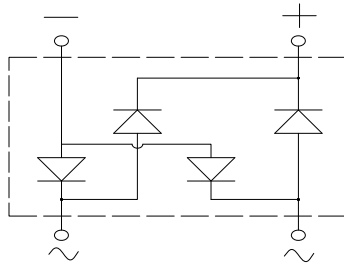


Bridge Rectifiers



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 power supply, lighting ballast, battery charger, home appliances, office equipment, and telecommunication applications.

Mechanical Data

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

■ Maximum Ratings (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | HDL1S | HDL2S | HDL4S | HDL6S | HDL8S | HDL10S |
|--|------------------|------------------|------------|-------|-------|-------|-------|--------|
| Device marking code | | | HDL1S | HDL2S | HDL4S | HDL6S | HDL8S | HDL10S |
| Maximum Repetitive Peak Reverse Voltage | VRRM | V | 100 | 200 | 400 | 600 | 800 | 1000 |
| Maximum RMS Voltage | VRMS | V | 70 | 140 | 280 | 420 | 560 | 700 |
| Maximum DC blocking Voltage | VDC | V | 100 | 200 | 400 | 600 | 800 | 1000 |
| Average rectified output current @60Hz sine wave, R-load, T _c =125°C | I _O | A | 0.8 | | | | | |
| Forward Surge Current (Non-repetitive) @8.3ms Half-sine wave, 1 cycle, T _j =25°C | I _{FSM} | A | 25 | | | | | |
| Current squared time @1ms≤t<8.3ms T _j =25°C, Rating of per diode | I ² t | A ² s | 2.6 | | | | | |
| Storage temperature | T _{stg} | °C | -55 ~ +150 | | | | | |
| Junction temperature | T _j | °C | -55 ~ +150 | | | | | |

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | HDL1S | HDL2S | HDL4S | HDL6S | HDL8S | HDL10S |
|---|----------------|------|---|-------|-------|-------|-------|-------|--------|
| Maximum instantaneous forward voltage drop per diode | V _F | V | I _{FM} =0.4A | 1.0 | | | | | |
| Maximum DC reverse current at rated DC blocking voltage per diode | I _R | μA | T _j =25°C | 5 | | | | | |
| | | | T _j =125°C | 50 | | | | | |
| Typical junction capacitance | C _j | pF | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C | 6 | | | | | |

HDL1S THRU HDL10S

■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

| PARAMETER | | SYMBOL | UNIT | HDL1S | HDL2S | HDL4S | HDL6S | HDL8S | HDL10S |
|----------------------------|------------------------------|-------------------|------|-------|-------|-------|-------|-------|--------|
| Typical Thermal Resistance | Between junction and ambient | R _{θJ-A} | °C/W | 65.0 | | | | | |
| | Between junction and lead | R _{θJ-L} | | 28.0 | | | | | |
| | Between junction and case | R _{θJ-C} | | 18.0 | | | | | |

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

■ Ordering Information (Example)

| PREFERED P/N | PACKING CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|----------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| HDL1S ~ HDL10S | F1 | Approximate 0.083 | 4000 | / | 64000 | 13' reel |
| HDL1S ~ HDL10S | F3 | Approximate 0.083 | 5000 | / | 80000 | 13' reel |

■ Characteristics (Typical)

FIG1:I_o-T_c Curve

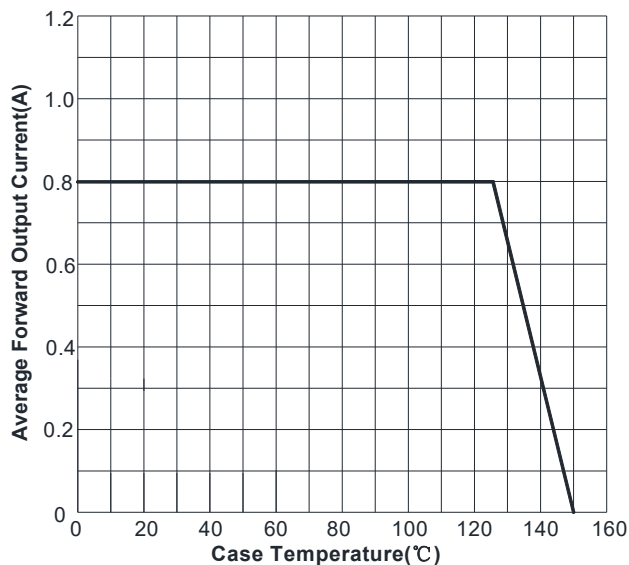


FIG2: Surge Forward Current Capability

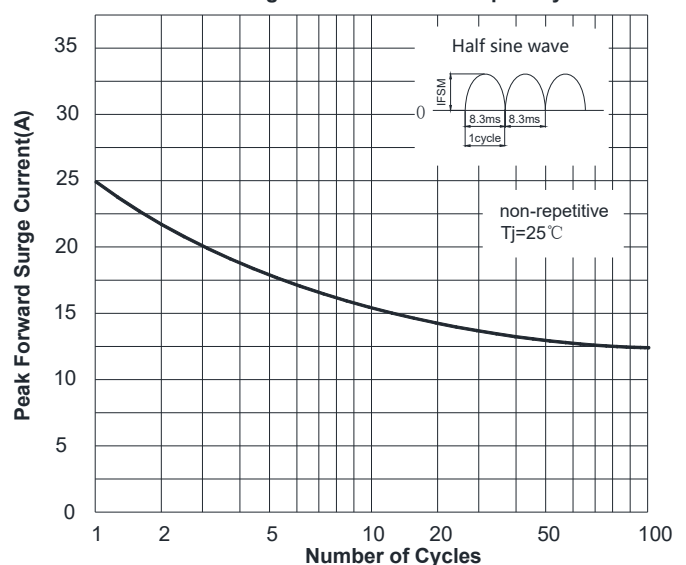


FIG3: Typical Forward Voltage

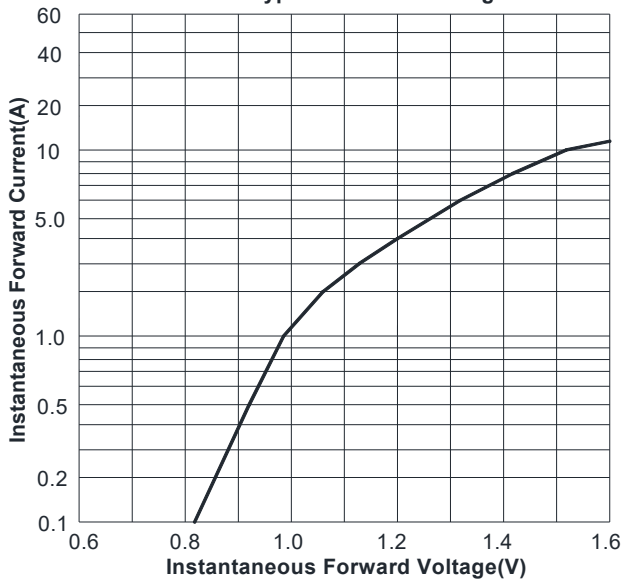
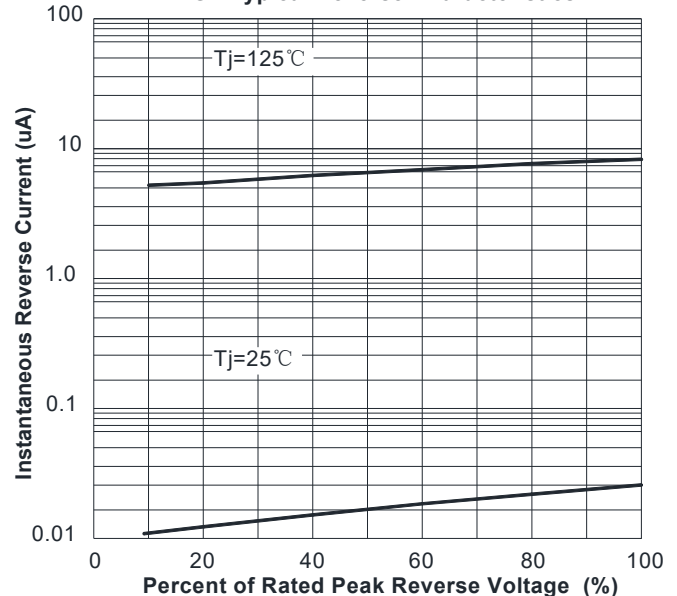
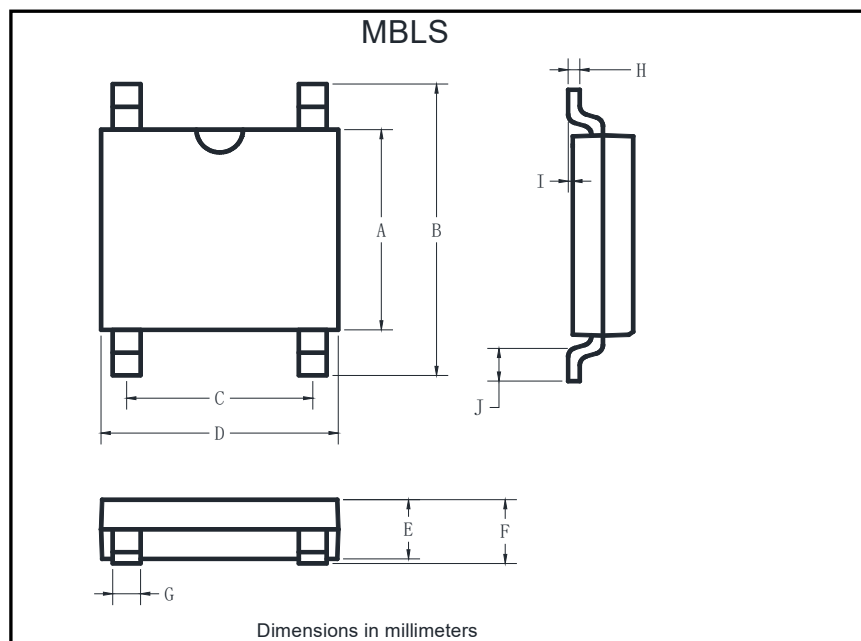


FIG4: Typical Reverse Characteristics

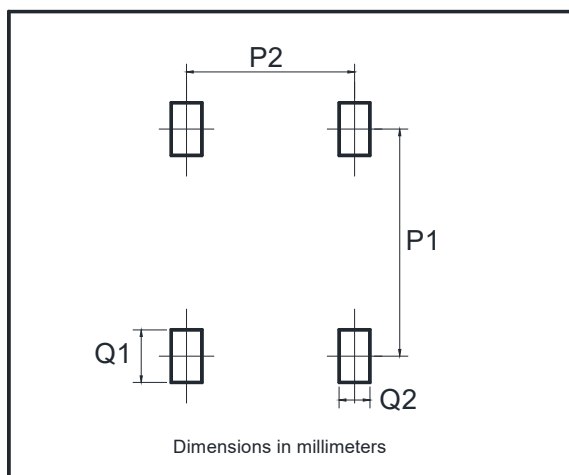


■ Outline Dimensions



| MBLS | | |
|------|---------|------|
| Dim | Min | Max |
| A | 3.60 | 4.00 |
| B | 6.40 | 7.00 |
| C | 2.20 | 2.60 |
| D | 4.50 | 4.90 |
| E | 1.30 | 1.50 |
| F | 1.40 | 1.60 |
| G | 0.56 | 0.84 |
| H | 0.15 | 0.35 |
| I | 0.20Max | |
| J | 0.70 | 1.10 |

■ Suggested pad layout



| Dim | Min |
|-----|------|
| P1 | 6.00 |
| P2 | 2.40 |
| Q1 | 1.84 |
| Q2 | 1.20 |

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