

1N6705
1N6705R

Features

- passivated mesa structure for very low leakage currents
- Epitaxial structure minimizes forward voltage drop
- Hermetically sealed surface mount power package
- Low package inductance
- Very low thermal resistance
- Available as standard polarity (strap-to-anode, 1N6705) and reverse polarity (strap-to-cathode: 1N6705R)

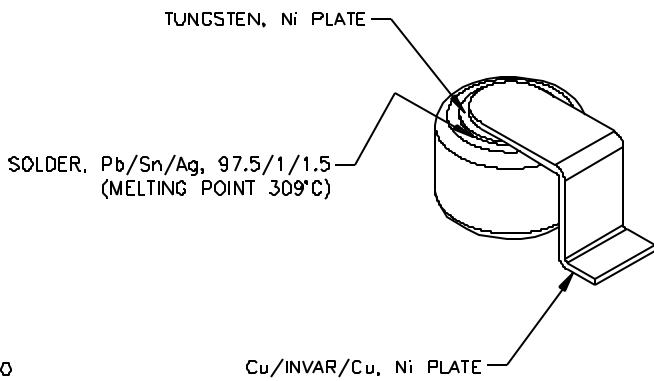
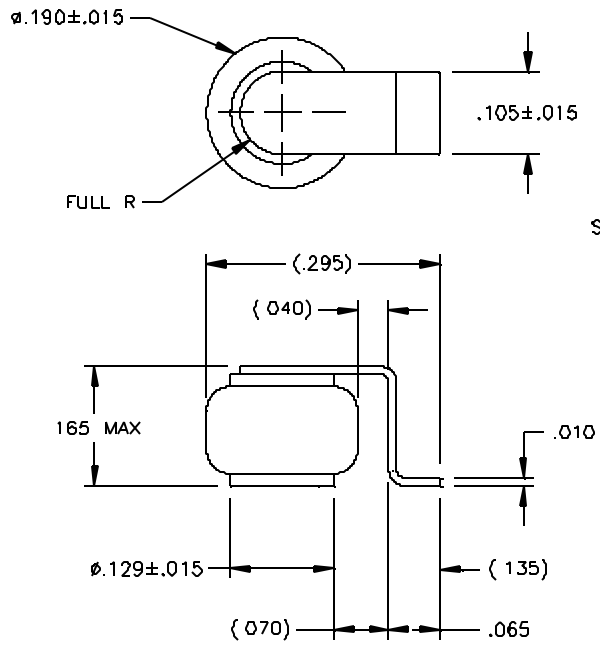
400 Volts
20 Amps
35 ns

**ULTRAFAST
 RECTIFIER**

Maximum Ratings @ 25°C (unless otherwise specified)

| DESCRIPTION | SYMBOL | MAX. | UNIT |
|-----------------------------------------------------------------|---------------|----------------|--------------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | 400 | Volts |
| Working Peak Reverse Voltage | V_{RWM} | 400 | Volts |
| DC Blocking Voltage | V_R | 400 | Volts |
| Average Rectified Forward Current, $T_c \leq 125^\circ\text{C}$ | $I_{F(ave)}$ | 20 | Amps |
| Nonrepetitive Peak Surge Current, $t_p = 8.3$ ms, half-sinewave | I_{FSM} | 100 | Amps |
| Junction Temperature Range | T_j | -65 to +175 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -65 to +175 | $^\circ\text{C}$ |
| Thermal Resistance, Junction to Case: | θ_{JC} | 2.0 (typ. 1.6) | $^\circ\text{C/W}$ |

Mechanical Outline



G-BODY (DO-217AA)

1N6705

1N6705R

Electrical Parameters

PRELIMINARY

| DESCRIPTION | SYMBOL | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---------------------------------------------------------|-------------------|-------------------------------|-----|------|------|------|
| Reverse (Leakage) Current | IR ₂₅ | VR= 400 Vdc, Tc= 25°C | | 0.3 | 5 | μA |
| | IR ₁₂₅ | VR= 400 Vdc, Tc= 125°C | | 60 | 200 | μA |
| Forward Voltage pulse test, pw= 300 μs d/c≤ 2% | VF1 | IF= 10 mA, Tc= 25°C | | 500 | - | mV |
| | VF2 | IF= 100 mA, Tc= 25°C | | 600 | - | mV |
| | VF3 | IF= 3 A, Tc= 25°C | | 950 | - | mV |
| | VF4 | IF= 5 A, Tc= 25°C | | 1050 | 1250 | mV |
| | VF5 | IF= 10 A, Tc= 25°C | | 1200 | 1400 | mV |
| | VF6 | IF= 20 A, Tc= 25°C | | 1400 | 1650 | mV |
| | VF7 | IF= 40 A, Tc= 25°C | | 1750 | - | mV |
| | VF8 | IF= 5 A, Tc= -55°C | | 1480 | 1700 | mV |
| | VF9 | IF= 10 A, Tc= -55°C | | 1625 | 1850 | mV |
| | VF10 | IF= 20 A, Tc= -55°C | | 1450 | 1700 | mV |
| | VF11 | IF= 5 A, Tc= 125°C | | 975 | 1200 | mV |
| | VF12 | IF= 10 A, Tc= 125°C | | 1160 | 1400 | mV |
| | VF13 | IF= 20 A, Tc= 125°C | | 1725 | 2050 | mV |
| Junction Capacitance | Cj1 | VR= 10 Vdc | | 50 | 80 | pF |
| Breakdown Voltage | BVR | IR= 100 μA, Tc= 25°C | 440 | 500 | n/a | V |
| Reverse Recovery Time | trr | IF= .5 A, IR= 1 A, IRR= .25 A | | 25 | 35 | ns |

typical VF

