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## Product Summary (@T<sub>A</sub> = +25°C)

V <sub>RRM</sub> (V)	I <sub>O</sub> (A)	V <sub>F</sub> (V)	I <sub>R</sub> (μA)
1000	4	1.0	5

## Description and Applications

Suitable for AC to DC bridge full wave rectification for SMPS, LED lighting, adapter, battery charger, home appliances, office equipment, and telecommunication applications.

## Features and Benefits

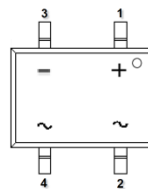
- Glass Passivated Die Construction
- Compact, Thin Profile Package Design
- Low Forward Voltage Drop Improves Power Efficiency
- High Current and Surge Capability
- Reliable Robust Construction
- Ideal for SMT Manufacturing
- Rated at 1000V PRV
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Mechanical Data

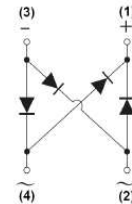
- Case: TT
- Case Material: Molded Plastic.  
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish).  
Solderable per MIL-STD-202, Method 208 **(e3)**
- Polarity: As Marked on Body
- Weight: 0.297 grams (Approximate)



Top View



Pin Diagram



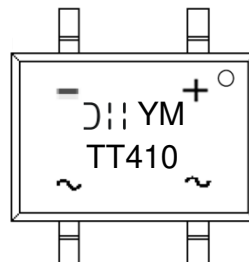
Internal Schematic

## Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
TT410-13	Commercial	TT	1,500/Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

## Marking Information



TT410= Product Type Marking Code  
 YM = Manufacturers' Code Marking  
 YM = Date Code Marking  
 Y = Last Digit of Year (ex: 7 = 2017)  
 M = See Month/Code Table Below

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

## Maximum Ratings (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	1,000	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	700	V
Average Rectified Output Current (Note 5) @ T <sub>A</sub> = +25°C	I <sub>O</sub>	4.0	A
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	120	A
Non-Repetitive Peak Forward Surge Current, 1.0ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	240	A
I <sup>2</sup> t Rating for Fusing (1ms < t < 8.3ms)	I <sup>2</sup> t	59	A <sup>2</sup> S

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Ambient (Note 5) (Per Element)	R <sub>θJA</sub>	13	°C/W
Typical Thermal Resistance, Junction to Lead (Per Element)	R <sub>θJL</sub>	8	°C/W
Typical Thermal Resistance, Junction to Case (Per Element)	R <sub>θJC</sub>	3	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

## Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V <sub>(BR)R</sub>	1,000	—	—	V	I <sub>R</sub> = 10μA
Forward Voltage (Per Element)	V <sub>F</sub>	—	0.91 0.80	1.0 —	V	I <sub>F</sub> = 2A, T <sub>A</sub> = +25°C I <sub>F</sub> = 2A, T <sub>A</sub> = +125°C
Leakage Current (Note 6) (Per Element)	I <sub>R</sub>	—	0.15 55	5 500	μA	V <sub>R</sub> = 1,000V, T <sub>A</sub> = +25°C V <sub>R</sub> = 1,000V, T <sub>A</sub> = +125°C
Total Capacitance (Per Element)	C <sub>T</sub>	—	40	—	pF	V <sub>R</sub> = 4V, f = 1.0MHz

Notes: 5. Device mounted on 15mmx12mmx1.6mm AL Pad attached on 100mmx75mmx27mm Fin heatsink. Thermal resistance test performed in accordance with JESD-51.  
6. Short duration pulse test used to minimize self-heating effect.



FIG.1- FORWARD CURRENT DERATING CURVE

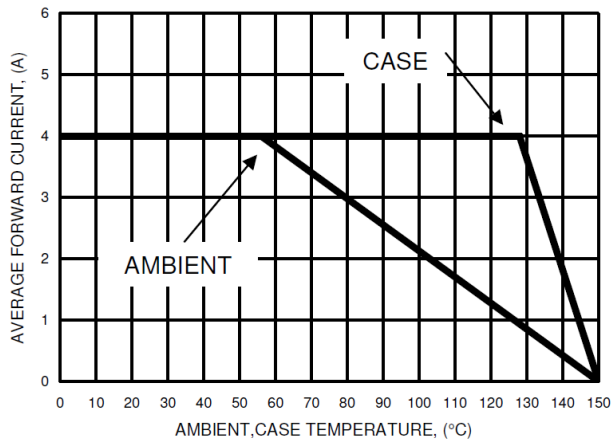


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

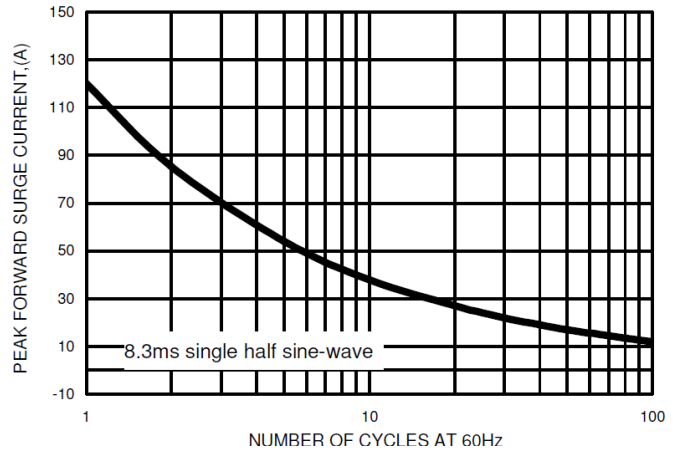


FIG.3- TYPICAL FORWARD CHARACTERISTICS

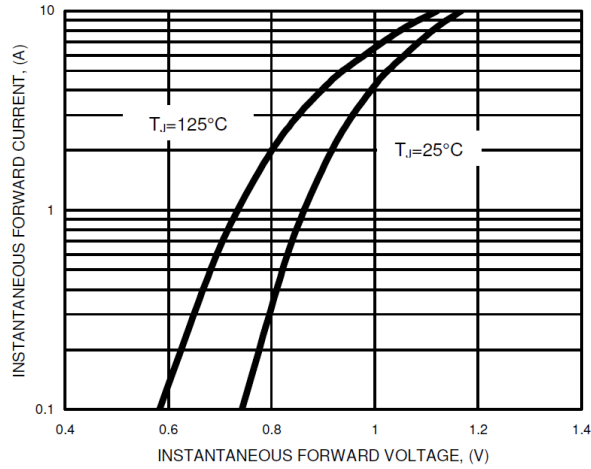


FIG.4- TYPICAL JUNCTION CAPACITANCE

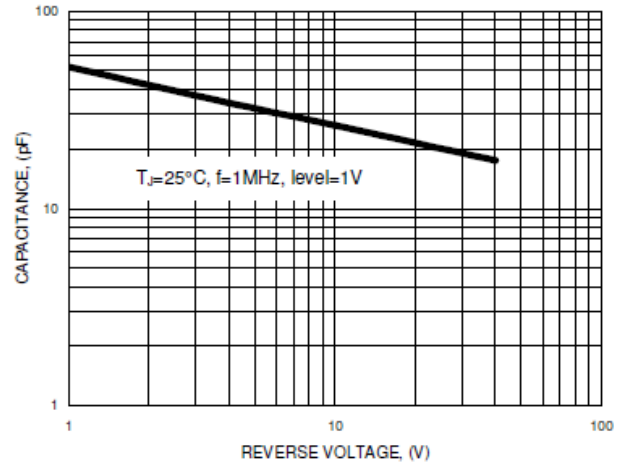
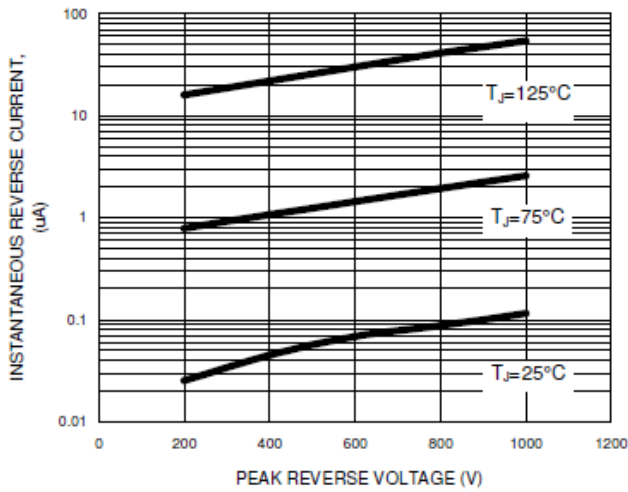


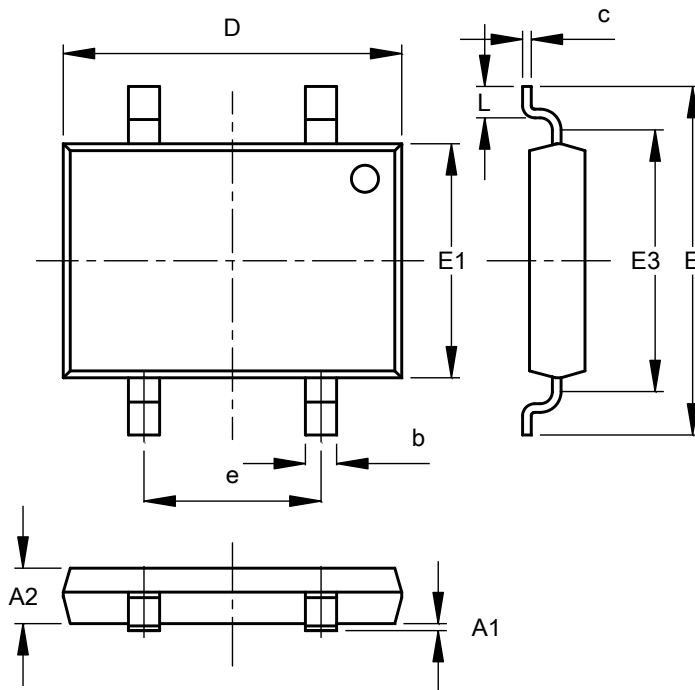
FIG.5- TYPICAL REVERSE CHARACTERISTICS



## Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

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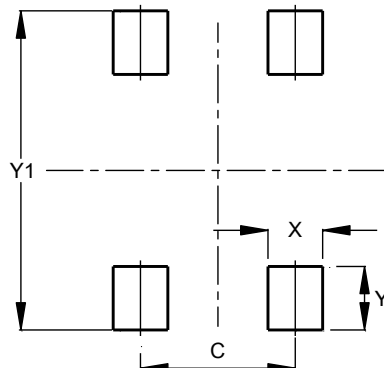


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Dim	Min	Max	TYP
A1	0.10	0.20	--
A2	1.40	1.60	--
b	0.70	0.90	--
c	0.15	0.35	--
D	9.45	9.75	--
E	9.75	10.05	--
E1	6.30	6.75	--
E3	7.85	8.15	--
e	4.90	5.10	--
L	0.45	0.95	--
All Dimensions in mm			

## Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

TT



Dimensions	Value (in mm)
C	5.00
X	1.80
Y	2.10
Y1	11.70

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