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[Vishay Semiconductor/Diodes Division](#)
[BU1506-M3/51](#)

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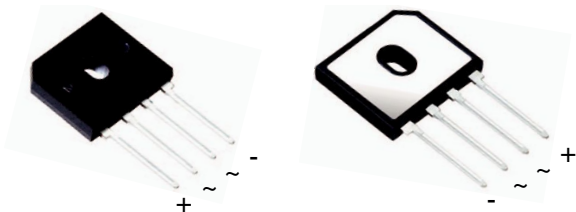


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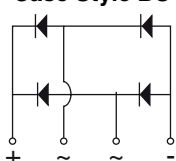
BU1506-M3, BU1508-M3, BU1510-M3

Vishay General Semiconductor

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
$I_{F(AV)}$	15 A
V_{RRM}	600 V, 800 V, 1000 V
I_{FSM}	200 A
I_R	5 μ A
V_F at $I_F = 7.5$ A	0.87 V
T_J max.	150 °C
Diode variations	In-Line

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

Notes

- (1) With heatsink
- (2) Without heatsink, free air

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. 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



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)



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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 = 7.5 A	V _F	T _A = 25 °C	0.97	1.05	V
			T _A = 125 °C	0.87	0.95	
Maximum reverse current per diode	rated V _R	I _R	T _A = 25 °C	-	5.0	μA
			T _A = 125 °C	90	250	
Typical junction capacitance per diode	4.0 V, 1 MHz	C _J	70	-	pF	

Note

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

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	BU1506	BU1508	BU1510	UNIT
Typical thermal resistance	R _{θJC} ⁽¹⁾	2.5			°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
BU1506-M3/45	4.75	45	20	Tube
BU1506-M3/51	4.75	51	250	Paper tray
BU15065S-M3/45	4.75	45	20	Tube

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

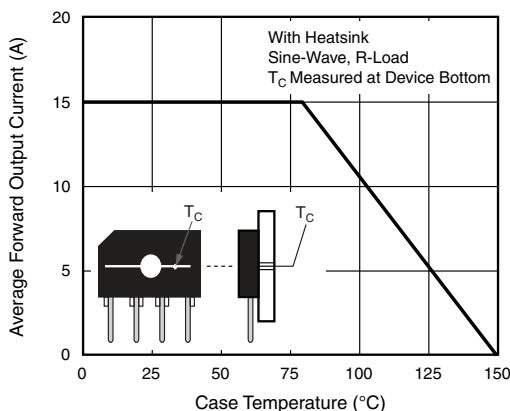


Fig. 1 - Derating Curve Output Rectified Current

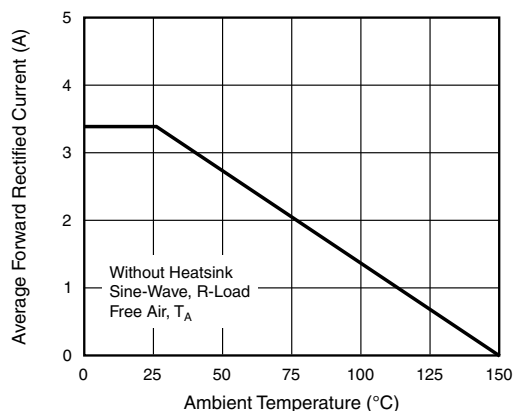


Fig. 2 - Forward Current Derating Curve



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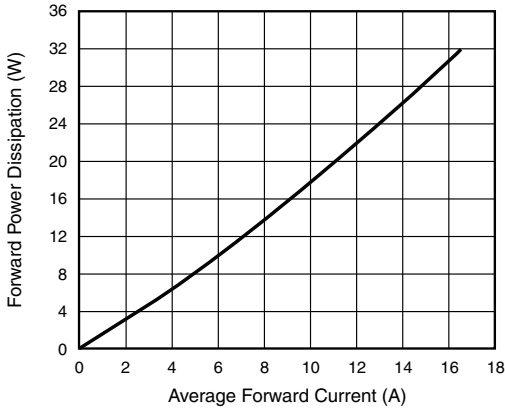


Fig. 3 - Forward Power Dissipation

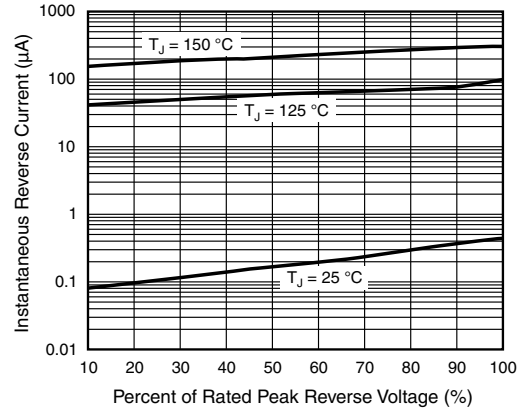


Fig. 5 - Typical Reverse Characteristics Per Diode

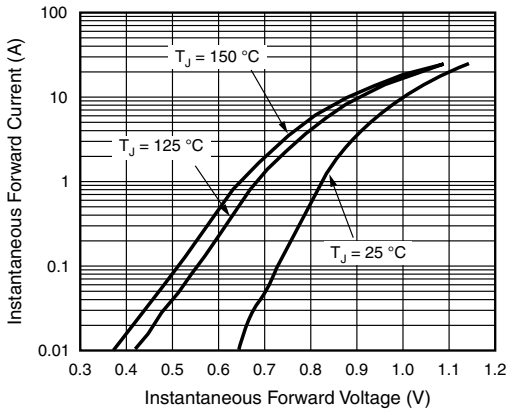


Fig. 4 - Typical Forward Characteristics Per Diode

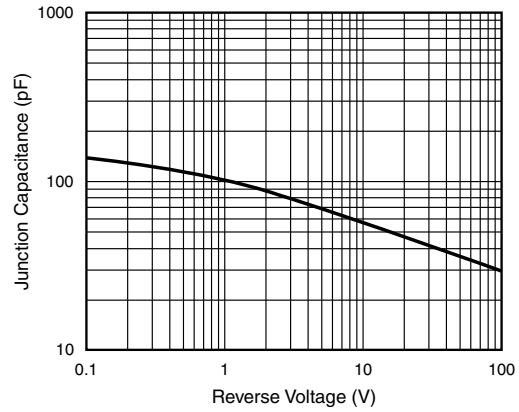


Fig. 6 - Typical Junction Capacitance Per Diode

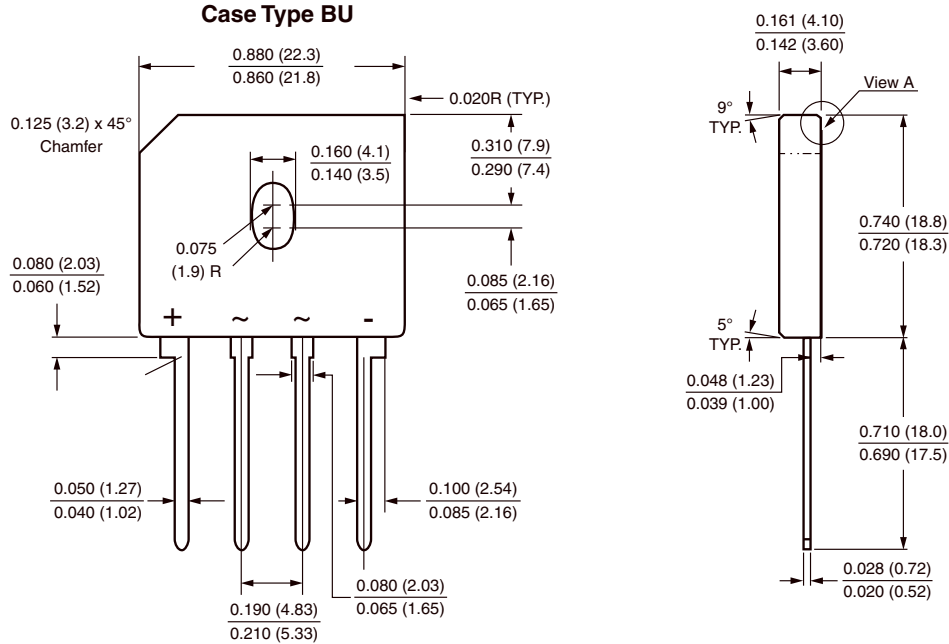


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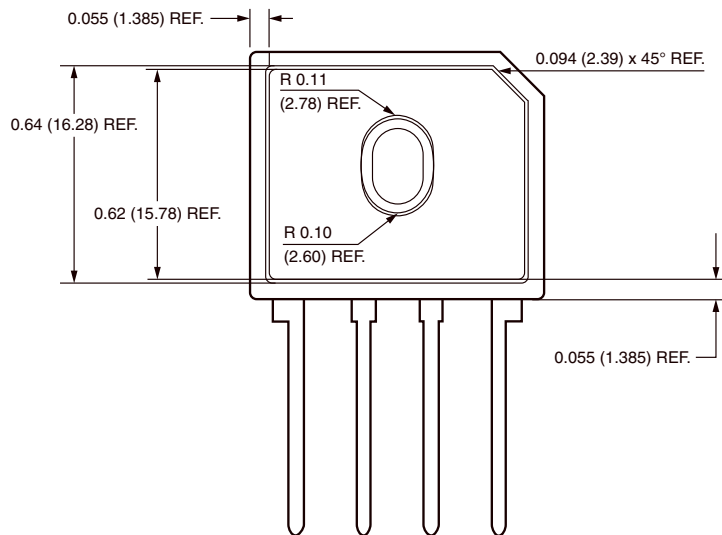
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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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



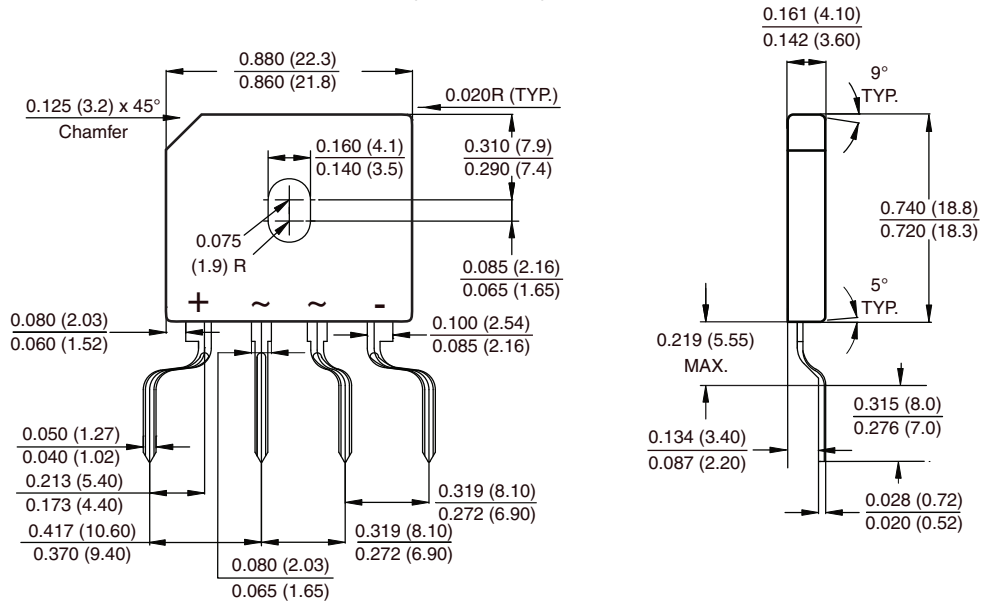


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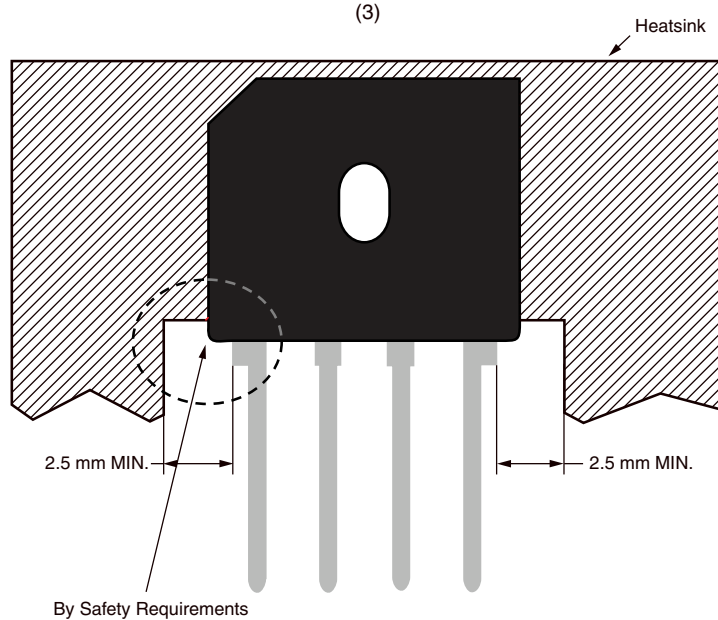
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FORMING SPECIFICATION: BU-5S in inches (millimeters)



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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