



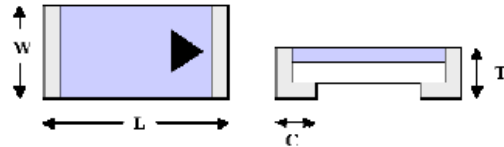
# TS4148

## 0.35 / 0.5AMPS High Speed Switching Diode

Voltage Range  
100 Volts  
Current  
0.35 / 0.5 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, 0603
- ◇ High temperature soldering:  
260°C / 10 seconds at terminals



### Mechanical Data

- ◇ Cases: 1206, 0805 or 0603
- ◇ Terminals: Tin plated
- ◇ Polarity: indicated by cathode arrow
- ◇ Packaging: 8 mm tape per EIA STD RS-481

Item	1206	0805	0603
L	0.135(3.40) 0.119(3.0)	0.088(2.20) 0.072(1.8)	0.071(1.65) 0.59(1.45)
W	0.07(1.70) 0.054(1.30)	0.058(1.45) 0.042(1.05)	0.039(0.9) 0.027(0.7)
T	0.038(0.95) 0.03(0.75)	0.038(0.95) 0.03(0.75)	0.034(0.75) 0.026(0.55)
C	0.03(0.75) 0.014(0.35)	0.026(0.65) 0.01(0.25)	0.018(0.45) 0.010(0.25)

Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%

Type Number	Symbol	0603	1206	0805	Units
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	100			V
Reverse Voltage	V <sub>R</sub>	75			V
Maximum Average Forward Rectified Current Resistive Load f>50Hz	I <sub>F(AV)</sub>	150			mA
Peak Forward Surge Current Half Sine-wave	I <sub>FSM</sub>	350	500		mA
		2.0			A
Maximum Instantaneous Forward Voltage @100mA	V <sub>F</sub>	1.0			V
Maximum D.C. Reverse Current @ T <sub>c</sub> =25°C V <sub>R</sub> =20V at Rated DC Blocking Voltage @ T <sub>c</sub> =125°C V <sub>R</sub> =20V	I <sub>R</sub>	25 50			nA uA
Typical Reverse Recovery Time(Note 2) T <sub>J</sub> =25°C	T <sub>rr</sub>	5.0			nS
Typical Junction Capacitance (Note 1)	C <sub>j</sub>	1.55	1.65	1.60	pF
Typical Thermal Resistance	R <sub>θJA</sub> R <sub>θJC</sub>	200 105	190 80	150 60	°C/W
Power Dissipation	P <sub>D</sub>	350	500		mW
Operating Junction Temperature Range	T <sub>J</sub>	-65 to + 200			°C
Storage Temperature Range	T <sub>STG</sub>	-65 to + 200			°C

- Notes: 1. Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.  
2. Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, Recover to 0.25A.

## RATINGS AND CHARACTERISTIC CURVES (TS4148)

FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

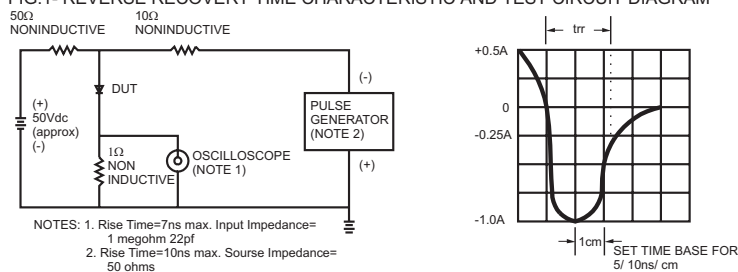


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

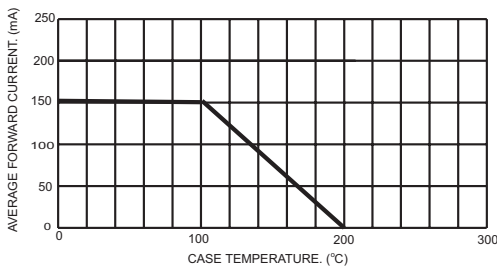


FIG.3- TYPICAL REVERSE CHARACTERISTICS

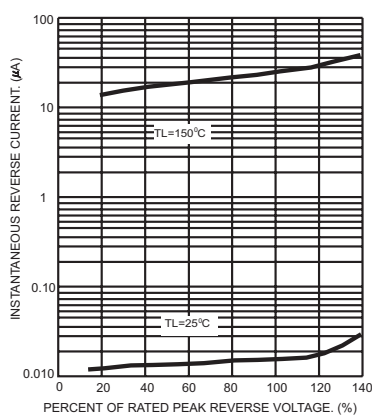


FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

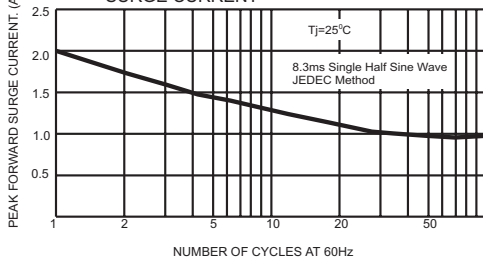


FIG.6- TYPICAL FORWARD CHARACTERISTICS

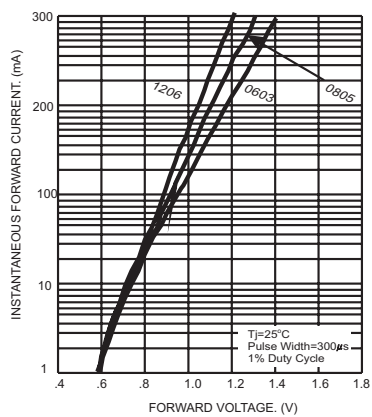


FIG.5- TYPICAL JUNCTION CAPACITANCE

