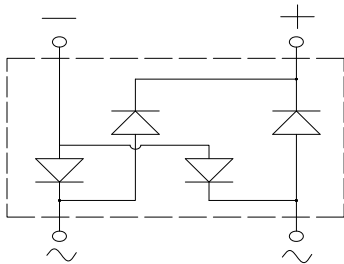


## High Efficient Bridge Rectifiers



### Features

- UL recognition, file #E313149
- Ideal for automated placement
- Glass passivated chip junction
- High surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

### Typical Applications

General purpose use in AC/DC bridge full wave rectification for SMPS, lighting ballast, adapter, battery charger, home appliances, office equipment, and telecommunication applications.

### Mechanical Data

- **Package:** ABS  
Molding compound meets UL 94 V-0 flammability rating, -compliant, Halogen free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked on body

### ■ Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER   | SYMBOL           | UNIT             | HABS1506   | HABS1508 | HABS1510 |
|---|------------------|------------------|------------|----------|----------|
| Device marking code   |                  |                  | HABS1506   | HABS1508 | HABS1510 |
| Maximum Repetitive Peak Reverse Voltage   | VRRM             | V                | 600        | 800      | 1000     |
| Maximum RMS Voltage   | VRMS             | V                | 420        | 560      | 700      |
| Maximum DC blocking Voltage   | VDC              | V                | 600        | 800      | 1000     |
| Average rectified output current<br>@60Hz sine wave, R-load, T <sub>c</sub> =110°C            | I <sub>O</sub>   | A                | 1.5        |          |          |
| Forward Surge Current (Non-repetitive)<br>@60Hz Half-sine wave, 1 cycle, T <sub>j</sub> =25°C | IFSM             | A                | 50         |          |          |
| Forward Surge Current (Non-repetitive)<br>@1ms, square wave, 1 cycle, T <sub>j</sub> =25°C    |                  |                  | 100        |          |          |
| Current squared time<br>@1ms≤t<8.3ms T <sub>j</sub> =25°C, Rating of per diode                | I <sup>2</sup> t | A <sup>2</sup> s | 10.4       |          |          |
| Storage temperature   | T <sub>stg</sub> | °C               | -55 ~ +150 |          |          |
| Junction temperature  | T <sub>j</sub>   | °C               | -55 ~ +150 |          |          |

### ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER   | SYMBOL         | UNIT | TEST CONDITIONS  | HABS1506 | HABS1508 | HABS1510 |
|---|----------------|------|--|----------|----------|----------|
| Maximum reverse recovery time                                     | t <sub>r</sub> | ns   | I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A,<br>I <sub>r</sub> =0.25A | 75       |          |          |
| Maximum instantaneous forward voltage drop per diode              | V <sub>F</sub> | V    | I <sub>FM</sub> =0.7A  | 1.7      |          |          |
| Maximum DC reverse current at rated DC blocking voltage per diode | I <sub>R</sub> | μA   | T <sub>j</sub> =25°C   | 5        |          |          |
|   |                |      | T <sub>j</sub> =125°C  | 100      |          |          |
| Typical junction capacitance                                      | C <sub>j</sub> | pF   | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C            | 15       |          |          |

# HABS1506 THRU HABS1510

## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER          |                              | SYMBOL            | UNIT | HABS1506 | HABS1508 | HABS1510 |
|--------------------|------------------------------|-------------------|------|----------|----------|----------|
| Thermal Resistance | Between junction and ambient | R <sub>θJ-A</sub> | °C/W | 62.5     |          |          |
|                    | Between junction and lead    | R <sub>θJ-L</sub> |      | 25.0     |          |          |
|                    | Between junction and case    | R <sub>θJ-C</sub> |      | 8.0      |          |          |

Note: Device mounted on P.C.B with 35mm\*25mm\*1.7mm.

## ■ Ordering Information (Example)

| PREFERRED P/N     | PACKING CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|-------------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| HABS1506-HABS1510 | F1           | Approximate 0.095 | 4000                 | /                       | 64000                      | 13" reel      |
| HABS1506-HABS1510 | F5           | Approximate 0.095 | 5000                 | /                       | 80000                      | 13" reel      |

## ■ Characteristics (Typical)

FIG1: I<sub>o</sub>-T<sub>c</sub> Curve

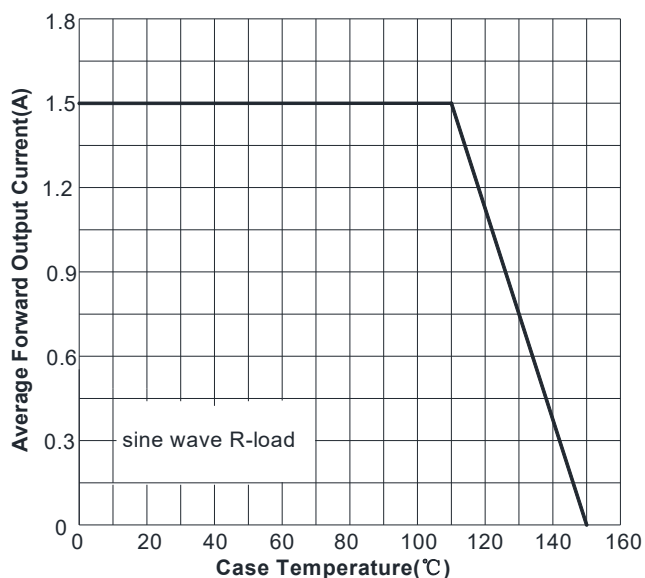


FIG2: Surge Forward Current Capability

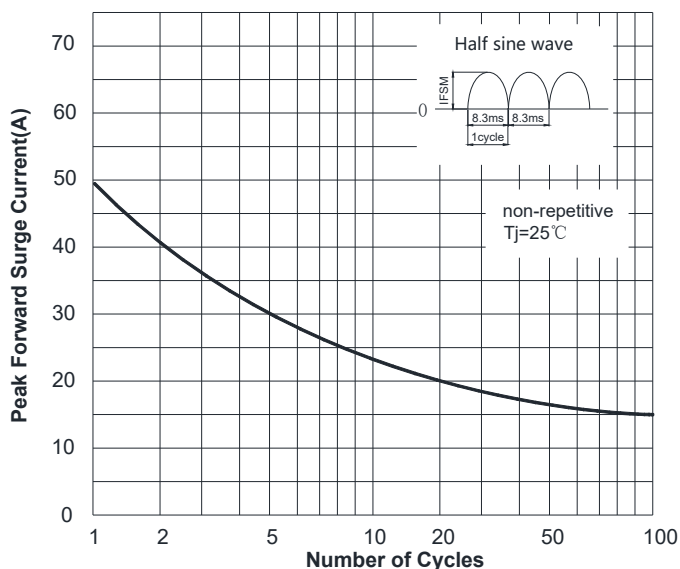


FIG3: Typical Forward Voltage

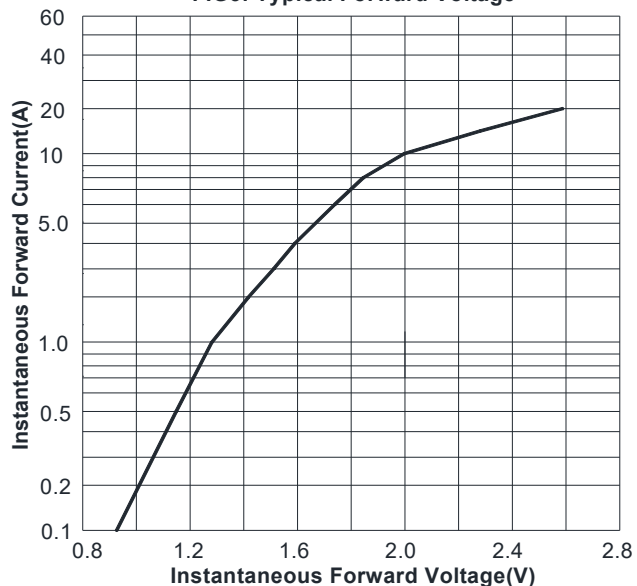
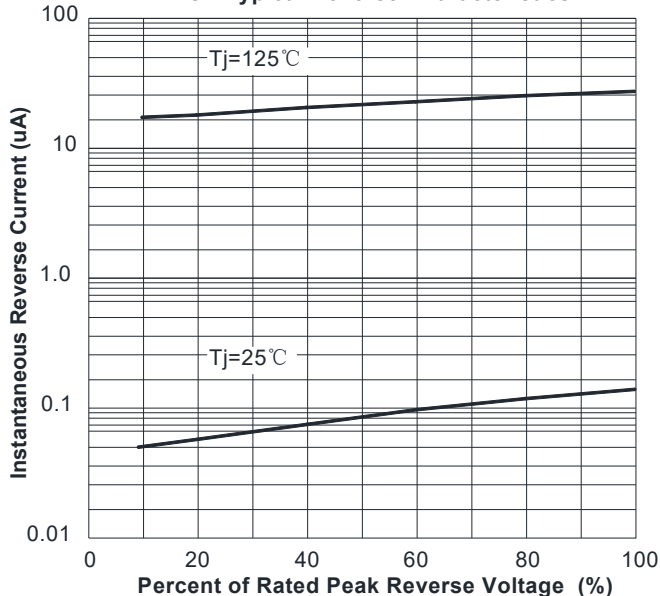
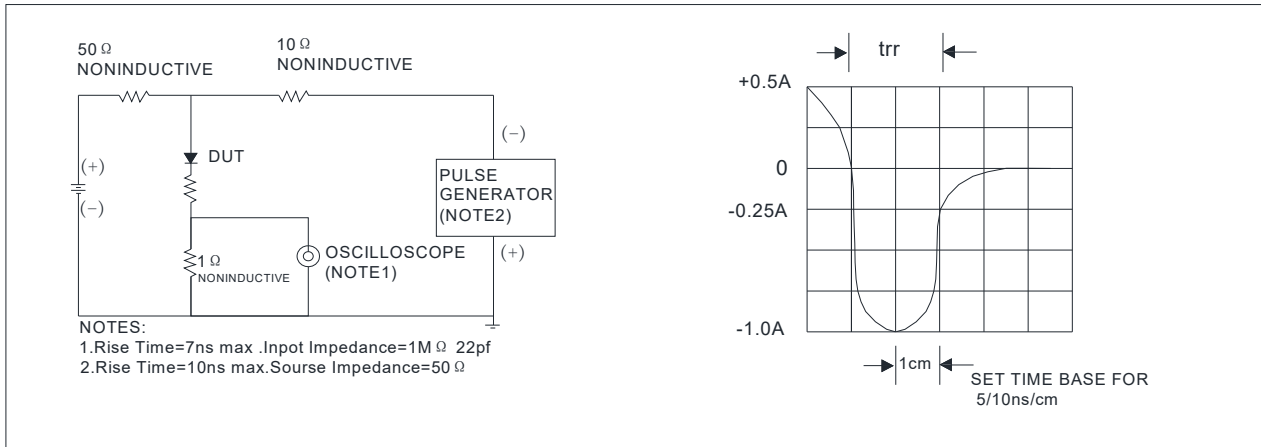


FIG4: Typical Reverse Characteristics

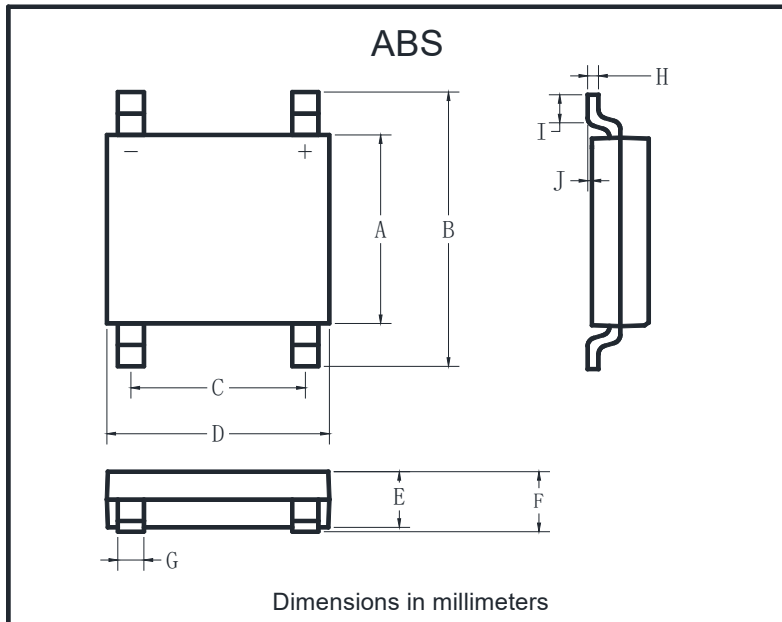


# HABS1506 THRU HABS1510

FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

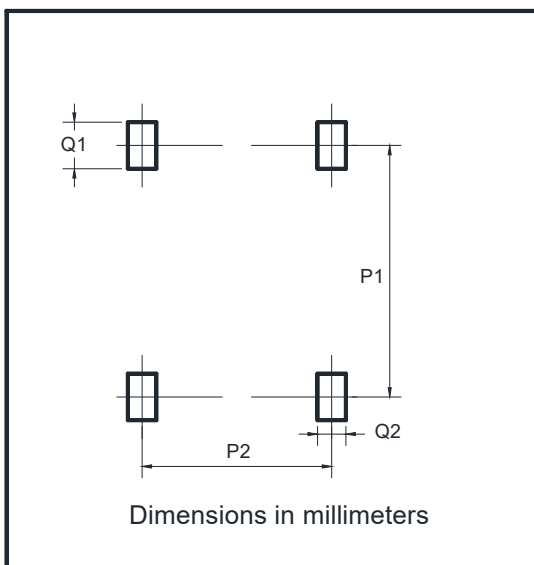


## ■ Outline Dimensions



| ABS |          |      |
|-----|----------|------|
| Dim | Min      | Max  |
| A   | 4.30     | 4.50 |
| B   | 6.00     | 6.40 |
| C   | 3.90     | 4.10 |
| D   | 4.90     | 5.10 |
| E   | 1.25     | 1.45 |
| F   | 1.60 Max |      |
| G   | 0.60     | 0.70 |
| H   | 0.15     | 0.25 |
| I   | 0.30     | 0.80 |
| J   | 0.02     | 0.15 |

## ■ Suggested pad layout



| Dim | Min  |
|-----|------|
| P1  | 5.72 |
| P2  | 4.00 |
| Q1  | 1.00 |
| Q2  | 0.90 |

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