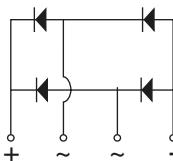


## Enhanced isoCink+™ Bridge Rectifiers

**isoCink+™**

**Case Style BU**


\* Tested to UL standard for safety electrically isolated semiconductor devices. UL 1557 4th edition.

Dielectric tested to maximum case, storage and junction temperature to 150 °C to withstand 1500 V.

Epoxy meets UL 94 V-0 flammability rating.

PRIMARY CHARACTERISTICS	
Package	BU
$I_{F(AV)}$	20 A
$V_{RRM}$	600 V, 800 V, 1000 V
$I_{FSM}$	240 A
$I_R$	5 $\mu$ A
$V_F$ at $I_F = 10$ A	0.85 V
$T_J$ max.	150 °C
Diode variations	In-Line

### FEATURES

- UL recognition file number E309391 (QQQX2) UL 1557 (see \*)
- Thin single in-line package
- Available for BU-5S lead forming option (part number with "5S" suffix, e.g. BU20065S)
- 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

### 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-M3 - halogen-free, RoHS-compliant, and commercial grade

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102  
M3 suffix meets 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 ( $T_A = 25$ °C unless otherwise noted)

PARAMETER	SYMBOL	BU2006	BU2008	BU2010	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	600	800	1000	V
Average rectified forward current (Fig. 1, 2)	$I_O$	20	3.5	A	
$T_C = 61$ °C <sup>(1)</sup> $T_A = 25$ °C <sup>(2)</sup>					
Non-repetitive peak forward surge current 8.3 ms single sine-wave, $T_J = 25$ °C	$I_{FSM}$	240			A
Rating for fusing ( $t < 8.3$ ms) $T_J = 25$ °C	$I^2t$	239			$A^2s$
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to + 150			°C

#### Notes

(1) With heatsink

(2) Without heatsink, free air

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

PARAMETER	TEST CONDITIONS	SYMBOL	TYP.	MAX.	UNIT
Maximum instantaneous forward voltage per diode <sup>(1)</sup>	$I_F = 10 \text{ A}$	$V_F$	0.95	1.05	V
			0.85	0.95	
Maximum reverse current per diode	rated $V_R$	$I_R$	-	5.0	$\mu\text{A}$
			110	350	
Typical junction capacitance per diode	4.0 V, 1 MHz	$C_J$	95	-	pF

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

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

PARAMETER	SYMBOL	BU2006	BU2008	BU2010	UNIT
Typical thermal resistance	$R_{\theta JC}$ <sup>(1)</sup>		2.4		$^\circ\text{C/W}$
	$R_{\theta JA}$ <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
BU2006-M3/45	4.76	45	20	Tube
BU2006-M3/51	4.76	51	250	Paper tray
BU2006S-M3/45	4.76	45	20	Tube

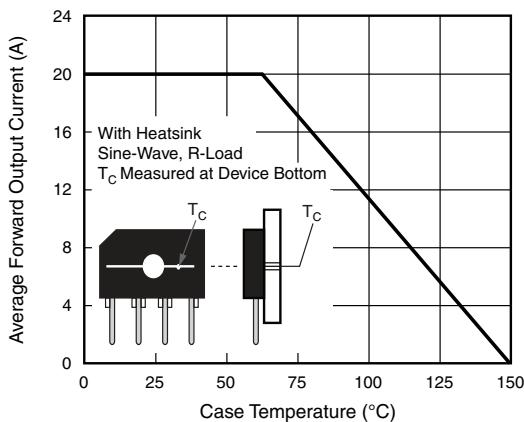
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)


Fig. 1 - Derating Curve Output Rectified Current

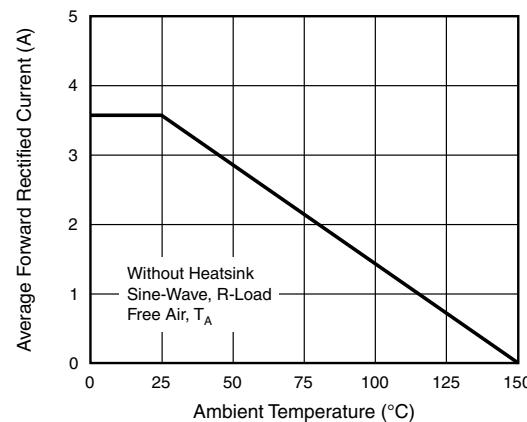


Fig. 2 - Forward Current Derating Curve

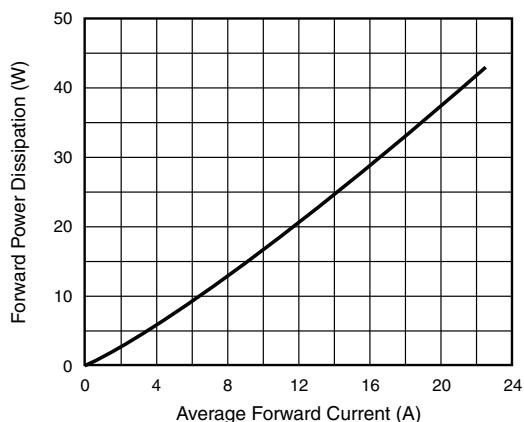


Fig. 3 - Forward Power Dissipation

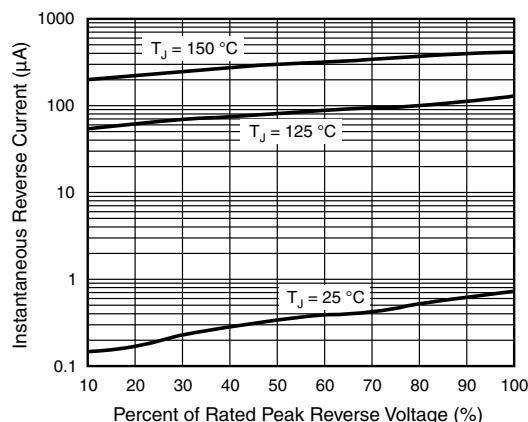


Fig. 5 - Typical Reverse Characteristics Per Diode

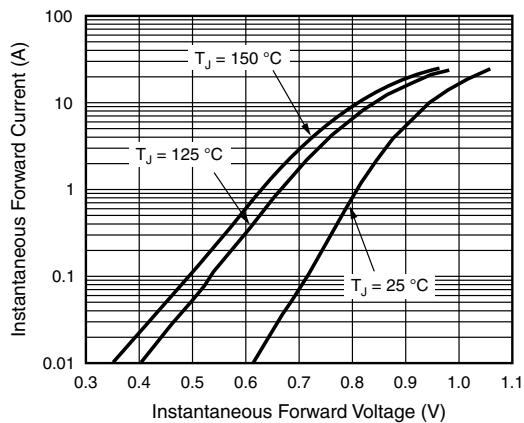


Fig. 4 - Typical Forward Characteristics Per Diode

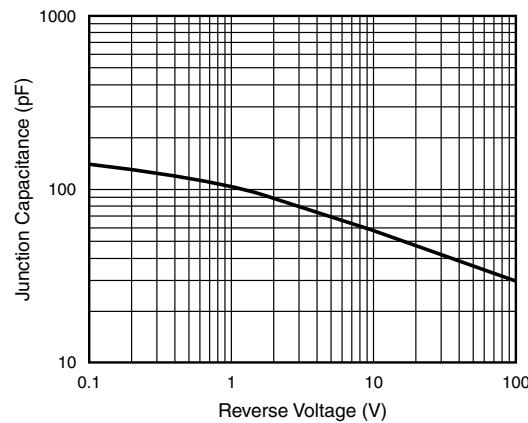
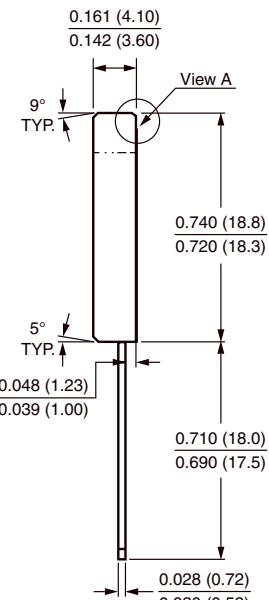
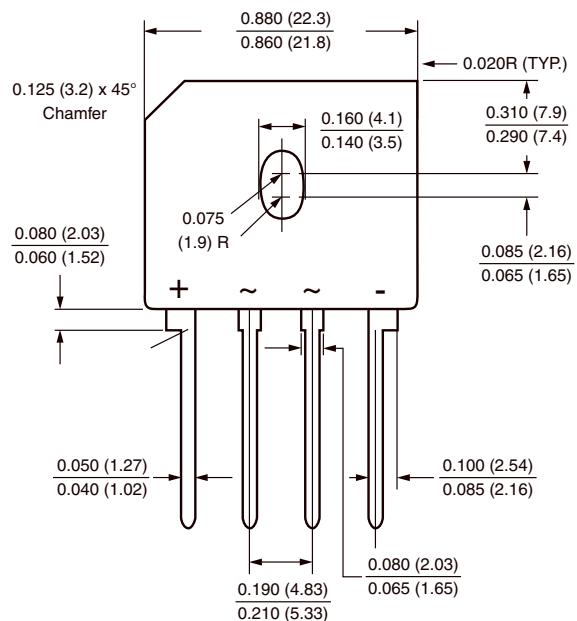


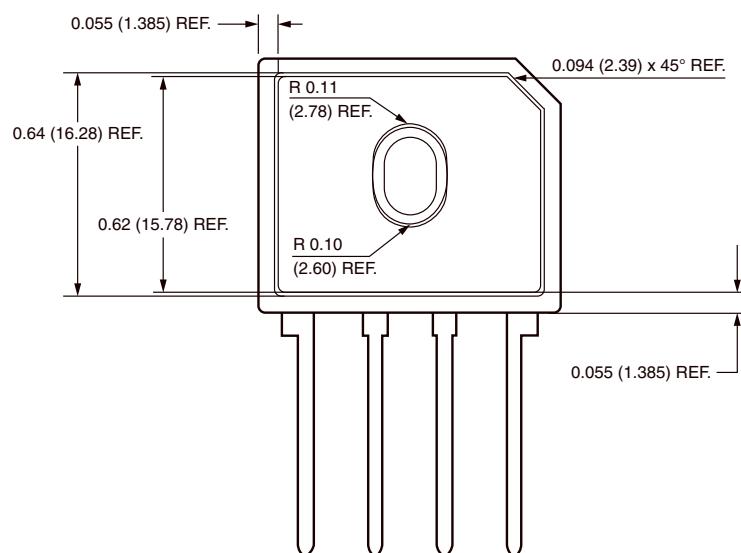
Fig. 6 - Typical Junction Capacitance Per Diode

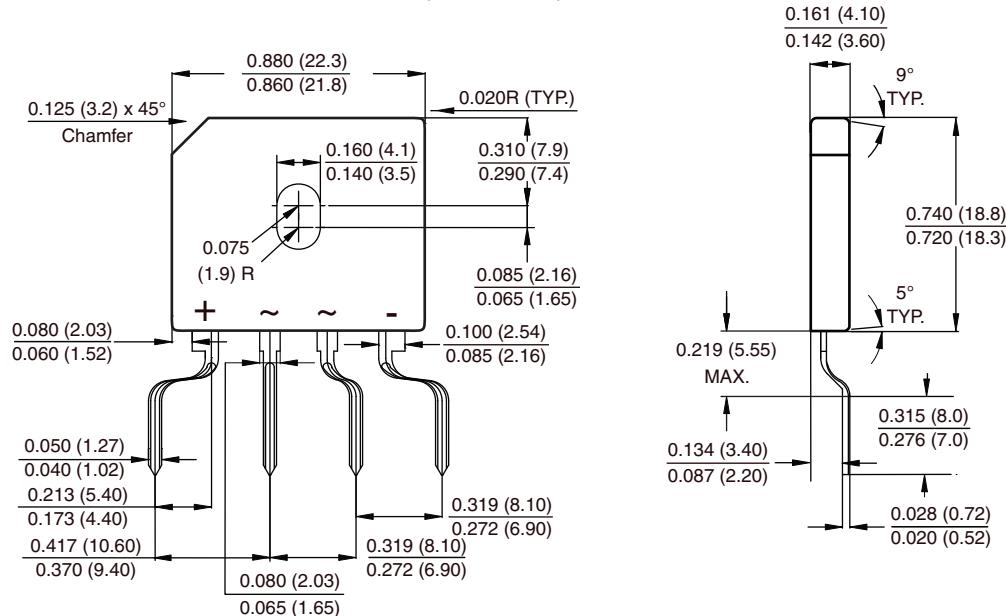
**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

## Case Type BU

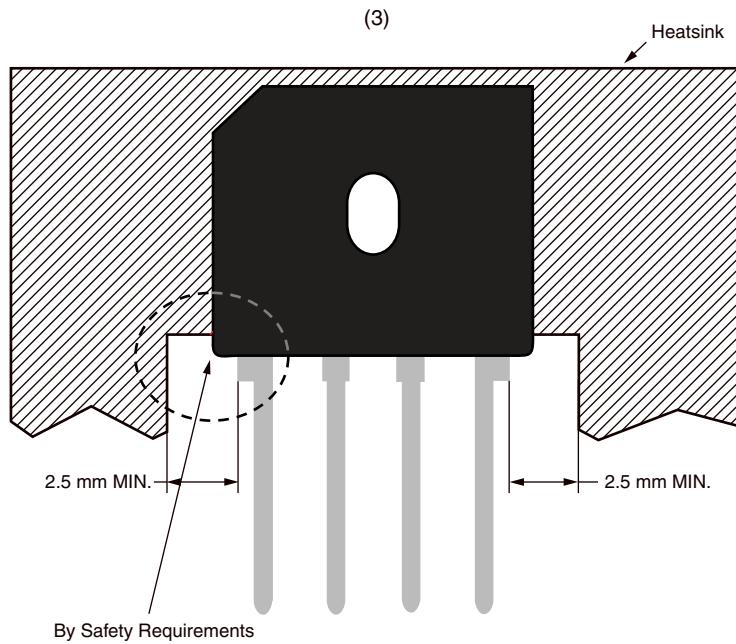


Polarity shown on front side of case, positive lead beveled corner



**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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