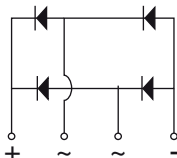


## Enhanced isoCink+™ Bridge Rectifiers



**isoCink+™**  
**Case Style BU**



### LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	25 A
$V_{RRM}$	600 V, 800 V, 1000 V
$I_{FSM}$	300 A
$I_R$	5 $\mu$ A
$V_F$ at $I_F = 12.5$ A	0.87 V
$T_J$ max.	150 °C
Package	BU
Circuit configurations	In-line

### FEATURES

- UL recognition file number E312394
- Thin single in-line package
- Glass passivated chip junction
- 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)

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER		SYMBOL	BU2506	BU2508	BU2510	UNIT
Maximum repetitive peak reverse voltage		V <sub>RRM</sub>	600	800	1000	V
Average rectified forward current (Fig. 1, 2)	T <sub>C</sub> = 60 °C <sup>(1)</sup>	I <sub>O</sub>	25			A
	T <sub>A</sub> = 25 °C <sup>(2)</sup>		3.5			
Non-repetitive peak forward surge current 8.3 ms single sine-wave, T <sub>J</sub> = 25 °C		I <sub>FSM</sub>	300			A
Rating for fusing (t < 8.3 ms) T <sub>J</sub> = 25 °C		I <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 +150			°C

### Notes

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

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

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	TYP.	MAX.	UNIT
Maximum instantaneous forward voltage per diode <sup>(1)</sup>	$I_F = 12.5\text{ A}$	$T_A = 25\text{ }^{\circ}\text{C}$	0.97	1.05	V
		$T_A = 125\text{ }^{\circ}\text{C}$	0.87	0.95	
Maximum reverse current per diode	rated $V_R$	$T_A = 25\text{ }^{\circ}\text{C}$	-	5.0	$\mu\text{A}$
		$T_A = 125\text{ }^{\circ}\text{C}$	120	350	
Typical junction capacitance per diode	4.0 V, 1 MHz	$C_J$	125	-	pF

**Note**

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

**THERMAL CHARACTERISTICS** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	BU2506	BU2508	BU2510	UNIT
Typical thermal resistance	R <sub>θJC</sub> <sup>(1)</sup>	2.0			°C/W
	R <sub>θJA</sub> <sup>(2)</sup>	20			

**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 QUANTITY	DELIVERY MODE
BU2506-E3/45	4.84	45	20	Tube
BU2506-E3/51	4.84	51	250	Paper tray
BU2506-M3/45	4.84	45	20	Tube

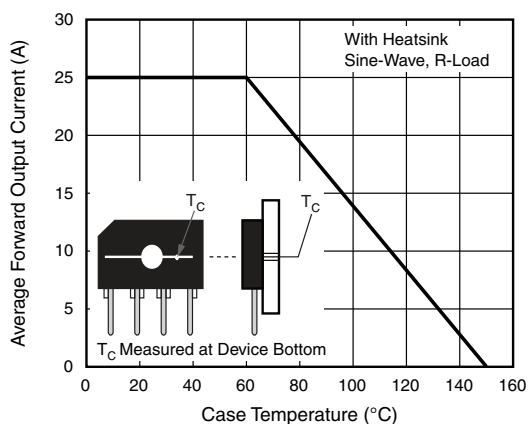
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)


Fig. 1 - Derating Curve Output Rectified Current

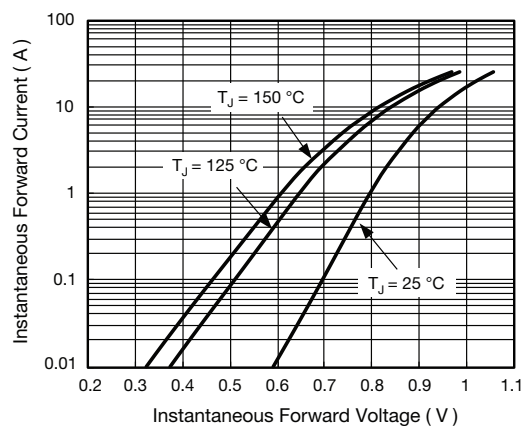


Fig. 4 - Typical Forward Characteristics Per Diode

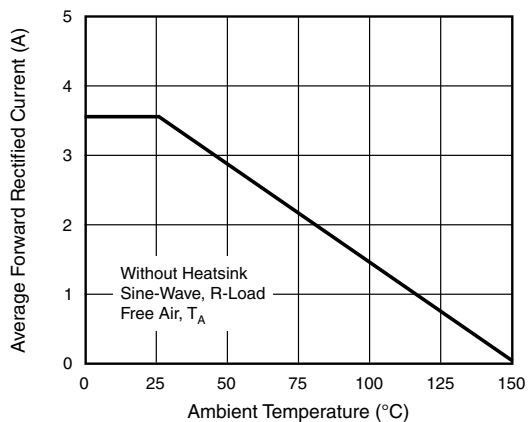


Fig. 2 - Forward Current Derating Curve

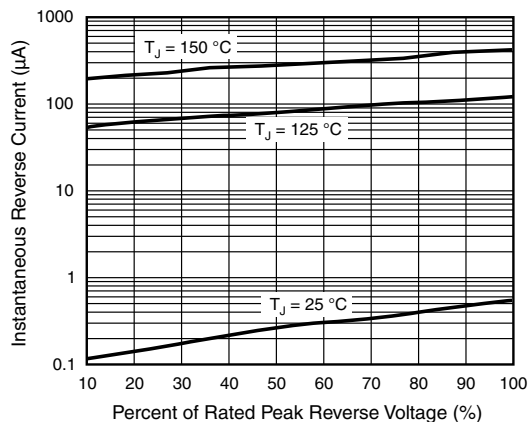


Fig. 5 - Typical Reverse Characteristics Per Diode

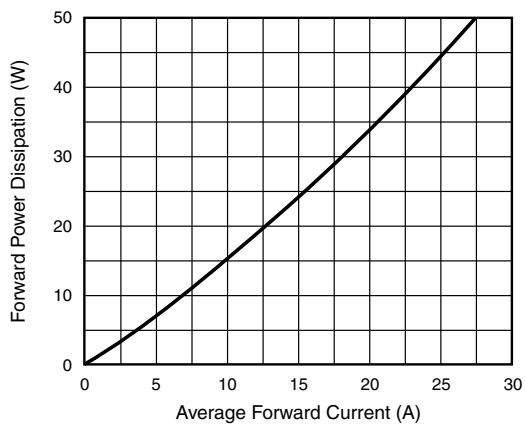


Fig. 3 - Forward Power Dissipation

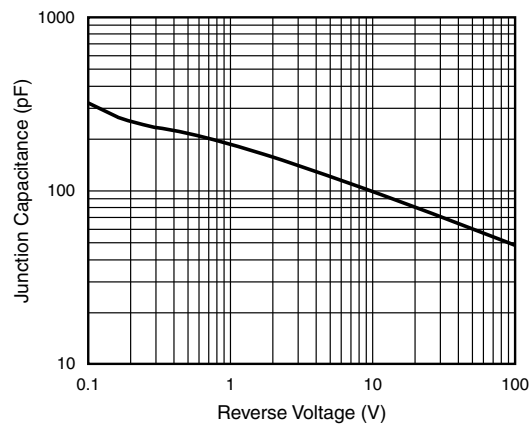
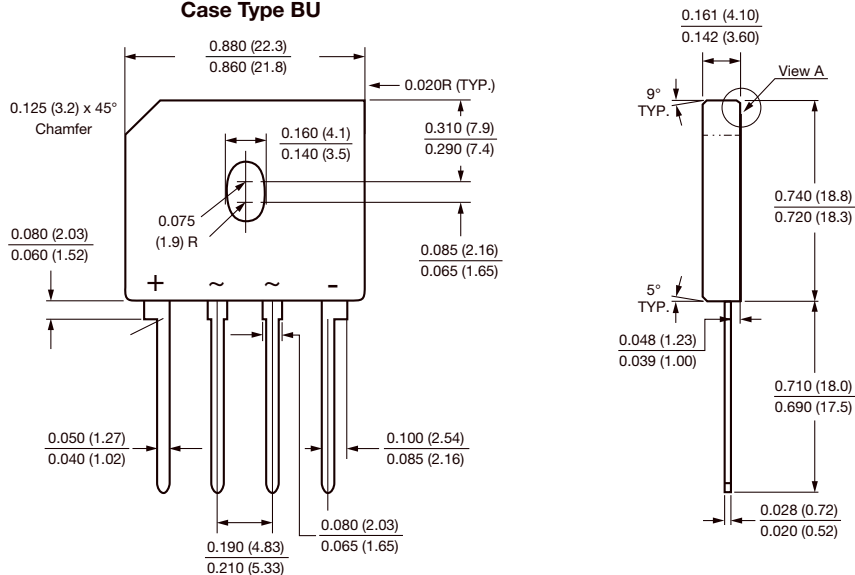


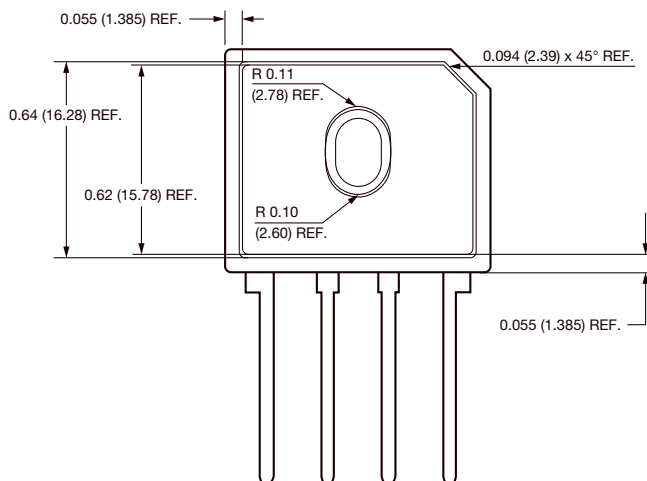
Fig. 6 - Typical Junction Capacitance Per Diode

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

### Case Type BU

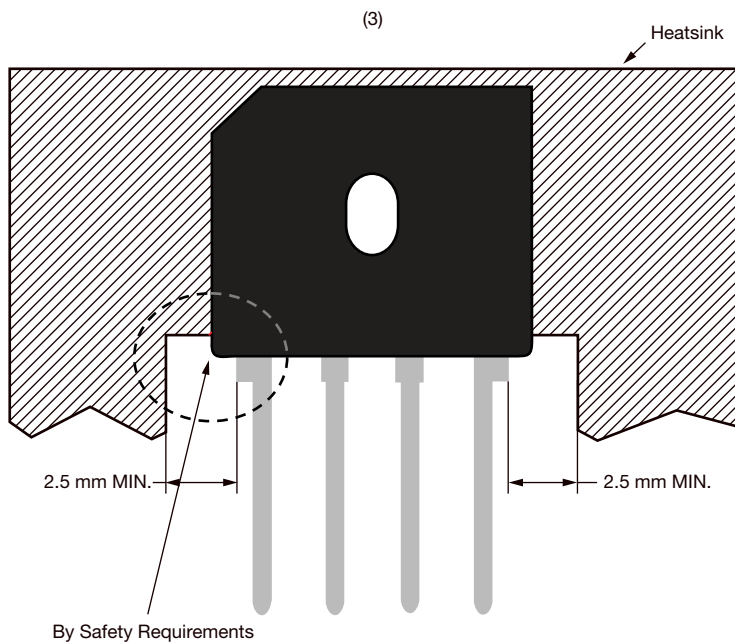


Polarity shown on front side of case, positive lead beveled corner



# 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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