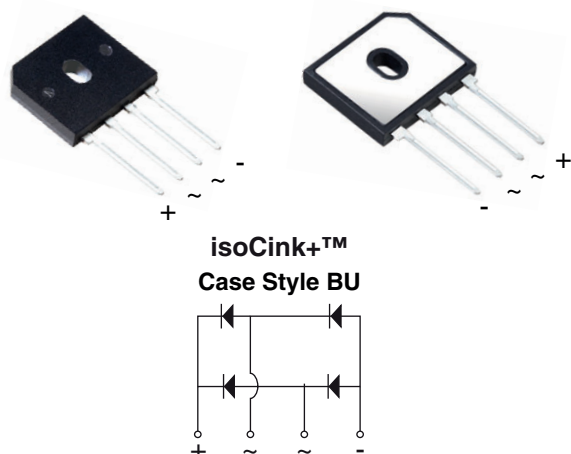


## Enhanced isoCink+™ Bridge Rectifiers



### FEATURES

- UL recognition file number E312394
- Thin single in-line package
- Glass passivated chip junction
- Available for BU-5S lead forming option (part number with "5S" suffix, e.g. BU15065S)
- Superior thermal conductivity
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
Available

### 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, commercial grade  
Base P/N-M3 - halogen-free, RoHS-compliant, and commercial 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)

PRIMARY CHARACTERISTICS	
Package	BU
$I_F(AV)$	15 A
$V_{RRM}$	600 V, 800 V, 1000 V
$I_{FSM}$	200 A
$I_R$	5 $\mu$ A
$V_F$ at $I_F = 7.5$ A	0.87 V
$T_J$ max.	150 °C
Circuit configuration	In-line

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	BU1506	BU1508	BU1510	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	600	800	1000	V
Average rectified forward current (Fig. 1, 2)	$\frac{T_C = 80\text{ }^{\circ}\text{C}^{(1)}}{T_A = 25\text{ }^{\circ}\text{C}^{(2)}}$	I <sub>o</sub>	15		A
			3.4		
Non-repetitive peak forward surge current 8.3 ms single sine-wave, T <sub>J</sub> = 25 °C	I <sub>FSM</sub>	200			A
Rating for fusing (t < 8.3 ms) T <sub>J</sub> = 25 °C	I <sup>2</sup> t	160			A <sup>2</sup> s
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150			°C

#### Notes

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

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

ELECTRICAL CHARACTERISTICS ( $T_A = 25$ °C unless otherwise noted)					
PARAMETER	TEST CONDITIONS	SYMBOL	TYP.	MAX.	UNIT
Maximum instantaneous forward voltage per diode <sup>(1)</sup>	$I_F = 7.5$ A	$V_F$	$T_A = 25$ °C	0.97	V
			$T_A = 125$ °C	0.87	
Maximum reverse current per diode	rated $V_R$	$I_R$	$T_A = 25$ °C	-	$\mu$ A
			$T_A = 125$ °C	90	
Typical junction capacitance per diode	4.0 V, 1 MHz	$C_J$	70	-	pF

#### Note

<sup>(1)</sup> Pulse test: 300  $\mu$ s pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	BU1506	BU1508	BU1510	UNIT
Typical thermal resistance	R <sub>θJC</sub> <sup>(1)</sup>	2.5			°C/W
	R <sub>θJA</sub> <sup>(2)</sup>	20			

**Notes**

(1) With 60 W air cooled heatsink

(2) Without heatsink, free air

<b>ORDERING INFORMATION</b> (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
BU1506-E3/45	4.75	45	20	Tube
BU1506-E3/51	4.75	51	250	Paper tray
BU1506-M3/45	4.75	45	20	Tube
BU1506S-E3/45	4.75	45	20	Tube

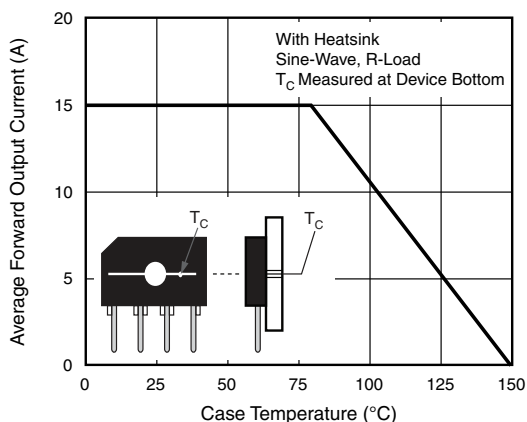
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)


Fig. 1 - Derating Curve Output Rectified Current

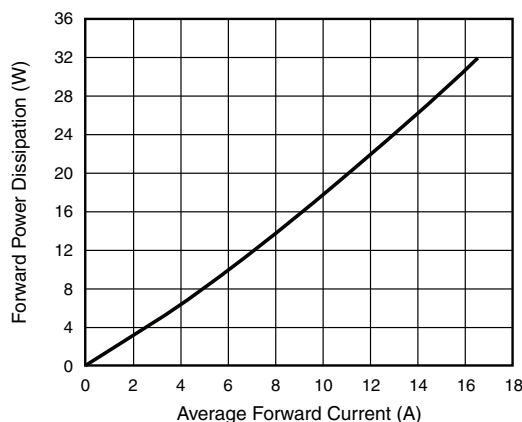


Fig. 3 - Forward Power Dissipation

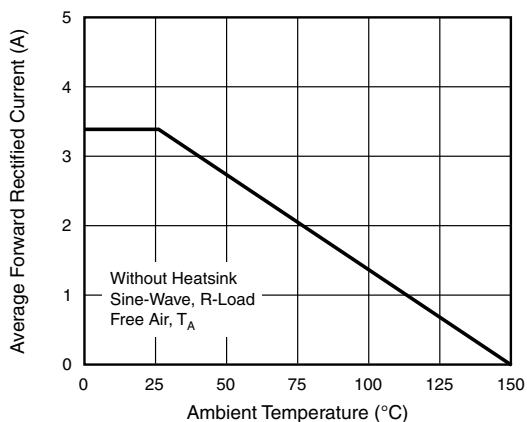


Fig. 2 - Forward Current Derating Curve

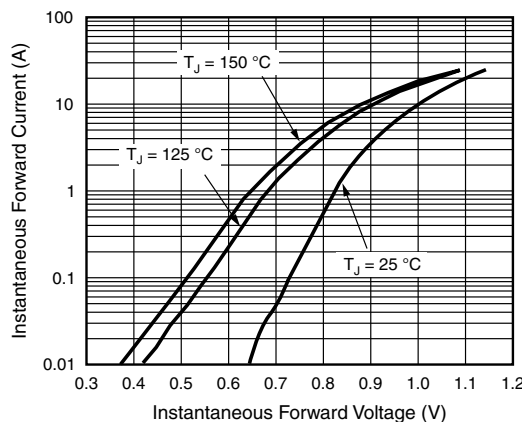


Fig. 4 - Typical Forward Characteristics Per Diode

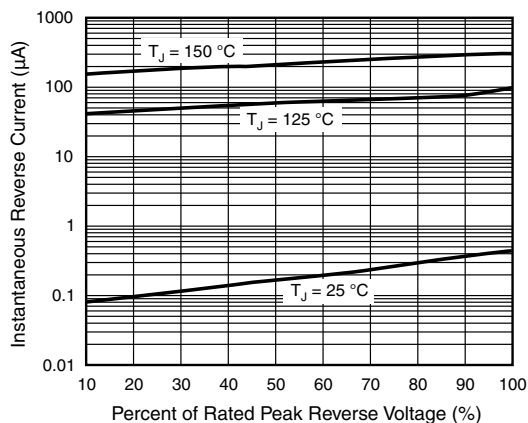


Fig. 5 - Typical Reverse Characteristics Per Diode

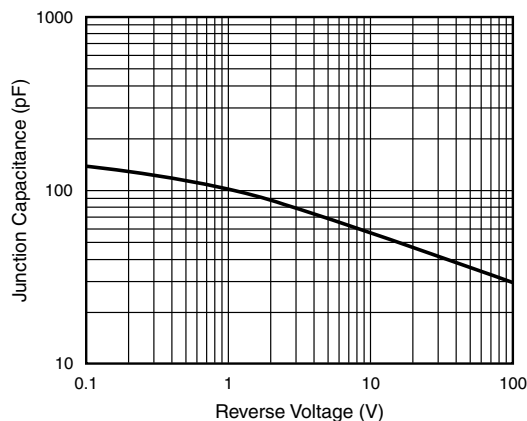
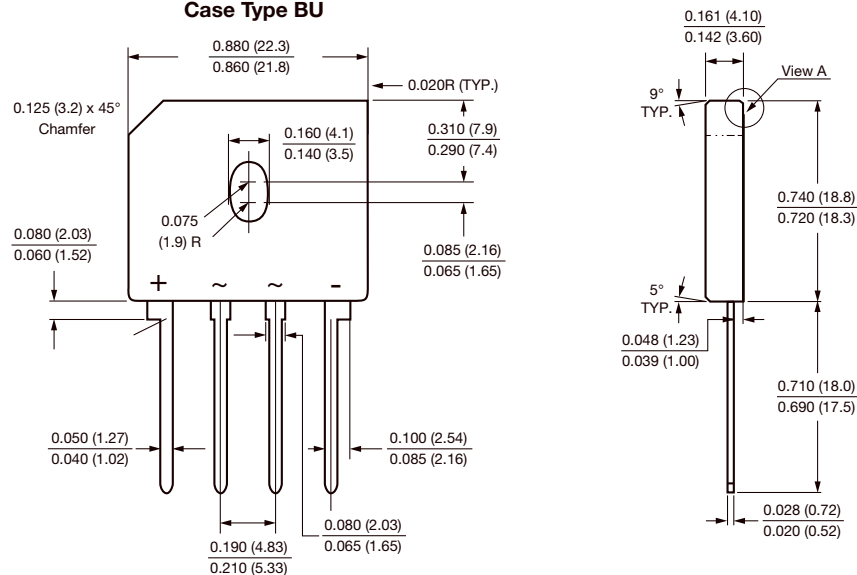
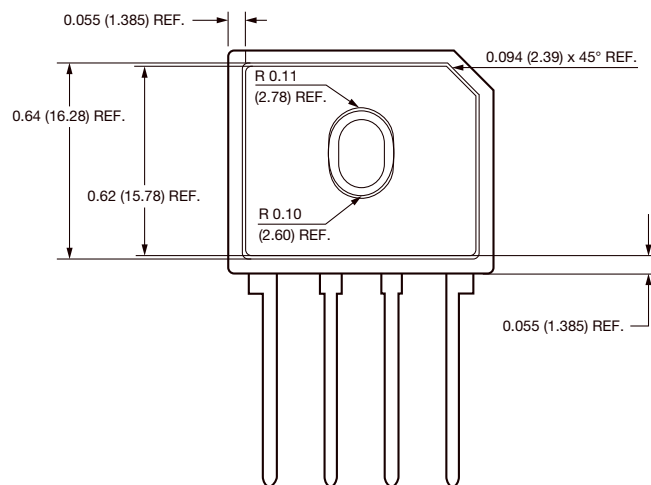


Fig. 6 - Typical Junction Capacitance Per Diode

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

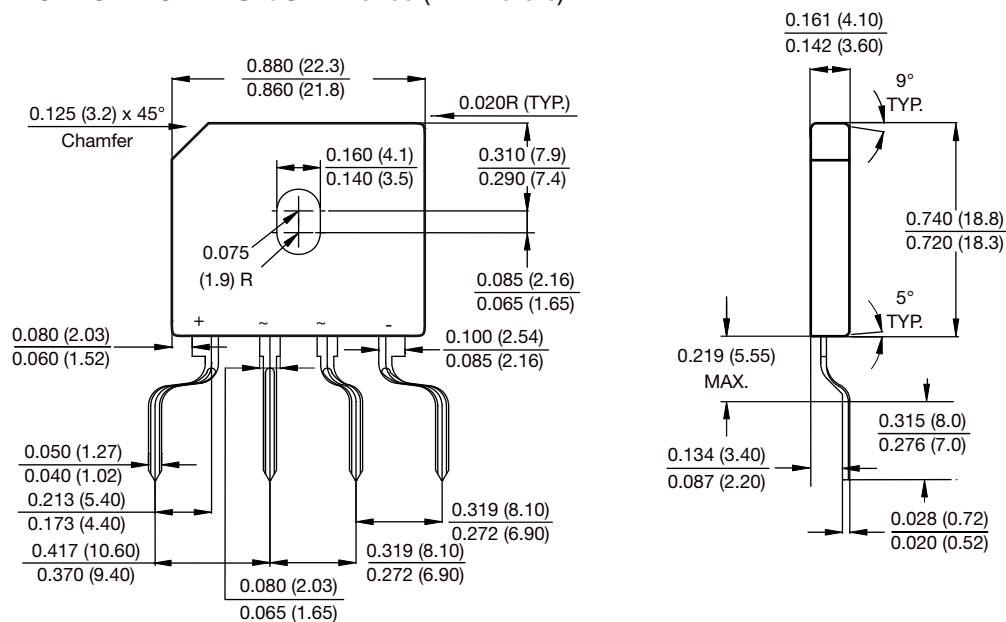
**Case Type BU**


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



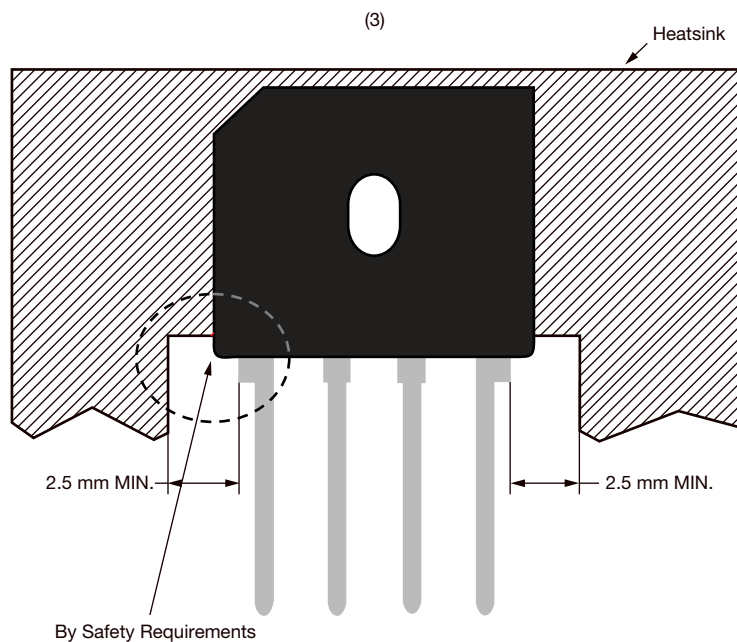


**FORMING SPECIFICATION: BU-5S** in inches (millimeters)



**APPLICATION NOTE**

1. Device UL approved for safety use dielectric strength of 1500 V.
2. If device is mounted in Floating Ground (F. G.) application, insulator is recommended to use to meet safety requirement.
3. Heat sink shape recommendation:





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