text{ °C}$ unless otherwise noted)							
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT	
Maximum instantaneous forward voltage per diode <sup>(1)</sup>	I <sub>F</sub> = 12.5 A	T <sub>A</sub> = 25 °C T <sub>A</sub> = 125 °C	V <sub>F</sub>	0.97	1.05	V	
		T <sub>A</sub> = 125 °C		0.87	0.95		
Maximum reverse current per diode	rated V <sub>R</sub>	T <sub>A</sub> = 25 °C	- I <sub>R</sub>	-	5.0	μA	
		T <sub>A</sub> = 125 °C		120	350		
Typical junction capacitance per diode	4.0 V, 1 MHz		CJ	125	-	pF	

#### Note

<sup>(1)</sup> Pulse test: 300 µs pulse width, 1 % duty cycle

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25 \text{ °C}$ unless otherwise noted)					
PARAMETER	SYMBOL	BU25H06	BU25H08	UNIT	
Typical thermal resistance	R <sub>0JC</sub> <sup>(1)</sup>	2.5		°C/W	
	R <sub>θJA</sub> <sup>(2)</sup>	24			

#### Notes

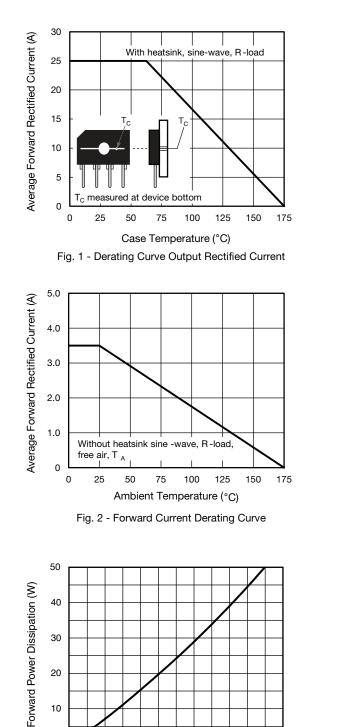
<sup>(1)</sup> With 60 W air cooled heatsink

<sup>(2)</sup> Without heatsink, free air

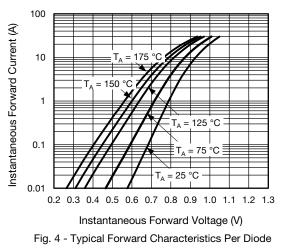
ORDERING INFORMATION (Example)							
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE BASE QUANTI		DELIVERY MODE			
BU25H06-E3/P	4.84	Р	20	Tube			
BU25H06-E3/A	4.84	A	250	Paper tray			
BU25H06-M3/P	4.84	Р	20	Tube			

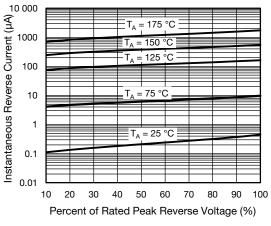


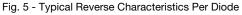
# **RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25$ °C unless otherwise specified)

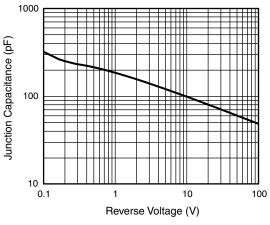


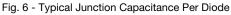
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Revision: 25-Mar-2021

0

0

5

10

15

Average Forward Current (A)

Fig. 3 - Forward Power Dissipation

20

25

30

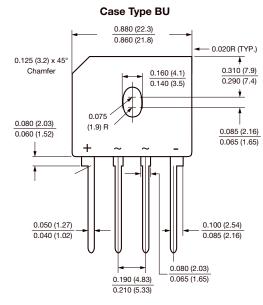
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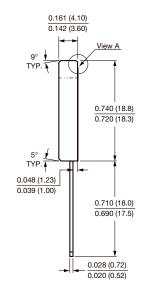
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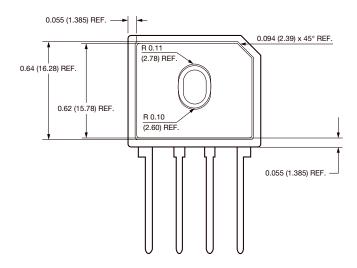
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## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





Polarity shown on front side of case, positive lead beveled corner





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