

Preliminary Datasheet



TS4148 0.3 AMPS High Speed Switching Diode

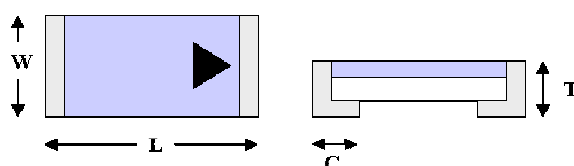
Voltage Range
100 Volts
Current
0.3 Ampere

Features

- ✧ For surface mounted application
- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ Fast switching for high efficiency
- ✧ High surge current capability
- ✧ Chip version in 1206 and 0805
- ✧ High temperature soldering:
250°C / 10 seconds at terminals

Mechanical Data

- ✧ Case: 1206 or 0805
- ✧ Terminals: Tin plated
- ✧ Polarity: Indicated by cathode arrow
- ✧ Packaging: 8 mm tape per EIA STD RS-481



| Item | 1206 | 0805 |
|------|--------------------------------|--------------------------------|
| L | 3.20 ± 0.20 (0.127 ± 0.008) | 2.00 ± 0.20 (0.080 ± 0.008) |
| W | 1.50 ± 0.20 (0.062 ± 0.008) | 1.25 ± 0.20 (0.050 ± 0.008) |
| T | .085 ± 0.10 (0.034 ± 0.004) | .085 ± 0.10 (0.034 ± 0.004) |
| C | 0.55 ± 0.20 (0.022 ± 0.008) | 0.45 ± 0.20 (0.018 ± 0.008) |

Dimensions in millimeters and (inches)

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

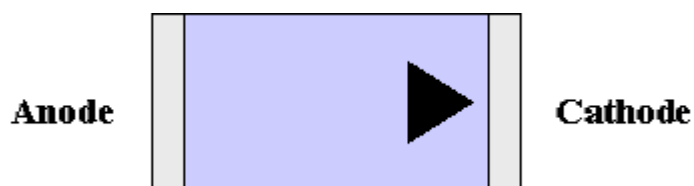
| Type Number | Symbol | TS4148 | Units |
|---|-------------|--------------|---------------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 100 | V |
| Reverse Voltage | V_R | 75 | V |
| Forward Current | I_F | 300 | mA |
| Maximum Average Forward Rectified Current Resistive Load $f > 50\text{Hz}$ | $I_{F(AV)}$ | 150 | mA |
| Peak Forward Surge Current, Half Sine-wave | I_{FSM} | 500 2.0 | mA A |
| Maximum Instantaneous Forward Voltage @ 10mA | V_F | 1.0 | V |
| Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage | I_R | 25.0 50.0 | nA μA |
| Reverse Recovery Time (Note 1) | t_{rr} | 4.0 | ns |
| Typical Junction Capacitance (Note 2) | C_j | 4.0 | pF |
| Typical Thermal Resistance Junction to Ambient | R_{THJA} | 75 | °C/W |
| Power Dissipation | P_D | 500 | mW |
| Operating Temperature Range | T_J | -65 to +200 | °C |
| Storage Temperature Range | T_{STG} | -65 to +200 | °C |

Notes: 1. Reverse Recovery Test Condition: $I_F = 10\text{mA}$, $V_R = 6\text{V}$, $R_L = 100\ \Omega$
2. Measured at 1 MHz and applied $V_R = 4.0\text{V}$

Rev.1 06/2003

Device Marking

Device has been marked indelibly and legibly
As follow



Packing

| | |
|---------------------|---|
| Package Name | TS4148 - 1206 - R7T4 Type - Size - Packing |
| Packing | R7 7" (180mm) Reel 5,000 pcs/reel R13 13" (330mm) Reel 15,000 pcs/reel T4 4mm Pitch Paper Tape |

Tape Specification

| Item | Symbol | Dimension |
|--------------------------------|--------|--|
| Punch hole width 1206 0805 | A | 2.00 \pm 0.10 (0.080 \pm 0.004) 1.65 \pm 0.10 (0.066 \pm 0.004) |
| Punch hole length 1206 0805 | B | 3.60 \pm 0.10 (0.144 \pm 0.004) 2.40 \pm 0.10 (0.096 \pm 0.004) |
| Sprocket hole | D | 1.50 \pm 0.05 (0.060 \pm 0.002) |
| Sprocket hole position | E | 1.75 \pm 0.10 (0.070 \pm 0.004) |
| Punch hole position | F | 3.50 \pm 0.05 (0.140 \pm 0.002) |
| Sprocket hole pitch | P0 | 4.00 \pm 0.10 (0.160 \pm 0.004) |
| Punch hole pitch | P1 | 4.00 \pm 0.10 (0.160 \pm 0.004) |
| Punch hole center | P2 | 2.00 \pm 0.05 (0.080 \pm 0.002) |
| Base tape width | W0 | 8.00 \pm 0.20 (0.320 \pm 0.008) |
| Top/Bottom seal tape width | W1 | 5.25 \pm 0.05 (0.210 \pm 0.002) |
| Base tape thickness | T0 | 0.95 \pm 0.02 (0.038 \pm 0.0008) |
| Top seal tape thickness | T1 | 0.054 \pm 0.005 (0.002 \pm 0.0002) |
| Bottom seal tape thickness | T2 | 0.042 \pm 0.005 (0.0016 \pm 0.0002) |

