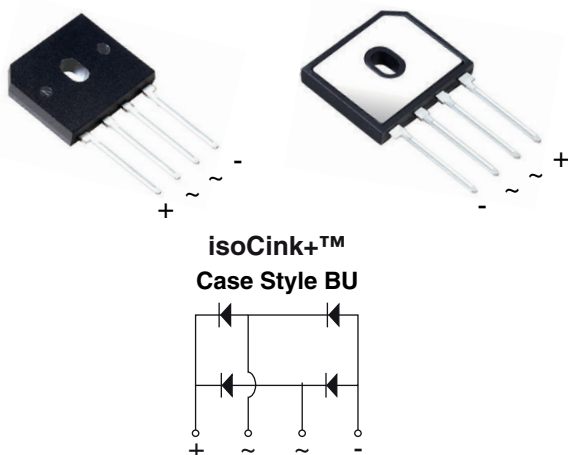




Enhanced isoCink+™ Bridge Rectifiers



FEATURES

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

TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for switching power supply, home appliances and white-goods applications.

LINKS TO ADDITIONAL RESOURCES



3D Models

PRIMARY CHARACTERISTICS

$I_{F(AV)}$	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
Package	BU
Circuit configurations	In-line

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	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	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}	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 60 W air cooled heatsink

⁽²⁾ 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 ⁽¹⁾	$I_F = 7.5\text{ A}$	$T_A = 25\text{ }^\circ\text{C}$	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	μA
		$T_A = 125\text{ }^\circ\text{C}$	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 ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	BU1506	BU1508	BU1510	UNIT
Typical thermal resistance	$R_{\theta JC}$ ⁽¹⁾	2.5			$^\circ\text{C/W}$
	$R_{\theta JA}$ ⁽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-E3/45	4.75	45	20	Tube
BU1506-E3/51	4.75	51	250	Paper tray
BU1506-M3/45	4.75	45	20	Tube
BU15065S-E3/45	4.75	45	20	Tube



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

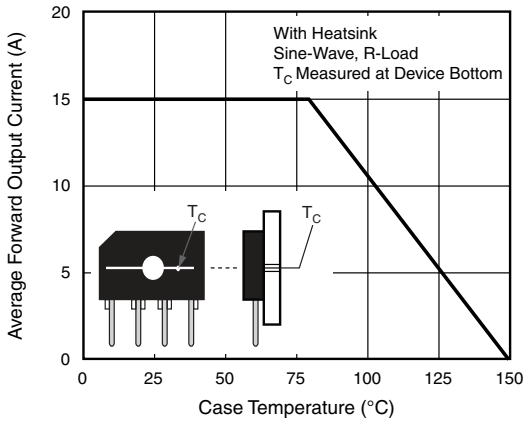


Fig. 1 - Derating Curve Output Rectified Current

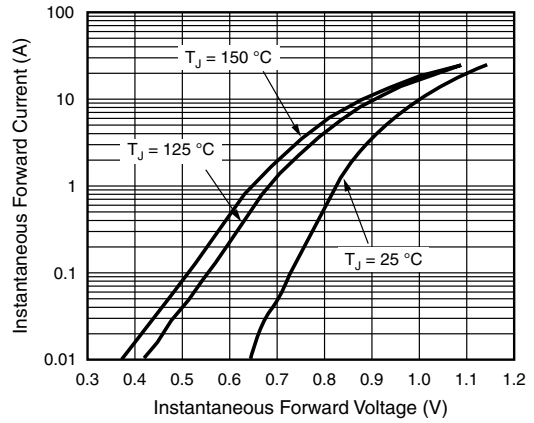


Fig. 4 - Typical Forward Characteristics Per Diode

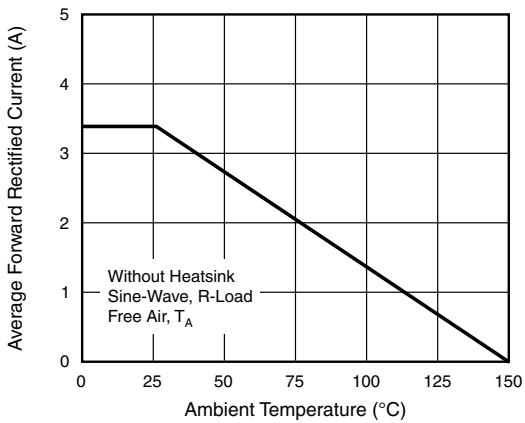


Fig. 2 - Forward Current Derating Curve

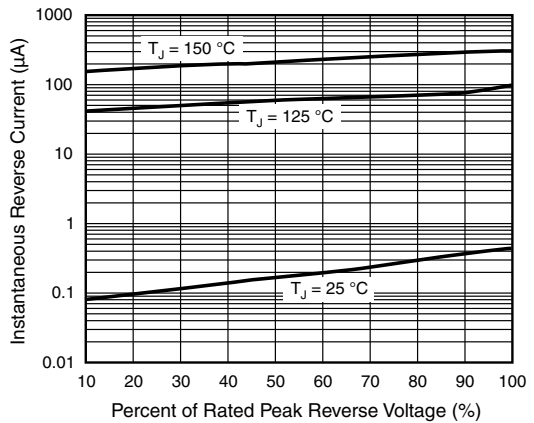


Fig. 5 - Typical Reverse Characteristics Per Diode

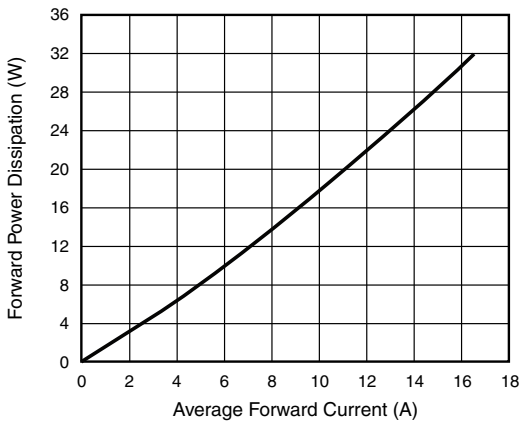


Fig. 3 - Forward Power Dissipation

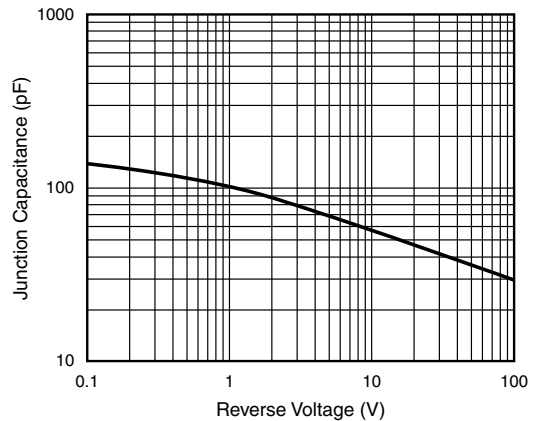
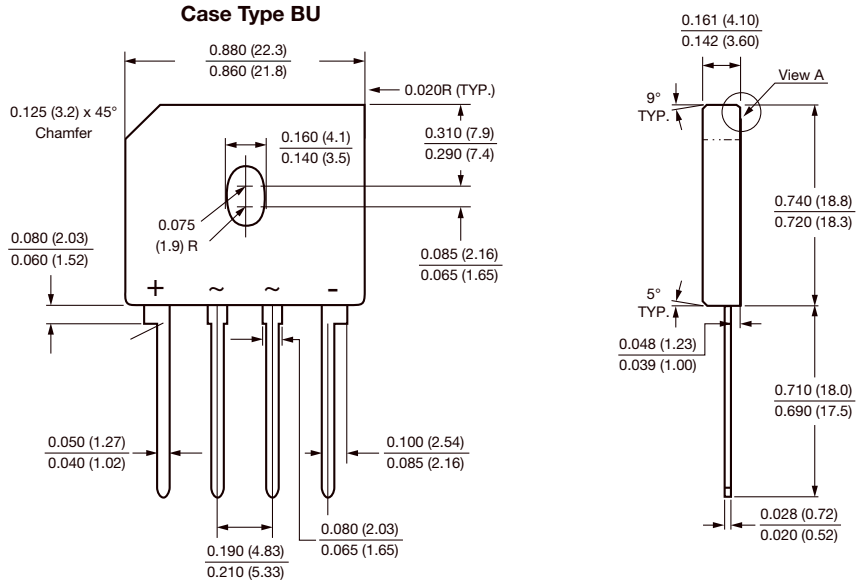


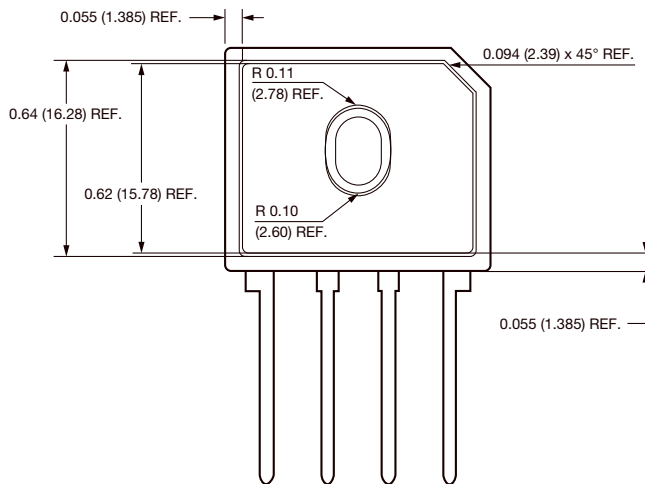
Fig. 6 - Typical Junction Capacitance Per Diode



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

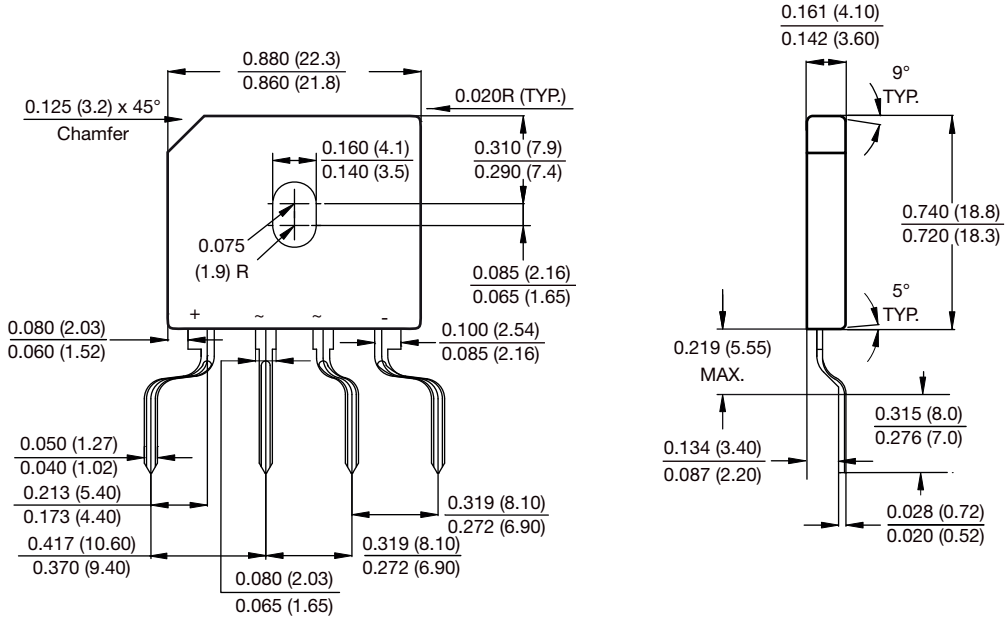


Polarity shown on front side of case, positive lead beveled corner



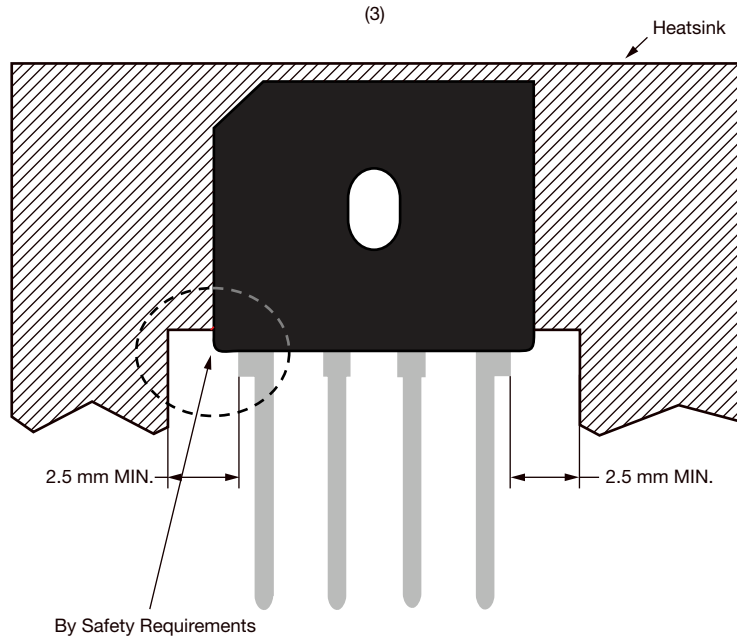


FORMING SPECIFICATION: BU-5S in inches (millimeters)



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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