

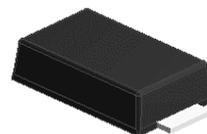
1A,50-1000V Standard Rectifiers

Features

- Low leakage current
- Low forward voltage drop
- Glass passivated chip junction
- Moisture sensitivity: level 1, per J-STD-020
- Halogen-free according to IEC 61249-2-21 definition
- High temperature soldering guaranteed: 260°C/10 seconds



RoHS
COMPLIANT



iSGA (SOD-123HS)

Applications

For use of general purpose rectification in lighting, cellular phone, portable device, power supplies and other consumer applications.

| Maximum Ratings & Electrical Characteristics (T _A =25°C unless otherwise noted) | | | | | | | | | |
|--|--------------------|-------------|-----|-----|-----|-----|-----|------|------|
| Parameter | Symbol | P1A | P2A | P3A | P4A | P5A | P6A | P7A | Unit |
| Maximum repetitive peak reverse voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V _{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | V _{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum average forward rectified current | I _{F(AV)} | 1 | | | | | | | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode | I _{FSM} | 40 | | | | | | | A |
| Operating junction temperature range | T _J | -55 to +150 | | | | | | | °C |
| Storage temperature range | T _{STG} | -55 to +150 | | | | | | | °C |

| Thermal-Mechanical Specifications (T _A =25°C unless otherwise noted) | | | |
|---|------------------|-----|--------|
| Parameter | Symbol | Typ | Unit |
| Thermal Resistance, Junction to Ambient | R _{θJA} | 63 | °C / W |
| Thermal Resistance, Junction to Case | R _{θJC} | 39 | °C / W |
| Thermal Resistance, Junction to Lead | R _{θJL} | 9 | °C / W |

| Electrical Specifications (T _A =25°C unless otherwise noted) | | | | | | | | | | |
|---|-----------------|--|------|-----|-----|-----|-----|-----|-----|------|
| Parameter | Symbol | Test Conditions | P1A | P2A | P3A | P4A | P5A | P6A | P7A | Unit |
| Forward Drop Voltage | V _F | I _F =1A T _A =25°C | 1.0 | | | | | | | V |
| | | I _F =1A T _A =125°C | 0.88 | | | | | | | |
| Reverse leakage current @V _R | I _R | T _J =25°C | 5 | | | | | | | uA |
| | | T _J =125°C | 50 | | | | | | | |
| Typical junction capacitance | C _J | 4.0 V 1 MHz | 6.5 | | | | | | | pF |
| Typical reverse recovery time | t _{rr} | I _F =0.5A, I _R =1.0A, I _{RR} =0.25A | 1.5 | | | | | | | uS |

Note:

1. The thermal resistance from junction to ambient or lead, mounted on copper pad area of 5.0 x 5.0mm to each terminal.
2. The thermal resistance from junction to case, mounted on recommended copper pad to each terminal.

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

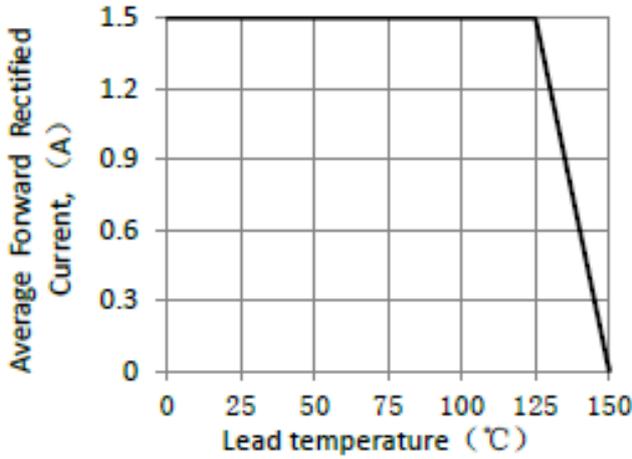


Figure 1. Forward Current Derating Curve

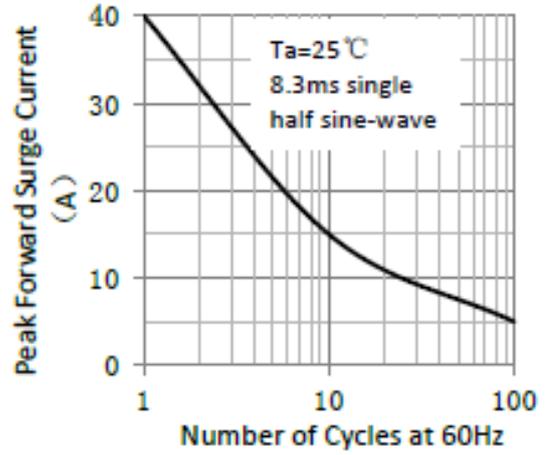


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

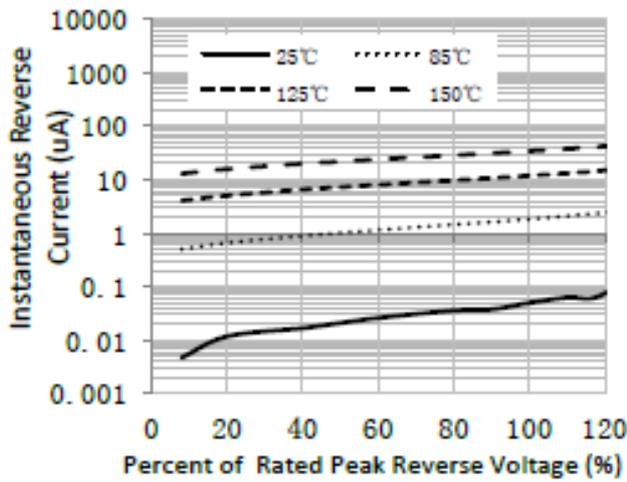


Figure 3. Typical Reverse Characteristics

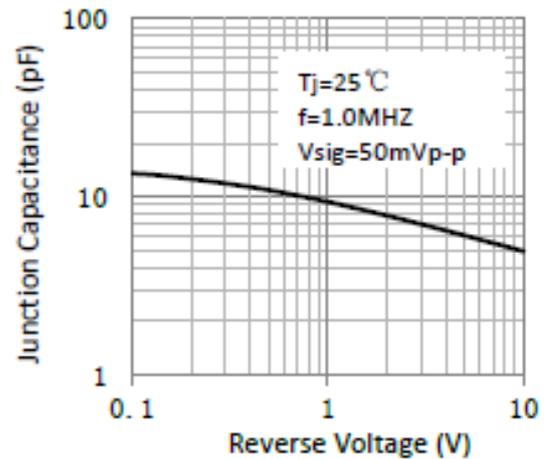


Figure 4. Typical Junction Capacitance

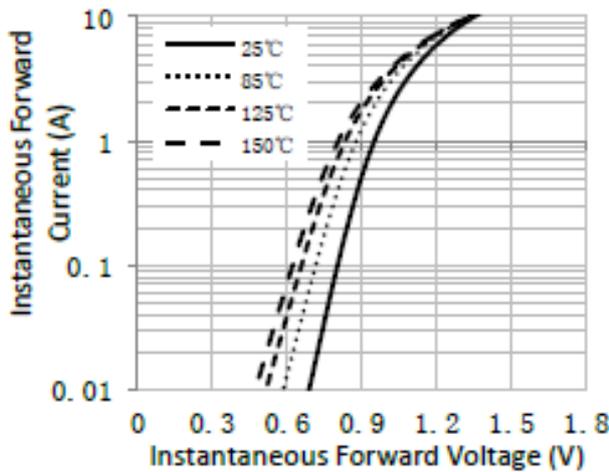
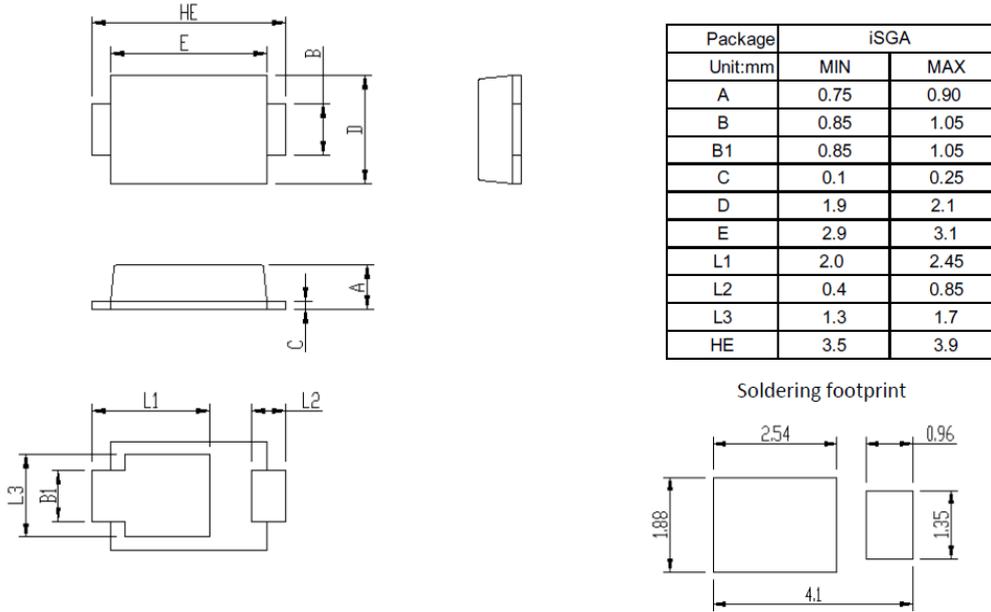


Figure 5. Typical Instantaneous Forward Characteristics

Package Outline Dimensions

in inches (millimeters)

iSGA (SOD-123HS)



Revision History

| Document Version | Date of release | Description of changes |
|------------------|-----------------|------------------------|
| Rev.A | 2021.06.01 | Released Datasheet |
| Rev.B | 2023.10.16 | Modify document format |

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