

1N6819
(MSASC75W45F)

1N6819R
(MSASC75W45FR)

45 Volts
75 Amps

LOW LEAKAGE
CURRENT
SCHOTTKY DIODE

Features

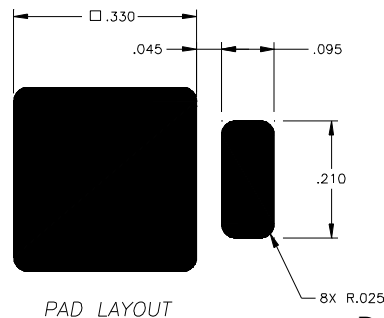
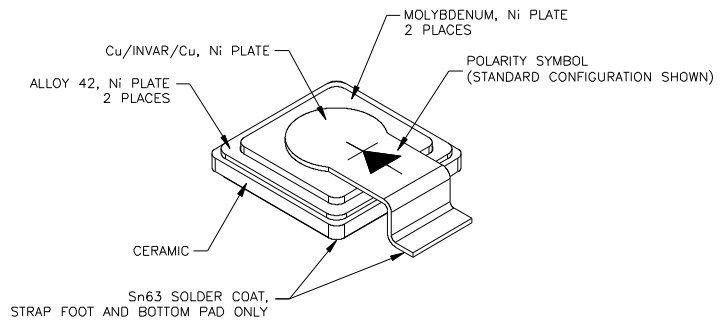
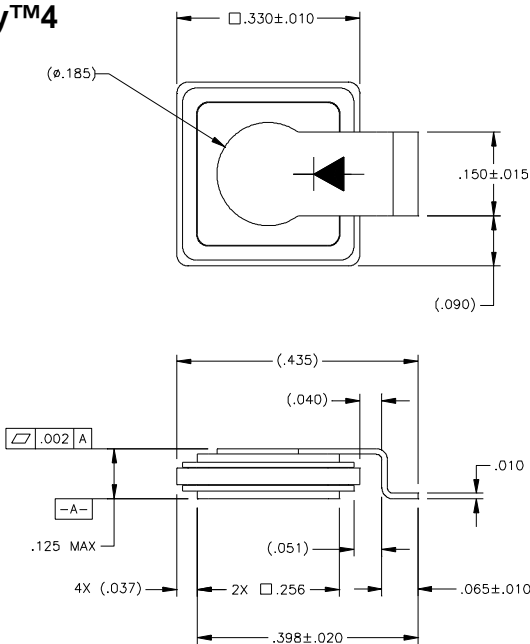
- Tungsten schottky barrier
- Oxide passivated structure for very low leakage currents
- Guard ring protection for increased reverse energy capability
- Epitaxial structure minimizes forward voltage drop
- Hermetically sealed, low profile ceramic surface mount power package
- Low package inductance
- Very low thermal resistance
- Available as standard polarity (strap is anode: 1N6819) and reverse polarity (strap is cathode: 1N6819R)

Maximum Ratings @ 25°C (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, $T_c \leq 125^\circ\text{C}$ | $I_{F(ave)}$ | 75 | Amps |
| derating, forward current, $T_c \geq 125^\circ\text{C}$ | di_F/dT | 4 | Amps/ $^\circ\text{C}$ |
| Nonrepetitive Peak Surge Current, $t_p = 8.3$ ms, half-sinewave | I_{FSM} | 500 | Amps |
| Peak Repetitive Reverse Surge Current, $t_p = 1\mu\text{s}$, $f = 1$ kHz | I_{RRM} | 2 | Amp |
| Junction Temperature Range | T_j | -55 to +150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55 to +150 | $^\circ\text{C}$ |
| Thermal Resistance, Junction to Case: | θ_{JC} | 0.50 0.65 | $^\circ\text{C/W}$ |
| | 1N6819 1N6819R | | |

Mechanical Outline

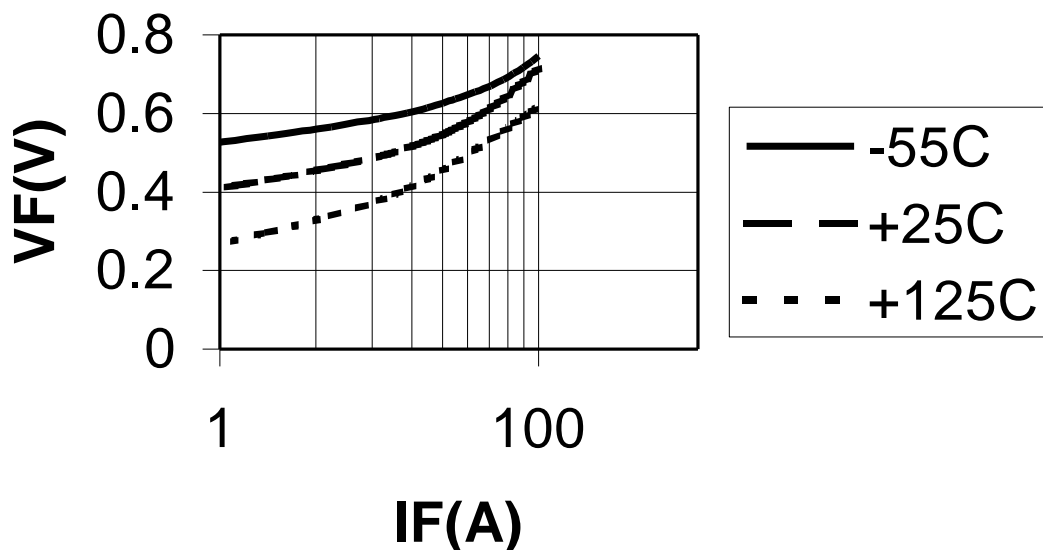
ThinKey™4



1N6819 (MSASC75W45F) 1N6819R (MSASC75W45FR)

Electrical Parameters

| DESCRIPTION | SYMBOL | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|----------------------|-----------------------|----------------------|------|------|------|
| Reverse (Leakage) | IR ₂₅ | VR= 45 Vdc, Tc= 25°C | | 100 | 750 | uA |
| | IR ₁₂₅₋₁ | VR= 12 Vdc, Tc= 125°C | | 1 | - | mA |
| Current | IR ₁₂₅₋₂ | VR= 36 Vdc, Tc= 125°C | | 2.5 | - | mA |
| | IR ₁₂₅ | VR= 45 Vdc, Tc= 125°C | | 4 | 50 | mA |
| Forward Voltage pulse test, pw= 300 μs d/c≤ 2% | VF1 | IF= 2 A, Tc= 25°C | | 435 | - | mV |
| | VF2 | IF= 10 A, Tc= 25°C | | 500 | 550 | mV |
| | VF3 | IF= 25 A, Tc= 25°C | | 550 | 625 | mV |
| | VF4 | IF= 50 A, Tc= 25°C | | 625 | - | mV |
| | VF5 | IF= 75 A, Tc= 25°C | | 685 | 760 | mV |
| | VF6 | IF= 100 A, Tc= 25°C | | 725 | - | mV |
| | VF7 | IF= 2 A, Tc= -55°C | | 550 | - | mV |
| | VF8 | IF= 10 A, Tc= -55°C | | 600 | 660 | MV |
| | VF9 | IF= 25 A, Tc= -55°C | | 630 | 700 | MV |
| | VF10 | IF= 50 A, Tc= -55°C | | 675 | - | MV |
| | VF11 | IF= 75 A, Tc= -55°C | | 715 | 800 | mV |
| | VF12 | IF= 2 A, Tc= 125°C | | 300 | - | MV |
| | VF13 | IF= 10 A, Tc= 125°C | | 385 | 440 | MV |
| | VF14 | IF= 25 A, Tc= 125°C | | 460 | 540 | MV |
| | VF15 | IF= 50 A, Tc= 125°C | | 540 | - | MV |
| | VF16 | IF= 75 A, Tc= 125°C | | 590 | 675 | mV |
| | Junction Capacitance | VFa | IF= 100 mA, Tc= 25°C | | 350 | - |
| VFb | | IF= 100 mA, Tc= 125°C | | 200 | - | mV |
| VFc | | IF= 100 mA, Tc= -55°C | | 485 | - | mV |
| Breakdown Voltage | Cj1 | VR= 10 Vdc | | 1900 | - | pF |
| | Cj2 | VR= 5 Vdc | | 2500 | 3000 | pF |
| Breakdown Voltage | BVR | IR= 5 mA, Tc= 25°C | | 55 | | V |
| | | IR= 5 mA, Tc= -55°C | 45 | 47 | | V |





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