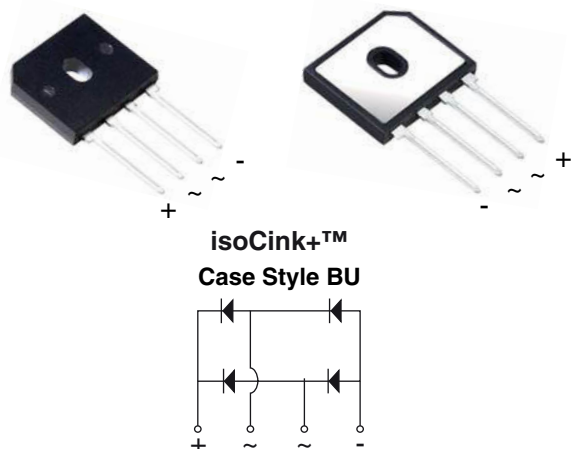


Enhanced isoCink+™ Bridge Rectifiers



RoHS
COMPLIANT
HALOGEN
FREE

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. BU12065S)
- 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

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)

Note

* 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
$I_{F(AV)}$	12 A
V_{RRM}	600 V, 800 V, 1000 V
I_{FSM}	150 A
I_R	5 μ A
V_F at $I_F = 6$ A	0.88 V
T_J max.	150 °C
Diode variations	In-Line

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)						
PARAMETER		SYMBOL	BU1206	BU1208	BU1210	UNIT
Maximum repetitive peak reverse voltage		V _{RRM}	600	800	1000	V
Average rectified forward current (fig. 1, 2)	T _C = 85 °C ⁽¹⁾	I _O	12			A
	T _A = 25 °C ⁽²⁾		3.4			
Non-repetitive peak forward surge current 8.3 ms single sine-wave, T _J = 25 °C		I _{FSM}	150			A
Rating for fusing (t < 8.3 ms) T _J = 25 °C		I ² t	93			A ² s
Operating junction and storage temperature range		T _J , T _{STG}	-55 to +150			°C

Notes

(1) With 60 W air cooled heatsink

(2) 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 ⁽¹⁾	I _F = 6.0 A	T _A = 25 °C	V _F	0.98	1.05	V
		T _A = 125 °C		0.88	0.95	
Maximum reverse current per diode	rated V _R	T _A = 25 °C	I _R	-	5.0	μA
		T _A = 125 °C		74	250	
Typical junction capacitance per diode	4.0 V, 1 MHz		C _J	50	-	pF

Note
⁽¹⁾ Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	BU1206	BU1208	BU1210	UNIT
Typical thermal resistance	R _{θJC} ⁽¹⁾	2.7			°C/W
	R _{θJA} ⁽²⁾	20			

Notes
⁽¹⁾ With 60 W air cooled heatsink

⁽²⁾ Without heatsink, free air

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
BU1206-M3/45	4.66	45	20	Tube
BU1206-M3/51	4.66	51	250	Paper tray
BU1206S-M3/45	4.66	45	20	Tube

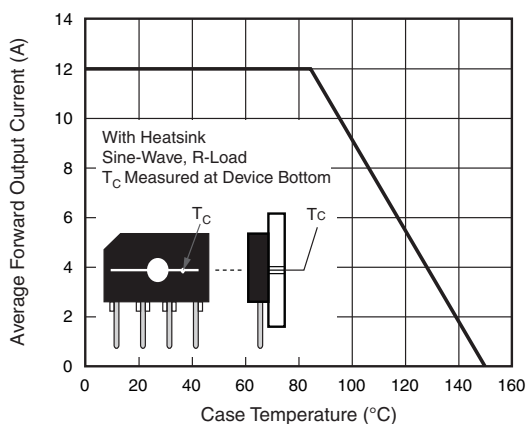
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)


Fig. 1 - Derating Curve Output Rectified Current

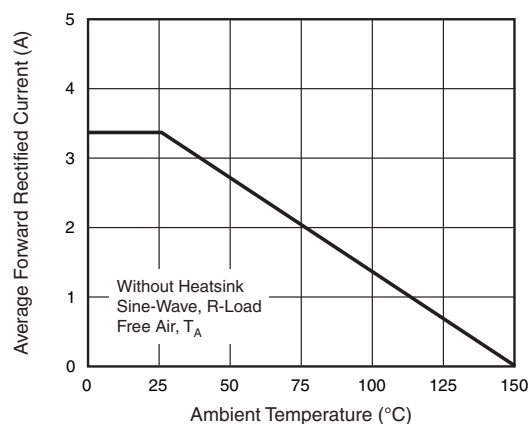


Fig. 2 - Forward Current Derating Curve

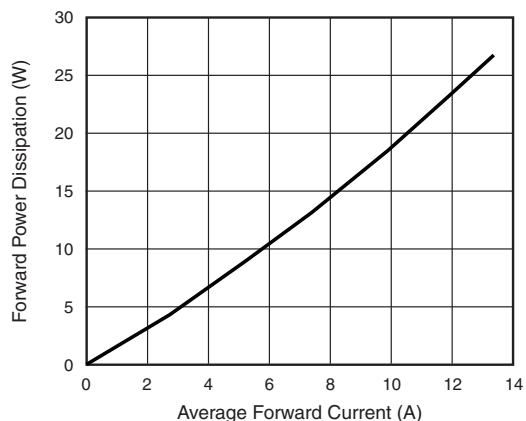


Fig. 3 - Forward Power Dissipation

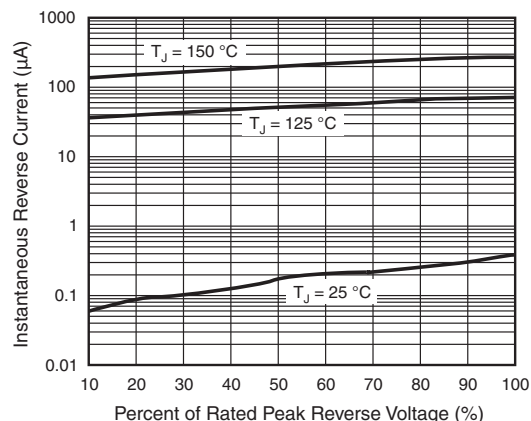


Fig. 5 - Typical Reverse Characteristics Per Diode

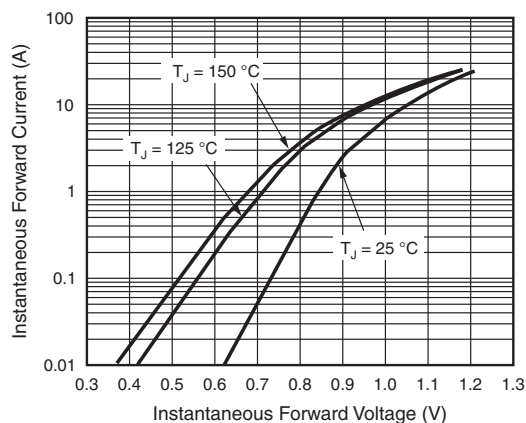


Fig. 4 - Typical Forward Characteristics Per Diode

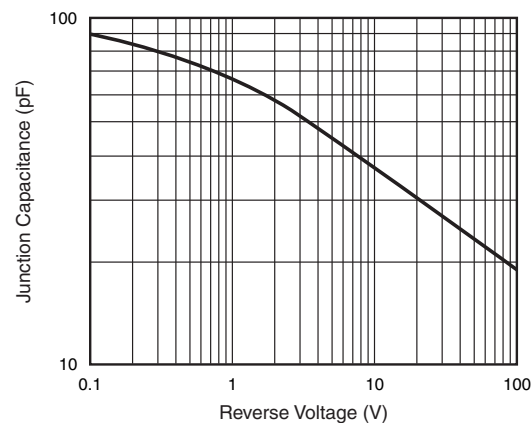
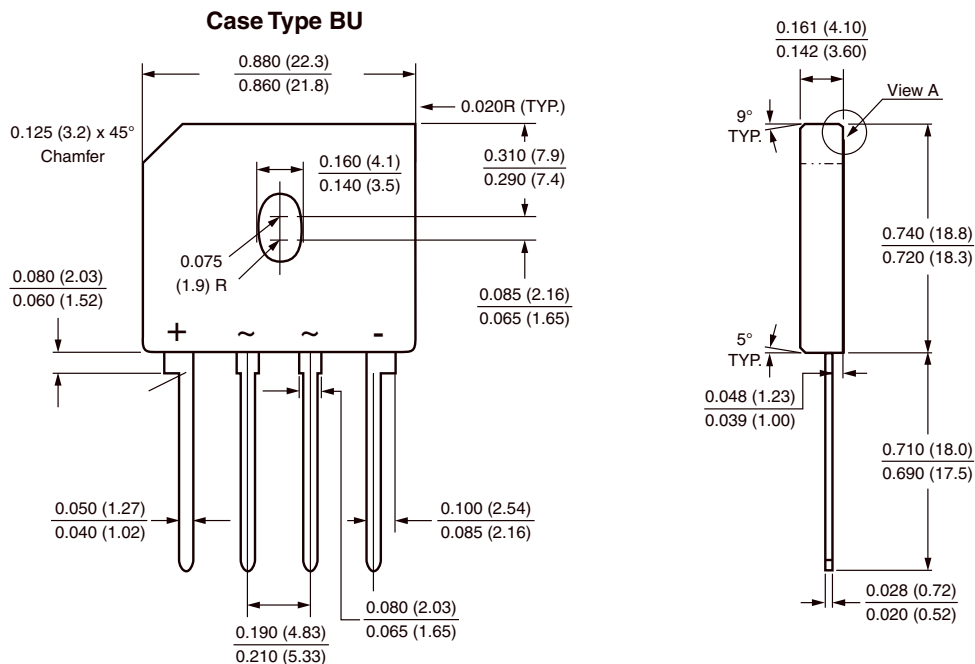


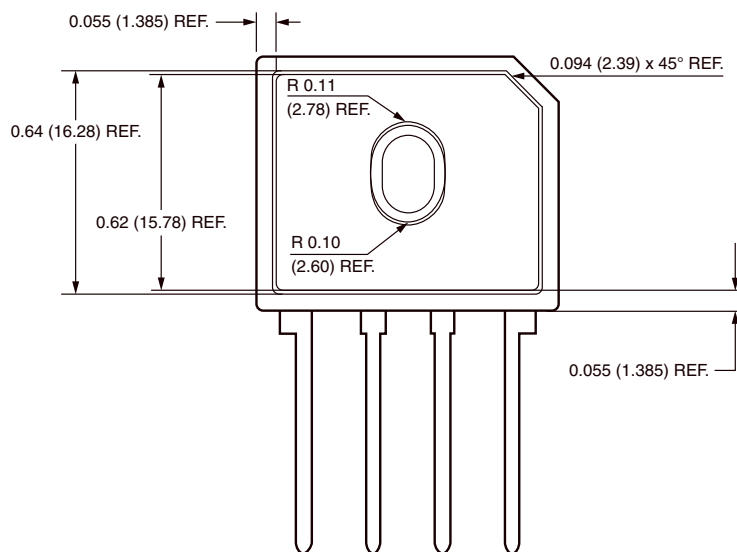
Fig. 6 - Typical Junction Capacitance Per Diode



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

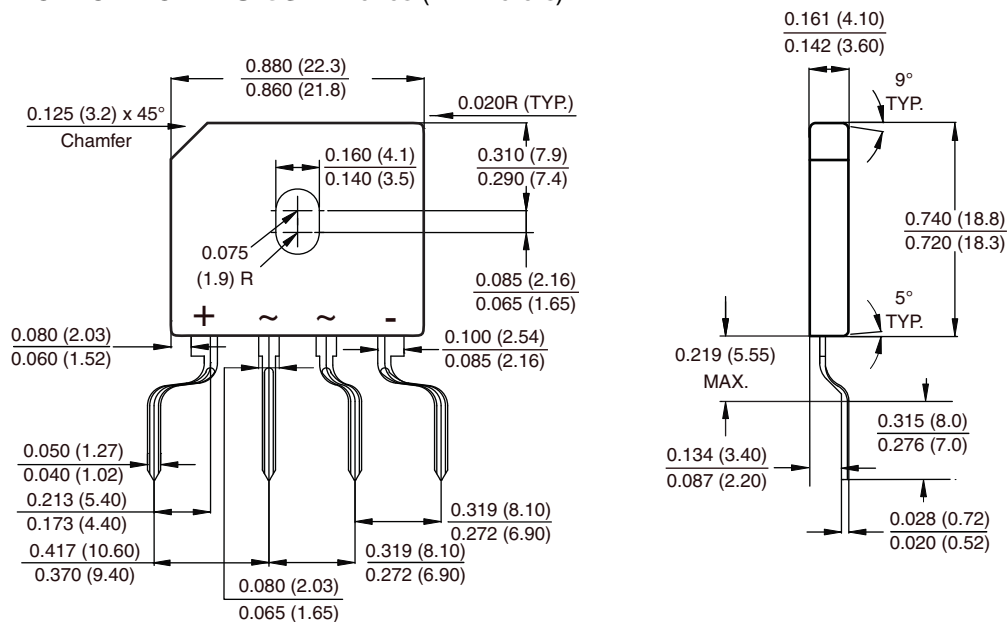


Polarity shown on front side of case, positive lead beveled corner



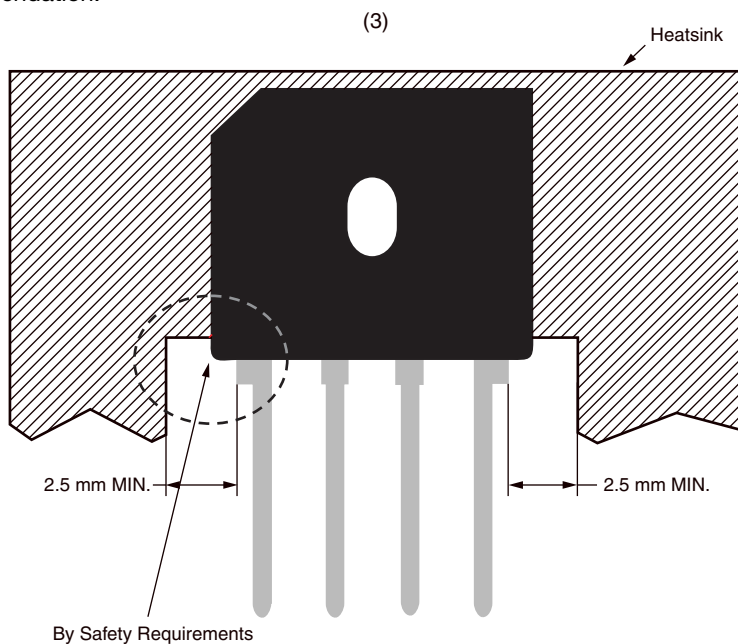


FORMING SPECIFICATION: BU-5S in inches (millimeters)



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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