

ABS6 THRU ABS10
General Bridge Rectifiers



| | | |
|--------------------------------|-----------------------------|---------------------|
| Voltage: 600~1000 Volts | Current: 1.0 Amperes | Package: ABS |
|--------------------------------|-----------------------------|---------------------|

Features

- NH'S Standard Rectifier Chip Technology
- Low Forward Voltage Drop For High Efficiency
- Low Leakage Current For High Reliability
- High Surge Capability For High Reliability

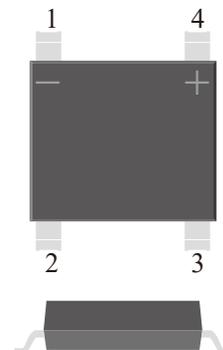
Mechanical Data

- **Case:** Molded With UL-94 ClassV-0 Recognized, RoHS-Compliant
- **Polarity:** Look At The Diagram And Polarity On The Right
- **Terminals:** Tin Plated Leads,Solderable Per J-STD-002 And JESD22-B102

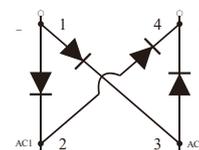
Typical Applications

- Switch Mode Power Supplies (SMPS)
- Fast Chargers
- LED Driver And Monitor Lighting
- Automotive Electronics And Charging Posts

Diagram:



Polarity:



Single Phase,Half Wave,60Hz,Resistive Or Inductive Load.For Capacitive Load,Derate Current By 20%

Maximum Ratings (Ta=25°C Unless Otherwise Specified)

| Parameter | Test Conditions | Symbol | ABS 6 | ABS 8 | ABS 10 | Unit |
|---|---|-------------|-------|-------|--------|--------------------|
| Maximum Repetitive Peak Reverse Voltage | | V_{RRM} | 600 | 800 | 1000 | V |
| Maximum RMS Voltag | | V_{RMS} | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | | V_{DC} | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current | | $I_{F(AV)}$ | 1.0 | | | A |
| Peak Forward Surge Current Per Diode | 8.3ms Single Half Sine-wave Superimposed On Rate Load | I_{FSM} | 30 | | | A |
| Current Squared Time Per Diode | $t < 8.3ms$ | I^2t | 3.7 | | | A ² sec |

Electrical Characteristics (Ta=25°C Unless Otherwise Specified)

| Parameter | Test Conditions | Symbol | ABS 6 | ABS 8 | ABS 10 | Unit |
|---|---|-----------|----------|-------|--------|------|
| Instaneous Forward Voltage Per Diode | $I_F = 1.0 A$ | V_F | 1.0 | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | Ta=25°C , $V_R = V_{RRM}$ Ta=125°C , $V_R = V_{RRM} * 80%$ | I_{RRM} | 5 200 | | | uA |
| Typical Junction Capacitance Per Diode | 4 V,1MHz | C_J | 10 | | | pF |

Thermal Characteristics (Ta=25°C Unless Otherwise Specified)

| Parameter | Test Conditions | Symbol | ABS 6 | ABS 8 | ABS 10 | Unit |
|--|--|-----------------|---------|-------|--------|------|
| Operating Junction Temperature Range | | T_J | -55~150 | | | °C |
| Storage Temperature Range | | T_{STD} | -55~150 | | | |
| Thermal Resistance Junction To Ambient With Steady-State | Still Air Environment With Ta=25°C | $R_{\theta JA}$ | 65.0 | | | °C/W |
| Thermal Resistance Junction-Case With Steady-State | Device Mounted On 1 in2 FR-4 Board With 2oz. Copper | $R_{\theta JC}$ | 25.0 | | | |

Notes: 1.Pulse Test: 300 Us Pulse Width,1% Duty Cycle

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Typical Characteristics Curves

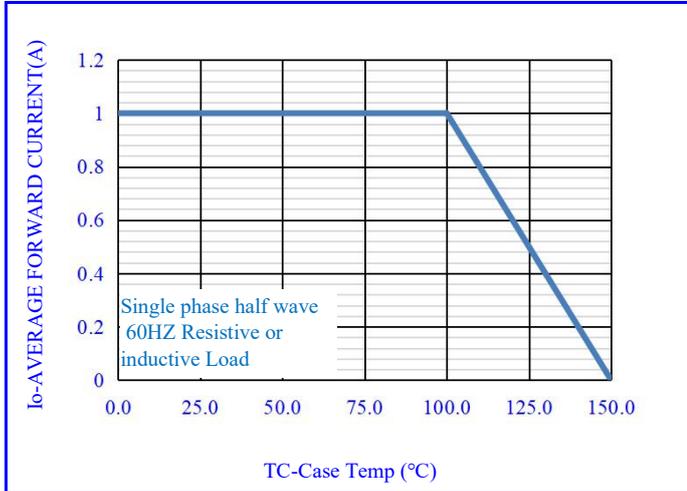


Fig.1-FORWARD CURRENT DERATING CURVE

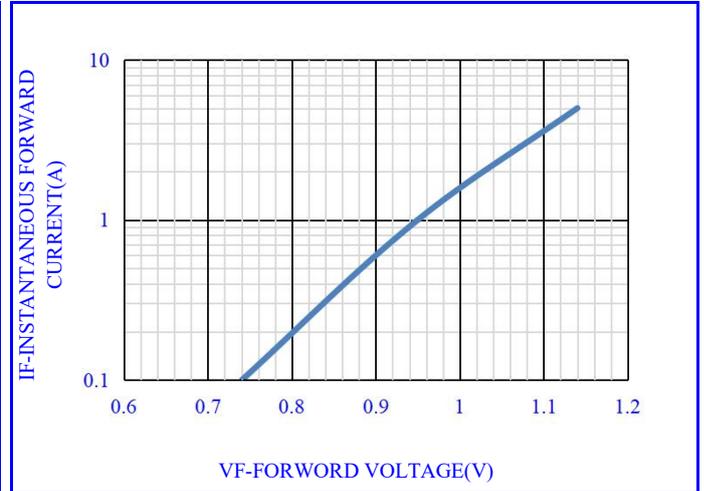


Fig.2- TYPICAL INSTANTANEOUS FORWARD

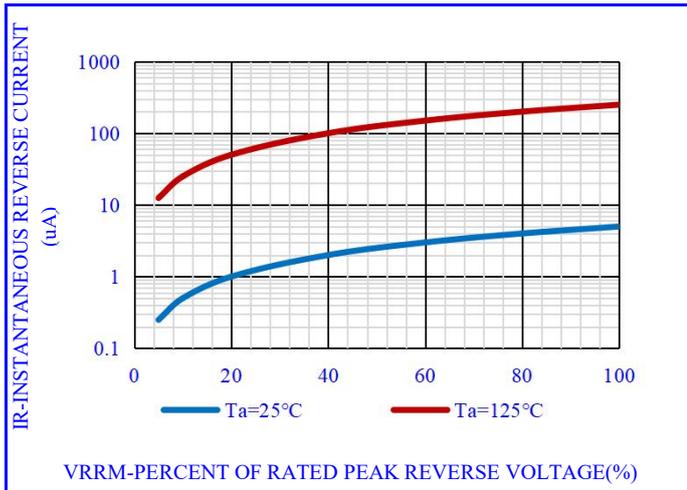


Fig.3- TYPICAL REVERSE CHARACTERISTICS

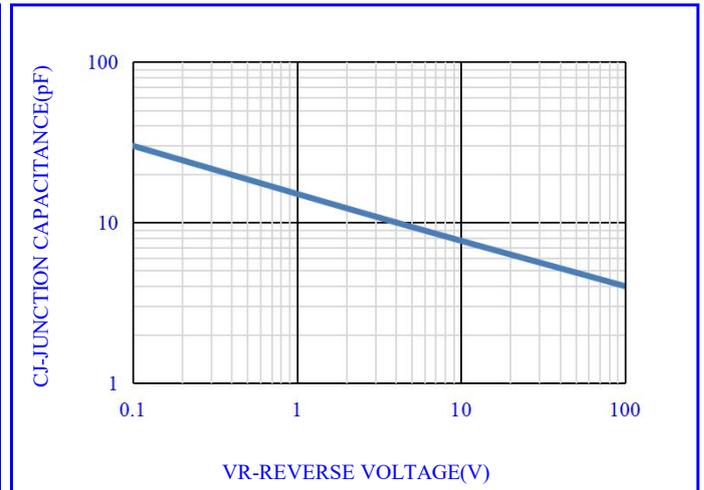


Fig.4- TYPICAL JUNCTION CAPACITANCE

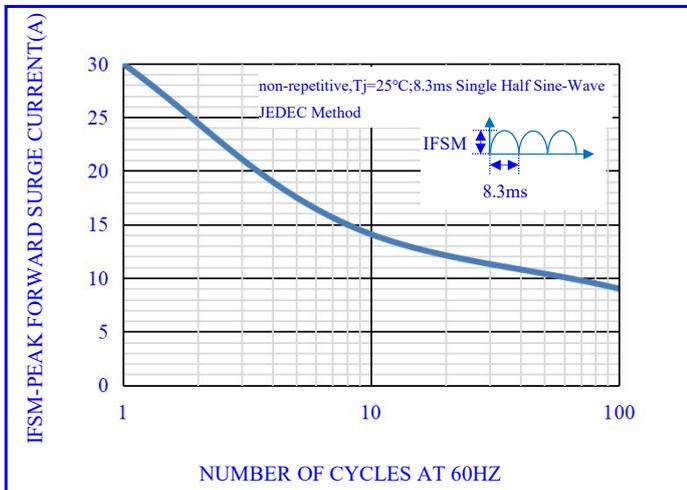
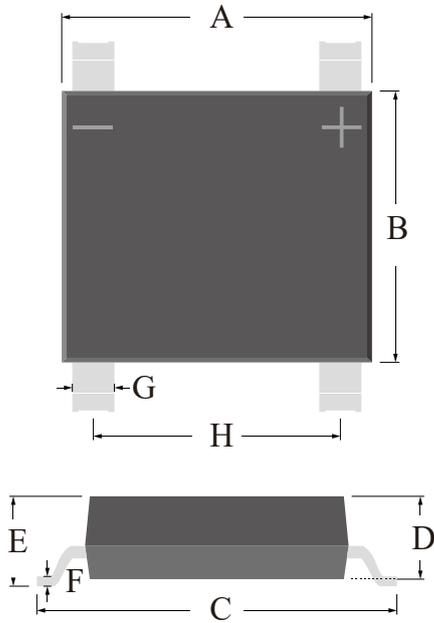


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

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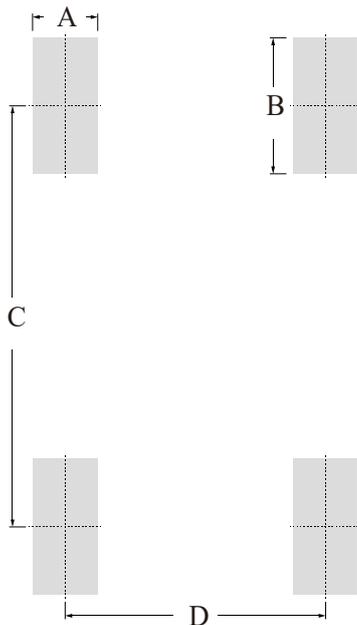
OUTLINE DRAWINGS



ABS

| OUTLINE DIMENSIONS | | | | | | |
|--------------------|-------------|------|------|--------|------|--------|
| Dim. | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 4.90 | - | 5.40 | 0.1929 | - | 0.2126 |
| B | 4.25 | - | 4.50 | 0.1673 | - | 0.1772 |
| C | 5.40 | - | 6.55 | 0.2126 | - | 0.2579 |
| D | 1.22 | - | 1.45 | 0.0480 | - | 0.0571 |
| E | 1.35 | - | 1.55 | 0.0531 | - | 0.0610 |
| F | 0.15 | - | 0.30 | 0.0059 | - | 0.0118 |
| G | 0.55 | - | 0.85 | 0.0217 | - | 0.0335 |
| H | 3.80 | - | 4.40 | 0.1496 | - | 0.1732 |

RECOMMENDED LAYOUT DRAWINGS



ABS

| OUTLINE DIMENSIONS | | | | | | |
|--------------------|-------------|------|------|--------|--------|------|
| Dim. | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | - | 1.00 | - | - | 0.0394 | - |
| B | - | 2.00 | - | - | 0.0787 | - |
| C | - | 6.20 | - | - | 0.2441 | - |
| D | - | 4.00 | - | - | 0.1575 | - |

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| MARKING | MARKING INSTRUCTION |
|---------|--|
| | <p>NH=Niuhan Trademark FF=Product Line Code,According To Actual Changes YWW=Date Code,According To Actual Changes ABSx=Model,x=6,8,10</p> |

| PACKING INFORMATION | | | | | | |
|---------------------|--------------|------------------------------|----------------|---------------------------|--------------------------|-----------------------|
| Package Type | Package Code | Product Weight Approx(g/Pcs) | Package Method | Quantity (Pcs/Min. Pack.) | Quantity (Pcs/Inner Box) | Quantity (Pcs/Carton) |
| ABS | P1 | 0.09 | 13" Reel | 5000 | 10000 | 50000 |
| ABS | P2 | 0.09 | 13" Reel | 5000 | 10000 | 100000 |

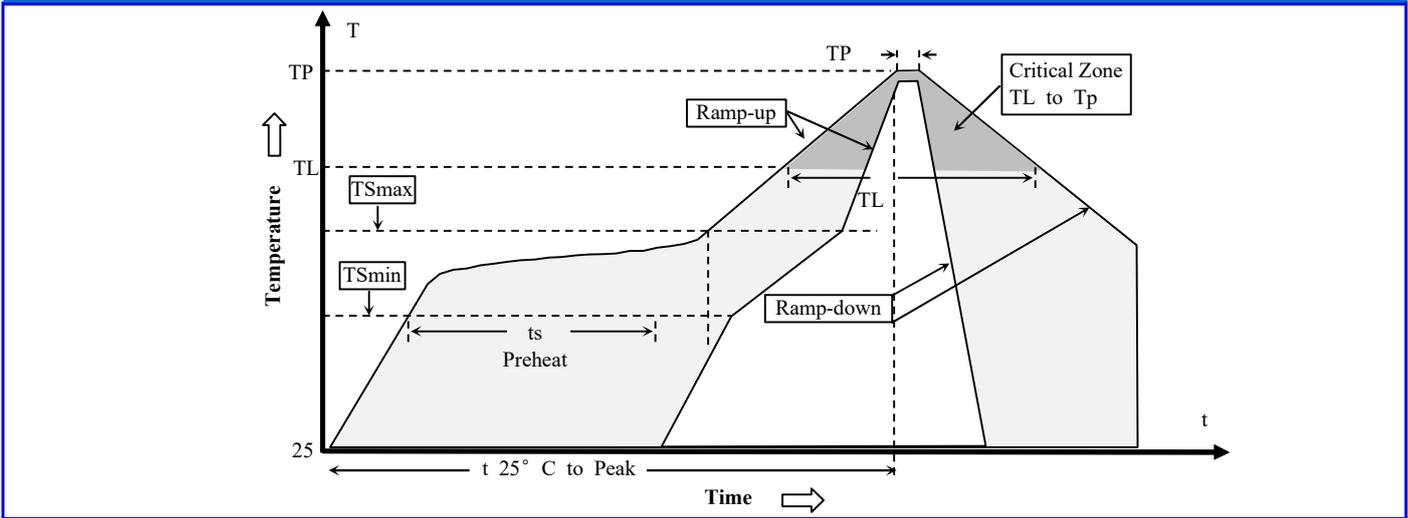
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Recommended wave soldering condition

| Product | Peak Temperature | Soldering Time |
|-----------------|------------------|-----------------|
| Pb-free devices | 260 +0/-5 °C | 5 +1/-1 seconds |

Recommended temperature profile for IR reflow



| Profile feature | Sn-Pb eutectic Assembly | Pb-free Assembly |
|--|----------------------------------|----------------------------------|
| Average ramp-up rate (T _{smax} to T _p) | 3°C/second max. | 3°C/second max. |
| Preheat -Temperature Min(TS min) -Temperature Max(TS max) -Time(ts min to ts max) | 100°C 150°C 60-120 seconds | 150°C 200°C 60-180 seconds |
| Time maintained above: -Temperature (TL) - Time (tL) | 183°C 60-150 seconds | 217°C 60-150 seconds |
| Peak Temperature(TP) | 240 +0/-5 °C | 260 +0/-5 °C |
| Time within 5°C of actual peak temperature(tp) | 10-30 seconds | 20-40 seconds |
| Ramp down rate | 6°C/second max. | 6°C/second max. |
| Time 25 °C to peak temperature | 6 minutes max. | 8 minutes max. |

Note : All temperatures refer to topside of the package, measured on the package body surface.

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