

Preliminary Datasheet



TS4148

0.3 AMPS High Speed Switching Diode

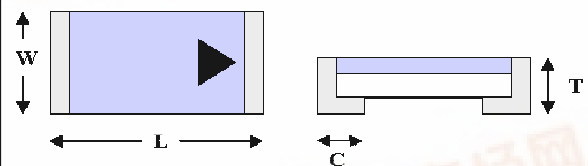
Voltage Range
100 Volts
Current
0.3 Ampere

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	$.085 \pm 0.10$ (0.034 ± 0.004)	$.085 \pm 0.10$ (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 8.3 ms 1 μS	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 $T_J=25^\circ\text{C}, V_R=20\text{V}$ $T_J=125^\circ\text{C}, V_R=20\text{V}$	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_{THJ-A}	75	$^\circ\text{C}/\text{W}$
Power Dissipation	P_D	500	mW
Operating Temperature Range	T_J	-65 to +200	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +200	$^\circ\text{C}$

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

