Santa Ana, CA
Microsemi
Progress Powered by Technology

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# 1N6817
# (MSASC25W100K)
# 1N6817R
# (MSASC25W100KR)

**100 Volts**
**25 Amps**

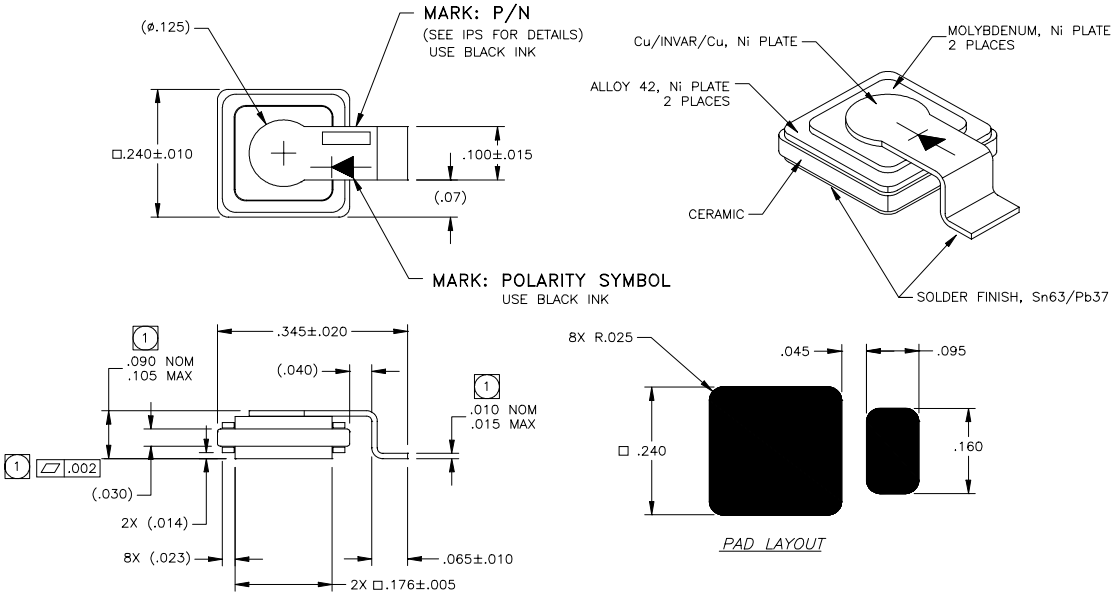
**LOW REVERSE LEAKAGE SCHOTTKY DIODE**

## Features

- Tungsten schottky barrier
- Oxide passivated structure
- 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: 1N6817) and reverse polarity (strap is cathode: 1N6817R)
- TXV-level screening (MSASC25W100KV) or S-level (MSASC25W100KS) screening i.a.w. Microsemi internal procedure PS11.50 available

## Maximum Ratings @ 25°C (unless otherwise specified)

| DESCRIPTION | SYMBOL | MAX. | UNIT |
|---|---|---|---|
| Peak Repetitive Reverse Voltage | $V_{RRM}$ | 100 | Volts |
| Working Peak Reverse Voltage | $V_{RWM}$ | 100 | Volts |
| DC Blocking Voltage | $V_R$ | 100 | Volts |
| Average Rectified Forward Current, Tc≤ 145°C | $I_{F(ave)}$ | 25 | Amps |
| derating, forward current, Tc≥ 145°C | $dI_F/dT$ | (3.3) | Amps/°C |
| Nonrepetitive Peak Surge Current, tp= 8.3 ms, half-sinewave | $I_{FSM}$ | 120 | Amps |
| Peak Repetitive Reverse Surge Current, tp= 1μs, f= 1kHz | $I_{RRM}$ | 2 | Amp |
| Junction Temperature Range | $T_j$ | -55 to +175 | °C |
| Storage Temperature Range | $T_{stg}$ | -55 to +175 | °C |
| Thermal Resistance, Junction to Case: 1N6817<br>1N6817R | $\theta_{JC}$ | 1.25<br>1.35 | °C/W |




1 DIMENSION SHOWN APPLIES PRIOR TO SOLDER FINISH. AFTER SOLDER FINISH DIMENSION MAY VARY

NOTE: UNLESS OTHERWISE SPECIFIED

PAD TOLERANCES
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

| ROUGHNESS | DECIMAL | ANGULAR |
|---|---|---|
| 63 | .XX ±.01<br>.XXX ±.005 | ± 0.5° |

**Mechanical Outline**
**ThinKey™2**

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## Electrical Parameters

| DESCRIPTION | SYMBOL | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| Reverse (Leakage) Current | $IR_{25}$ | VR= 100 Vdc, Tc= 25°C | | 7 | 300 | μA |
| | $IR_{125}$ | VR= 100 Vdc, Tc= 125°C | | 2.5 | 15 | mA |
| Forward Voltage pulse test, pw= 300 μs d/c≤ 2% | VF1 | IF= 5A, Tc= 25°C | | 650 | 725 | mV |
| | VF2 | IF= 10A, Tc= 25°C | | 730 | 810 | mV |
| | VF3 | IF= 20A, Tc= 25°C | | 810 | 900 | mV |
| | VF4 | IF= 50A, Tc= 25°C | | 940 | 1020 | mV |
| | VF7 | IF= 100A, TC= 25°C | | 1060 | - | mV |
| | VF5 | IF= 20A, Tc= -55°C | | 925 | 1025 | mV |
| | VF6 | IF= 20A, Tc= 125°C | | 670 | 800 | mV |
| Junction Capacitance | Cj1 | VR= 10 Vdc | | 370 | 500 | pF |
| | Cj2 | VR= 5 Vdc | | 500 | | pF |
| Breakdown Voltage | BVR | IR= 1 mA, Tc= 25°C | 100 | 120 | | V |
| | | IR= 1 mA, Tc= -55°C | 100 | | | V |

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