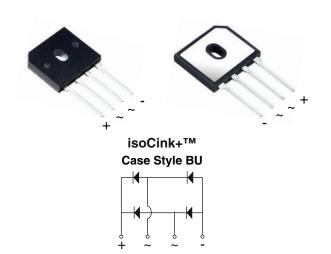


Vishay General Semiconductor

HALOGEN

FREE

Enhanced isoCink+™ Bridge Rectifiers



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 μΑ				
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 <u>www.vishay.com/doc?99912</u>

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 _A = 25 °C unless otherwise noted)						
PARAMETER		SYMBOL	BU2506	BU2508	BU2510	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	600	800	1000	V
Average rectified forward current (Fig. 1, 2)	$T_C = 60 ^{\circ}C^{(1)}$	1	25		Α	
	$T_A = 25 ^{\circ}C^{(2)}$	IO	3.5			
Non-repetitive peak forward surge current 8.3 ms single sine-wave, $T_J = 25$ °C		I _{FSM}		300		А
Rating for fusing (t < 8.3 ms) T _J = 25 °C		I ² t		373		A ² s
Operating junction and storage temperature ran	ige	T _J , T _{STG}		-55 to +150		°C

Notes

- (1) With 60 W air cooled heatsink
- (2) Without heatsink, free air

BU2506, BU2508, BU2510

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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 = 12.5 A	$T_A = 25 ^{\circ}\text{C}$ $T_A = 125 ^{\circ}\text{C}$	V _F	0.97	1.05	V	
		T _A = 125 °C		0.87	0.95		
Maximum reverse current per diode	rated V _R	T _A = 25 °C	I _R	-	5.0	μА	
		T _A = 125 °C		120	350		
Typical junction capacitance per diode	4.0 V, 1 MHz		CJ	125	-	pF	

Note

 $^{^{(1)}}$ Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	BU2506	BU2508	BU2510	UNIT	
Typical thermal resistance	R ₀ JC (1)	2.0			°C/W	
	R _{0JA} (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			
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			

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

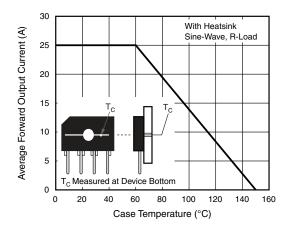


Fig. 1 - Derating Curve Output Rectified Current

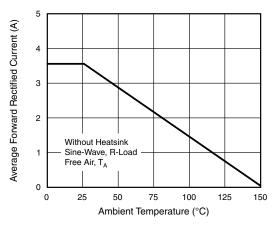


Fig. 2 - Forward Current Derating Curve

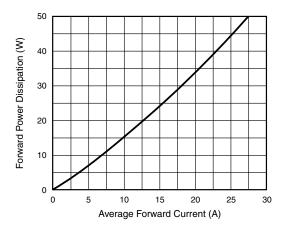


Fig. 3 - Forward Power Dissipation

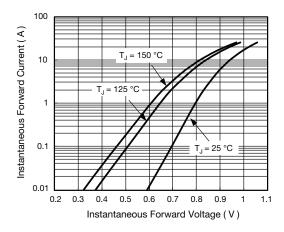


Fig. 4 - Typical Forward Characteristics Per Diode

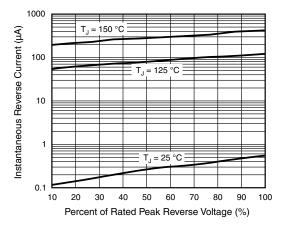


Fig. 5 - Typical Reverse Characteristics Per Diode

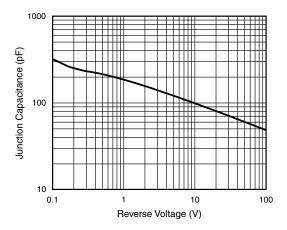


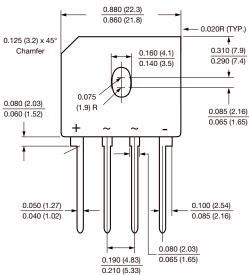
Fig. 6 - Typical Junction Capacitance Per Diode

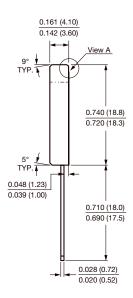


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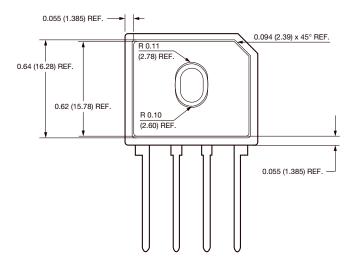
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

0.880 (22.3)





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



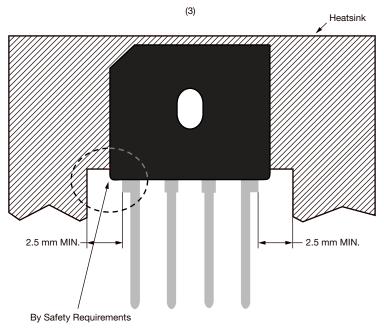


BU2506, BU2508, BU2510

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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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