

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	BU1010A-M3/51
Manufacturer:	Vishay General Semiconductor - Diodes Division
Package:	4-SIP, BU
Availability:	Please confirm with sales

Product Page:

<https://antrexco.com/product/details/vishay-general-semiconductor-diodes-division/bu1010a-m3-51.html>

Request a Quote:

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Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

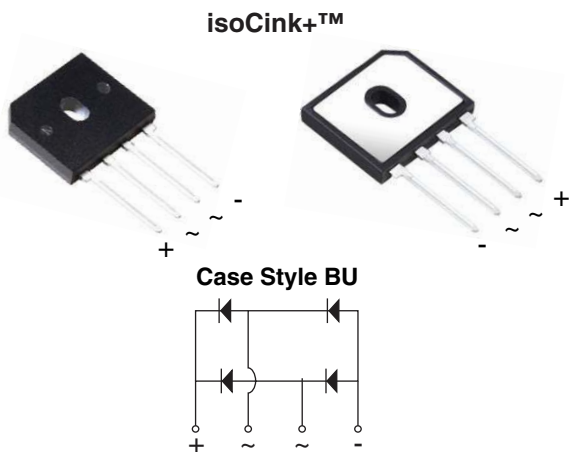
Secure sourcing support for OEM / EMS projects

Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

Enhanced isoCink+™ Bridge Rectifiers



Case Style BU

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 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.

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)

LINKS TO ADDITIONAL RESOURCES



3D Models

PRIMARY CHARACTERISTICS

$I_{F(AV)}$	10 A
V_{RRM}	600 V, 800 V, 1000 V
I_{FSM}	90 A
I_R	5 μ A
V_F at $I_F = 5.0$ A	0.94 V
T_J max.	150 °C
Package	BU
Circuit configurations	In-line

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)

PARAMETER	SYMBOL	BU1006A	BU1008A	BU1010A	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	600	800	1000	V
Average rectified forward current (Fig. 1, 2)	I_O	10			A
		3.0			
Non-repetitive peak forward surge current 8.3 ms single sine-wave, $T_J = 25\text{ }^{\circ}\text{C}$	I_{FSM}	90			A
Rating for fusing ($t < 8.3\text{ ms}$) $T_J = 25\text{ }^{\circ}\text{C}$	I^2t	33			A ² s
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150			$^{\circ}\text{C}$

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⁾	$I_F = 5.0\text{ A}$	$T_A = 25\text{ }^{\circ}\text{C}$	1.02	1.10	V
		$T_A = 125\text{ }^{\circ}\text{C}$	0.94	1.00	
Maximum reverse current per diode	rated V_R	$T_A = 25\text{ }^{\circ}\text{C}$	-	5.0	μA
		$T_A = 125\text{ }^{\circ}\text{C}$	45	250	
Typical junction capacitance per diode	4.0 V, 1 MHz	C_J	30	-	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	BU1006A	BU1008A	BU1010A	UNIT
Typical thermal resistance	R _{θJC} ⁽¹⁾	3.0			°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
BU1006A-E3/45	4.48	45	20	Tube
BU1006A-E3/51	4.48	51	250	Paper tray
BU1006A-M3/45	4.48	45	20	Tube

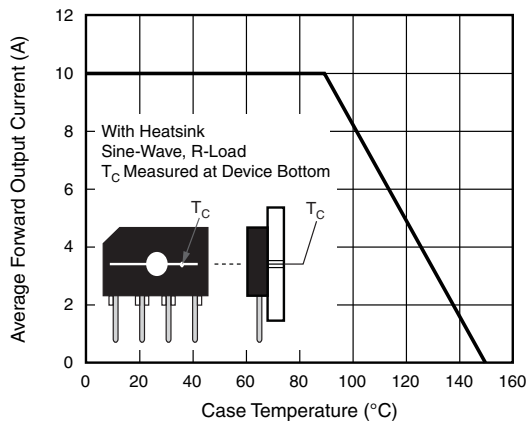
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)


Fig. 1 - Derating Curve Output Rectified Current

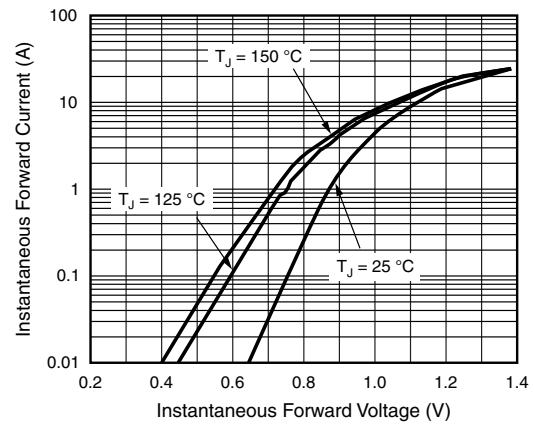


Fig. 4 - Typical Forward Characteristics Per Diode

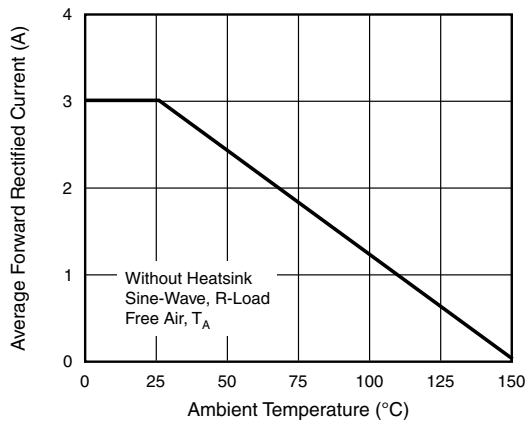


Fig. 2 - Forward Current Derating Curve

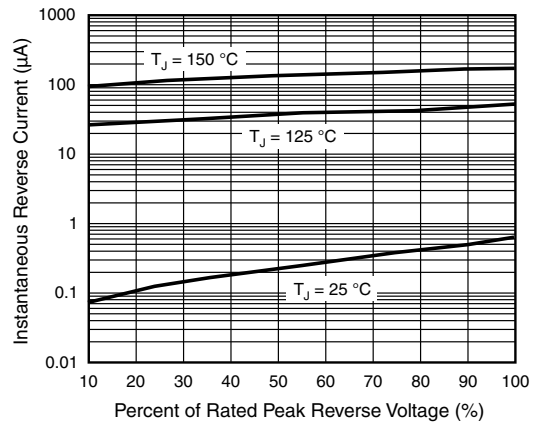


Fig. 5 - Typical Reverse Characteristics Per Diode

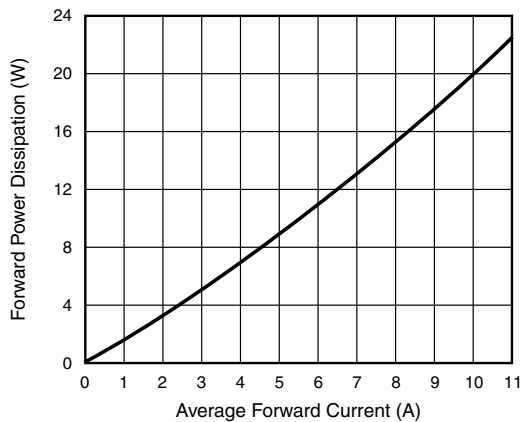


Fig. 3 - Forward Power Dissipation

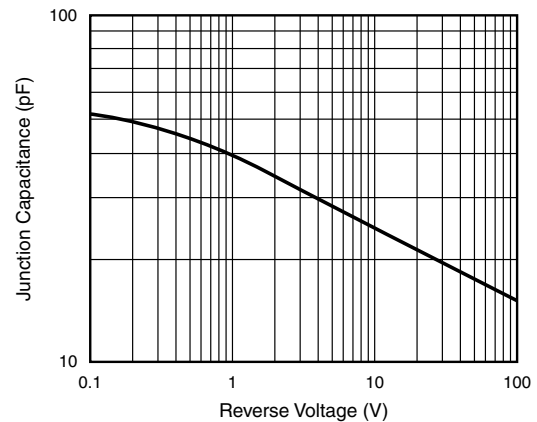
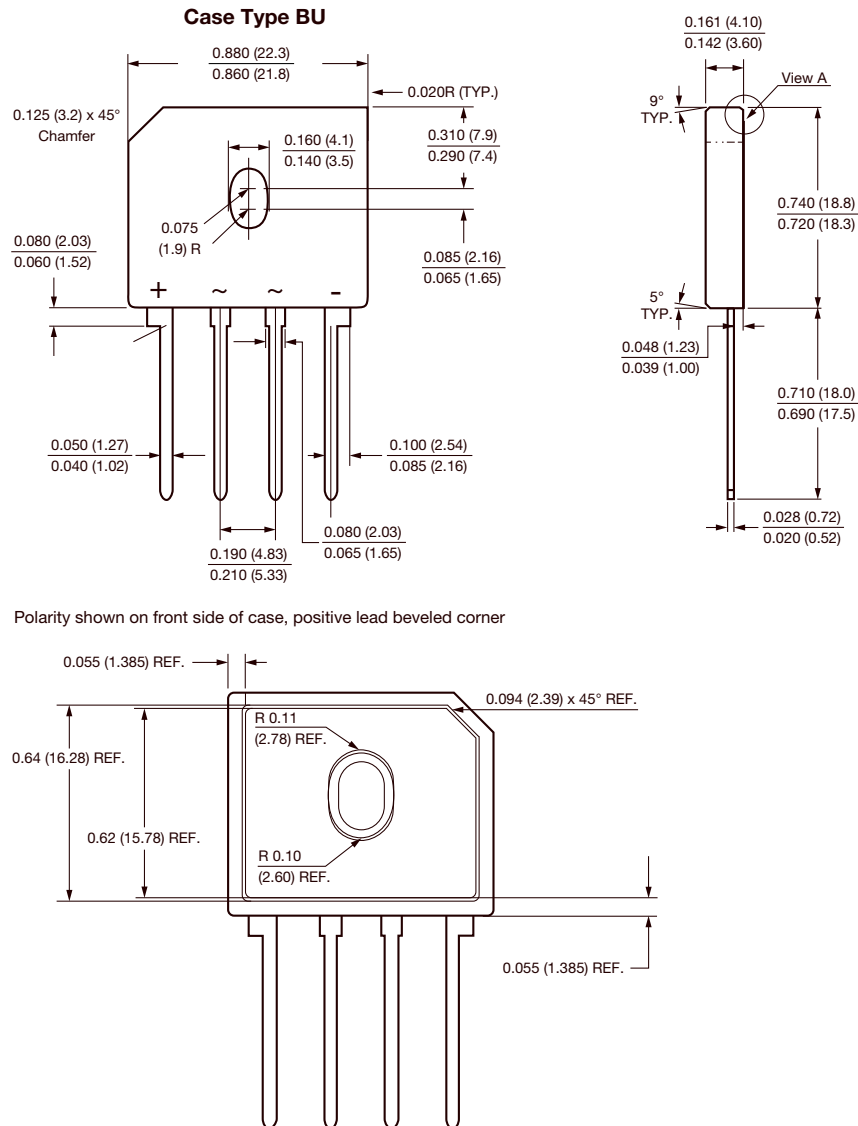


Fig. 6 - Typical Junction Capacitance Per Diode

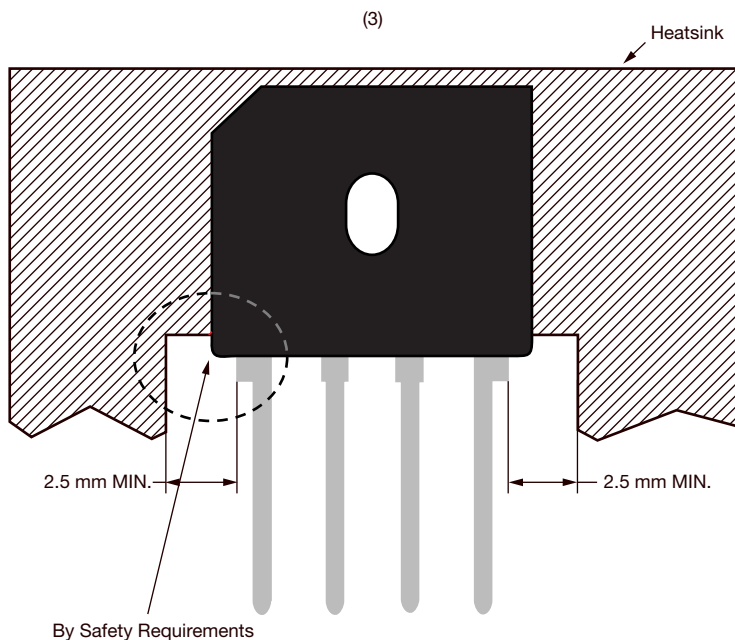


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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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