Santa Ana, CA
Microsemi
Progress Powered by Technology

2830 S. Fairview St.
Santa Ana, CA 92704
PH: (714) 979-8220
FAX: (714) 966-5256

# 1N6821
# (MSASC150H45L)
# 1N6821R
# (MSASC150H45LR)

**45 Volts**
**150 Amps**

**LOW VOLTAGE DROP SCHOTTKY DIODE**

## Features

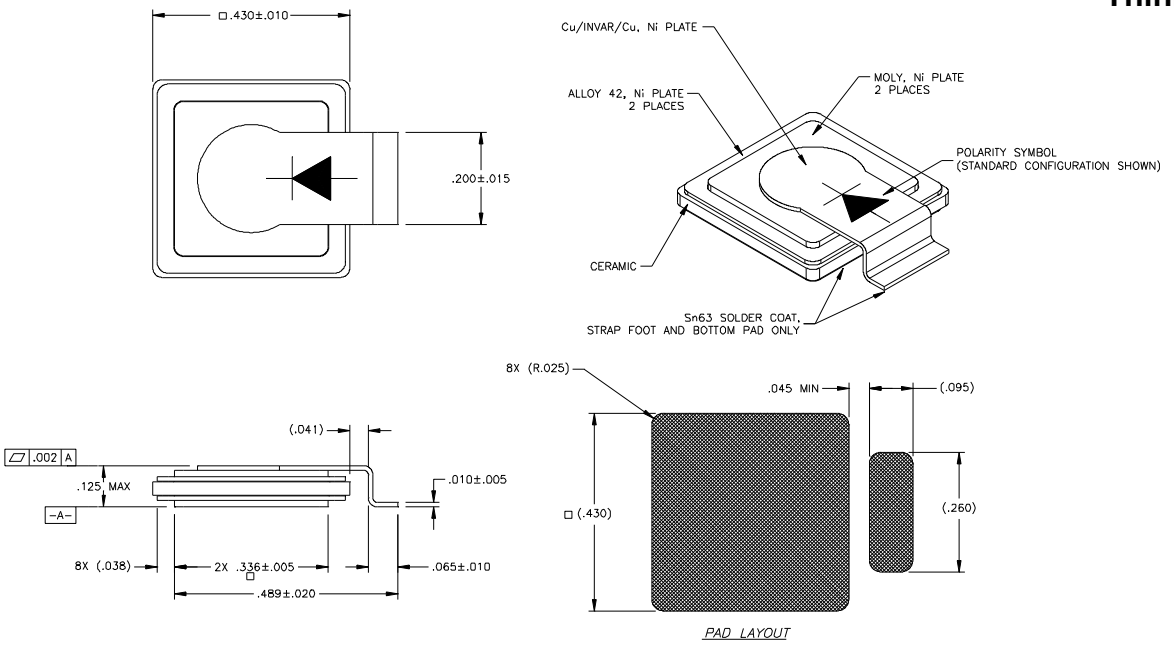
- Tungsten/Platinum schottky barrier
- Oxide passivated structure for very low leakage currents
- Guard ring protection for increased reverse energy capability
- Epitaxial structure minimizes forward voltage drop
- Hermetically sealed, low profile ceramic surface mount power package
- Low package inductance
- Very low thermal resistance
- Available as standard polarity (strap-to-anode, 1N6821) and reverse polarity (strap-to-cathode: 1N6821R)

## Maximum Ratings @ 25℃ (unless otherwise specified)

| DESCRIPTION | SYMBOL | MAX. | UNIT |
|---|---|---|---|
| Peak Repetitive Reverse Voltage | $V_{RRM}$ | 45 | Volts |
| Working Peak Reverse Voltage | $V_{RWM}$ | 45 | Volts |
| DC Blocking Voltage | $V_R$ | 45 | Volts |
| Average Rectified Forward Current, Tc≤ 125°C | $I_{F(ave)}$ | 150 | Amps |
| derating, forward current, Tc≥ 125°C | $dI_F/dT$ | 4 | Amps/°C |
| Nonrepetitive Peak Surge Current, tp= 8.3 ms, half-sinewave | $I_{FSM}$ | 750 | Amps |
| Peak Repetitive Reverse Surge Current, tp= 1µs, f= 1kHz | $I_{RRM}$ | 2 | Amp |
| Junction Temperature Range | $T_j$ | -55 to +150 | °C |
| Storage Temperature Range | $T_{stg}$ | -55 to +150 | °C |
| Thermal Resistance, Junction to Case: 1N6821<br>1N6821R | $\theta_{JC}$ | 0.20<br>0.35 | °C/W |

## Mechanical Outline

**ThinKey™3**




Datasheet# MSC1035A

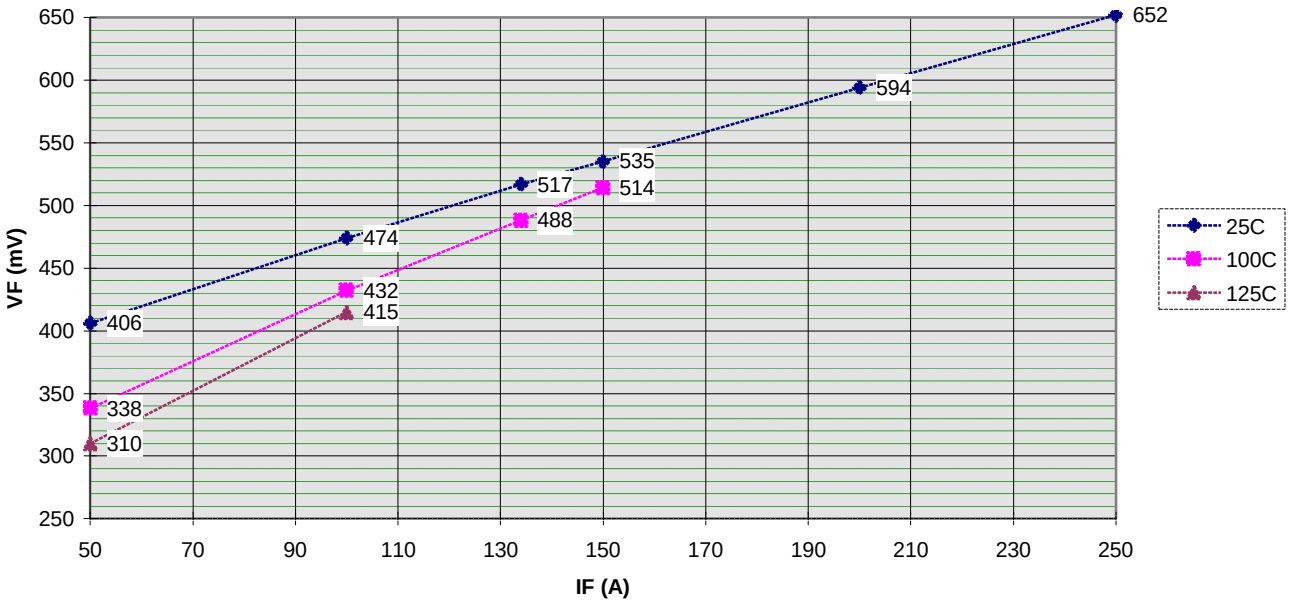
# 1N6821 (MSASC150H45L)
# 1N6821R (MSASC150H45LR)

Santa Ana, CA
Microsemi
Progress Powered by Technology

## Electrical Parameters

| DESCRIPTION | SYMBOL | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| Reverse (Leakage) Current | $IR_{25}$ | VR= 45 Vdc, Tc= 25°C | | 1 | 10 | mA |
| | $IR_{100}$ | VR= 45 Vdc, Tc= 100°C | | 125 | 300 | mA |
| | $IR_{125}$ | VR= 45 Vdc, Tc= 125°C | | 500 | | mA |
| Forward Voltage pulse test, pw= 300 µs d/c≤ 2% | VF1 | IF= 20A, Tc= 25°C | | 340 | 370 | mV |
| | VF2 | IF= 50A, Tc= 25°C | | 410 | 450 | mV |
| | VF3 | IF= 100A, Tc= 25°C | | 475 | 530 | mV |
| | VF4 | IF= 150A, Tc= 25°C | | 540 | 600 | mV |
| | VF5 | IF= 200A, Tc= 25°C | | 600 | | mV |
| | VF6 | IF= 50A, Tc= -55°C | | 470 | 550 | mV |
| | VF7 | IF= 50A, Tc= 125°C | | 315 | 380 | mV |
| | VF8 | IF= 100A, Tc= 125°C | | 415 | | mV |
| | VF9 | IF= 150A, Tc= 100°C | | 515 | | mV |
| | VF10 | IF= 10 mA, Tc= 25°C | | 135 | - | mV |
| | VF11 | IF= 50 mA, Tc= 25°C | | 175 | - | mV |
| | VF12 | IF= 100 mA, Tc= 25°C | | 195 | - | mV |
| Junction Capacitance | Cj1 | VR= 10 Vdc | | 4500 | 4900 | pF |
| | Cj2 | VR= 5 Vdc | | 6400 | | pF |
| Breakdown Voltage | BVR | IR= 5 mA, Tc= 25°C | | 55 | | V |
| | | IR= 5 mA, Tc= -55°C | 45 | 50 | | V |

**Typical VF data, msasc150h45**



**Cj vs VR Typical Curve**

