

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Ultrafast and soft recovery time for high efficiency
- Low VF ,Low power loss
- Polyimide passivation
- High surge capability
- Meets JESD 201 class 2 whisker test
- High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU



TO-247AC
MUR30120P



Pin1 CASE ← Pin3

Mechanical Data

- Case: JEDEC TO-247AC molded plastic body
- Terminals: Lead solderable per MIL-STD-750,method 2026
- Polarity: As marked
- Mounting Position: Any

Typical Applications

For use in boost stage in SMPS
high frequency inverters for solar inverters
DC/DC converters
high frequency output rectification of battery chargers
free wheeling diodes in motor drivers

PRIMARY CHARACTERISTICS

| | |
|----------------------|-------|
| IF(AV) | 30.0A |
| VR | 1200V |
| IFSM | 300A |
| VF at IF=30.0A,125°C | 1.50V |
| Trr typ | 60ns |
| TJMAX | 175°C |

Maximum Ratings

(Ratings at 25°C ambient temperature unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|--|--------|------------|------|
| Maximum repetitive peak reverse voltage | VRRM | 600 | V |
| Maximum average forward rectified current | IF(AV) | 30.0 | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated Tj) | IFSM | 300 | A |
| Operating junction temperature range | Tj | -55 to+175 | °C |
| Storage temperature range | Tsto | -55 to+175 | °C |

Electrical Characteristics (T_J=25°C Unless otherwise noted)

| Parameter | Test Conditions | | Symbol | Min. | Typ. | Max. | Unit |
|---------------------------------------|-----------------------|-----------------------|-----------------------------------|------|------|------|------|
| Breakdown voltage Blocking voltage | I _r =200μA | | V _{BR} V _R | 1200 | - | - | V |
| Instaneous forward voltage | T _J =25°C | I _f =15.0A | V _F ¹⁾ | - | 1.40 | - | V |
| | | I _f =30.0A | | - | 1.90 | 2.40 | |
| | T _J =125°C | I _f =15.0A | | - | 1.20 | - | |
| | | I _f =30.0A | | - | 1.50 | 2.00 | |
| Reverse current | T _J =25°C | V _r =1200V | I _R ²⁾ | - | - | 10 | μA |
| | T _J =125°C | | | - | - | 250 | |
| Junction capacitance | 4V,1MHz | | C _j | - | 124 | - | pF |

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle

2.Pulse test: pulse width≤40ms

Dynamic Recovery Characteristics (T_J=25°C Unless otherwise noted)

| Parameter | Test Conditions | Symbol | Min. | Typ. | Max. | Unit |
|-----------------------|--|-----------------|------|------|------|------|
| Reverse recovery time | I _f =0.5A,I _r =1.0A,I _{rr} =0.25A | t _{rr} | - | 60 | 70 | ns |

Thermal Characteristics

| Parameter | Symbol | TO-247AC | Unit |
|--|----------------|----------|-----------------------------|
| Typical thermal resistance ³⁾ | $R\theta_{jc}$ | 0.4 | $^{\circ}\text{C}/\text{W}$ |

3. Thermal resistance from junction to case

Available Pack Information

| Product code | Pack | Carton Size L×W×H(mm) | Inner Box Size L×W×H(mm) | Tube Length (mm) | Inner Box Number | Tube Number Per A Inner Box | Part Number Per A Tube | Quantity(carton) (K) |
|------------------------|------|--------------------------|-----------------------------|---------------------|---------------------|--------------------------------|---------------------------|-------------------------|
| MUR30120P- TO-247AC | Tube | 575×220×170 | 560×145×40 | 500 | 5 | 12 | 30 | 1.8 |

Fig.1-Forward Current Derating Curve

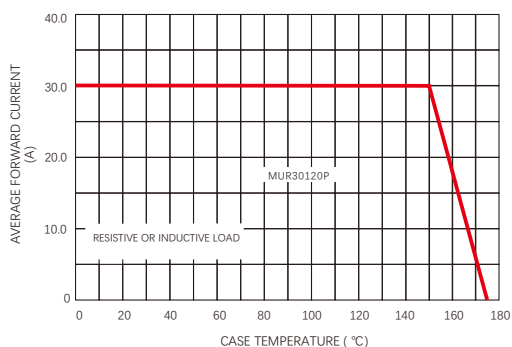


Fig.2-Maximum Non-repetitive Peak Forward Surge Current

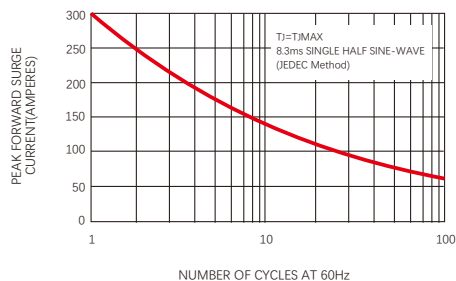


Fig.3-Typical Instantaneous Forward Characteristics

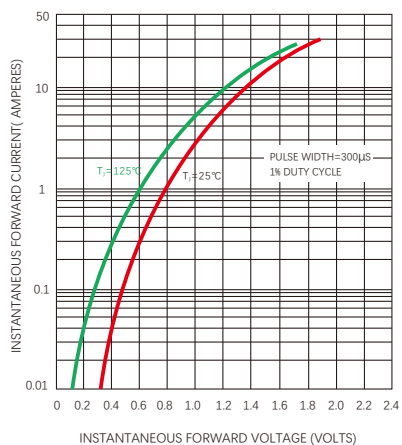


Fig.4-Typical Reverse Characteristics

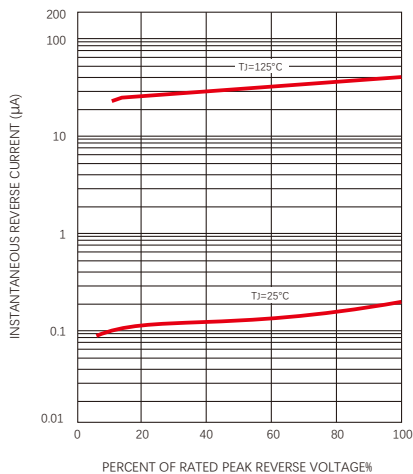
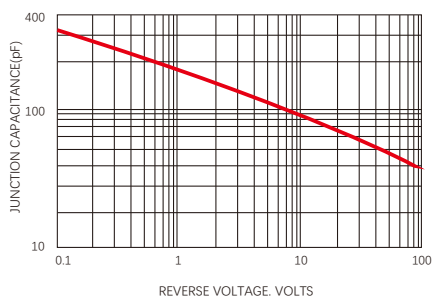
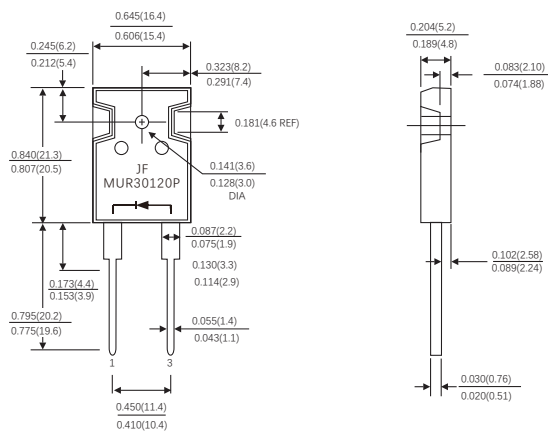


Fig.5-Typical Junction Capacitance



TO-247AC



Dimensions in inches and (millimeters)

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